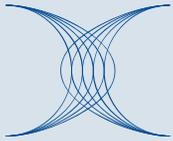


2008 Meeting of IARU Senior Officers



Senior Officers Meeting

University of California, Berkeley
20 – 21 October 2008

Contact details

University of California, Berkeley key contacts

Jennie Akune cell (415) 707 9839

Joan Kask cell (510) 910 8803

Claremont Resort and Spa

41 Tunnel Road, Berkeley (510) 843 3000

IARU Secretariat

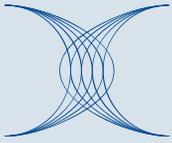
Amelia Whitelaw

US cell (203) 928 0955

Australian mobile + 61 406 319 331

Tim Mansfield +61 416 925 710

*If you are calling from an international mobile you will need to add
+ 1 before the (3 digit area code) then the 7 digit number*



Senior Officers Meeting

University of California, Berkeley

20 – 21 October 2008

** The representative of the university listed in italics will be invited to open discussion of that topic.*

Monday 20 October

0850 *Guests to meet in the foyer, the Claremont Resort and Spa*

Please note there will be a short delay when the Senior Officer's group arrives at the I-House as the IARU Chair will make opening remarks at the Sustainability Workshop before joining the Senior Officer's.

0930 – 1230 Meeting Session 1 (Home Room, International House)
Meeting session includes a 20 minute morning tea break (Timing to be determined by the IARU Chair)

1. IARU Chair, Professor Ian Chubb AC (Approx. 10 minutes)
2. Global Summer Program (Approx. 90 minutes)
 - 2.1 GSP Working Committee recommendations (*University of Oxford*)
 - 2.2. 2009 course offerings
 - 2.3. Possible new directions for the GSP
3. 2009 IARU International Scientific Congress on Climate Change, Copenhagen (Approx. 20 minutes) (*University of Copenhagen*)
4. Research and institutional review
 - 4.1. IARU activity (Approx. 40 minutes)
 - 4.1.1. Open access publishing (*ETH Zurich*)
 - 4.1.2. Research-led Teaching (*please note that Dr Richard Baker, ANU, one of the leads of this project will open this discussion*)

1245 – 1345 Lunch (Haynes Room, Faculty Club)

1400 – 1730

Meeting Session 2 (Home Room, International House)

Meeting session includes a 30 minute afternoon tea break (Timing to be determined by the IARU Chair)

Research and institutional review (continued) (Approx. 65 minutes)

4.1.3. Industrial Innovation (and the Role of the Modern Research University) (*University of Cambridge*)

4.1.4. Women and Men in the Globalising University (*Yale University*)

4.1.5. Career Development Professionals (*National University of Singapore*)

4.1.6. Global Citizenship (*Australian National University*)

4.1.7. Ageing, Longevity and Health (*University of Copenhagen*)

4.1.7.1. Health Policy data collection/analysis (*University of Oxford*)

4.1.8. Sustainable Cities (*University of Tokyo*)

4.1.9. Regional Security (*Australian National University*)

4.2. IARU financial status (Approx. 10 minutes)

4.3. IARU Partner activity (Approx. 15 minutes)

4.3.1. Student Equity (benchmarking proposal) (*Australian National University*)

4.3.2. Alumni Exchanges (*Australian National University*)

4.3.3. Capacity building case studies (*National University of Singapore*)

4.4. New directions (Approx. 60 minutes)

4.5. Summary of Monday's outcomes (Approx. 10 minutes)

1730

Guest to walk to dinner venue (20 minutes gentle downhill walk. There will be an option to be driven).

1800 – 2000

Dinner with Sustainability Workshop participants (Great China Restaurant, 2115 Kitteredge St, Berkeley)

2000

Guests transported to the Claremont Resort and Spa

Tuesday 21 October

0850

Guests to meet in the foyer, the Claremont Resort and Spa

0915 – 1300

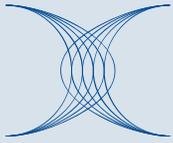
Meeting Session 3 (Home Room, International House)

*Meeting session includes a 20 minute morning tea break and a working lunch
(Timing to be determined by the IARU Chair)*

5. Informal discussions about the value of IARU (Approx. 45 minutes)
(University of Oxford)
6. Campus Sustainability Strategy (Approx. 60 minutes)
 - 6.1. Campus Sustainability Strategy *(please note the Campus Sustainability officers are meeting at the same time as the SOM. Bart Meehan and Julie Newman, IARU Sustainability Leads, will join this session before lunch)*
 - 6.2. Sustainability Internships
7. General discussions about IARU Chair (and IARU Secretariat) after 2009
(Approx. 20 minutes)
8. 2009 IARU Meetings (Approx. 15 minutes)
 - 8.1. Presidents' Meeting at Cambridge in April
 - 8.2. Senior Officers Meeting
 - 8.2.1. Location/host
9. Other Business (Approx. 10 minutes)
 - 9.1. Modified IARU Memorandum of Understanding and Principles
 - 9.2. Joint PhD programs (sharing accreditation) *(Australian National University)*
10. Closing summary of meeting outcomes and next steps (Approx. 10 minutes)

1315 – 2100

Optional wine-tasting at Joseph Phelps Vineyards followed by an early dinner at the Bistro Jeanty. (Guests not participating in the wine-tasting and delegate dinner will be returned to the Claremont Resort and Spa)



Senior Officers Meeting

University of California,
Berkeley
20 – 21 October 2008

Attendees

Meeting Chair

Professor Ian CHUBB, IARU Chair

University of California, Berkeley

Professor John LIE, Dean, International and
Area Studies

University of Cambridge

Professor Kate PRETTY, Pro-Vice Chancellor
Mrs Sarah ORMROD, Director, International
Programmes, Institute of Continuing Education

University of Copenhagen

Professor Lykke FRIIS, Pro - rector
Dr John E. ANDERSEN, Director,
International Office

ETH Zurich

Dr Margrit LEUTHOLD, Director,
International Institutional Affairs
Mr Anders HAGSTROEM, Deputy Director,
International Relations

National University of Singapore

Associate Professor Greg CLANCEY, Assistant
Dean, Faculty of Arts and Social Sciences
Associate Professor Anne PAKIR, Director,
International Relations Office
Ms Denise CHUA, Assistant Director,
International Relations Office

University of Oxford

Dr Heather BELL, Director, International
Strategy

Peking University

Dr Yu WEI, Chief, Division for Strategic
Initiatives, Office for Scientific Research
Ms Manli ZHOU, Deputy Chief, Exchange
Programs

The University of Tokyo

Professor Akihiko TANAKA, Director,
Division for International Relations
Professor Kiichi FUJIWARA, Graduate
School for Law and Politics
Mr Tatsuo KISHI, General Manager,
International Affairs Department

Yale University

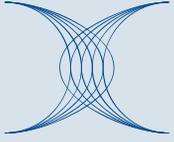
Mr Donald FILER, Director, Office of
International Affairs

The Australian National University

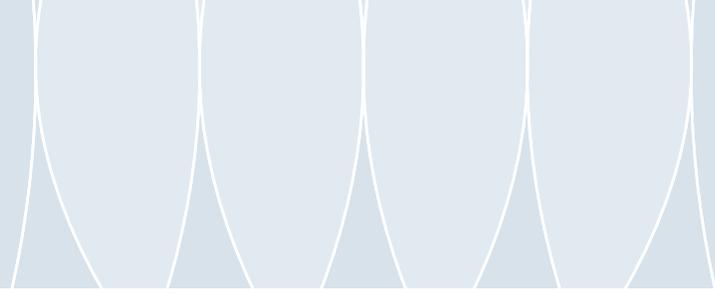
Mr Tim BECKETT, Registrar
Mr Darren BROWN, Director, International
Development

IARU Secretariat

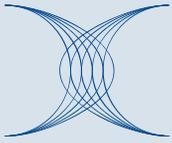
Ms Amelia WHITELAW
Mr Tim MANSFIELD



INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES



2. Global Summer Program



2.1 GSP Working Committee recommendations

The IARU GSP Working Committee met in Antwerp, Belgium, on 8-9 September. The group reviewed the 2008 IARU GSP and agreed on the following recommendations regarding the future of the GSP.

The Committee recommends that:

1. The GSP continue in 2009, based on the model of the 2008 program;
2. Each university makes available financial support for a minimum number of their own students participating in the program;
3. All host universities explore means to minimize tuition fees for GSP courses (where possible zero tuition charged); and
4. Where sending institutions are in a position to grant credit for GSP courses, credit should be granted. To achieve this, the Committee recommends that:
 - i. Sending universities with measurable qualifiers for credit advise host universities of these so that they may be taken into consideration when designing courses; and
 - ii. All partners proposing to host a course provide full course details to ensure the sending university is able to make a judgement on what credit the course is worth.

IARU GSP Mission Statement

The Working Committee agreed to revisit the mission statement of the IARU GSP. Representatives from Oxford, Copenhagen, Yale and ANU developed the following revised mission statement:

What is the IARU Global Summer Program?

The Global Summer Program is an initiative undertaken as part of the collaboration among a group of leading research universities committed to the internationalization of their campuses and the preparation of their students to be global leaders. Faculty on each campus teach intensive summer courses designed for students drawn from member institutions who, learning together in the classroom, form an international community of young scholars who also learn from and about each other.

The unique experience for students

Students participating on the GSP will:

- **Tackle the major challenges of the 21st century.** GSP students have the opportunity to explore the most urgent challenges and opportunities for humanity in the 21st century. Issues explored range from international environmental policy, contemporary Asian development to global leadership.
- **Work with outstanding peers from around the globe.** GSP students are the best of the best. Come and study with the most talented, motivated people at some of the world's top universities - the International Alliance of Research Universities: Yale, Oxford, Cambridge, ANU, Berkeley, NUS, Copenhagen, Tokyo, Peking, and ETH. By bringing together students and faculty from different countries and cultures, the courses offer a truly global perspective on key contemporary issues.
- **Live and learn intensively, at a foreign university.** GSP is a residential summer programme, experienced over 3-5 weeks at a IARU member university. Students will be immersed in learning. Days are full and they learn in a variety of settings, formal and informal: from lectures and classes to tutorials and field visits, from student panels and debates to intense discussions over breakfast. They also participate in social activities.
- **Learn about research from top professors.** All IARU universities are research-intensive. GSP is specifically designed to give students exposure to research-led learning. Professors on GSP are both leading researchers and teachers. Students will enhance their research skills by: conducting independent library-based research and writing papers; conducting field-based observation; participating in team research projects and by becoming part of an unique global alumni network of the best students from the world's top research universities.

Global Summer Program (GSP) Principles (Draft)

Note from the Secretariat: The following GSP Principles are the latest version of a set of GSP Principles drafted by Mr Bill Whobrey (Yale) following the GSP Working Committee in Antwerp. Given that not all GSP Working Committee members have had an opportunity to comment on or suggest edits to this document, it should be considered a 'work in progress'.

These principals are ideals. Variance may be necessary or even desirable, but should be justified as such on a case-by-case basis, with the goal to achieve most of the principles in practice.

1. GSP courses should be intensive and taught to rigorous standards. A course should be equivalent, as much as possible, to a standard, academic-year, semester-long course. All students should receive a grade. Students may not audit GSP courses.
2. GSP course curricula should be based on research-led learning and taught by regular faculty of an IARU university. Faculty exchanges should be encouraged.
3. GSP courses should include some aspect of global leadership as part of their learning outcomes.
4. GSP courses should be assessed by students and faculty and reviewed by an IARU group on an annual basis.
5. GSP courses should be taught in English, unless specifically designed to serve as a foreign-language course.
6. GSP courses should be enhanced by extra-curricular events and activities, such as field trips, discussion panels, group projects, and community interaction.
7. GSP courses should have between 10 and 25 students enrolled.
8. GSP students should be from IARU universities. Seats should be reserved for IARU members. Additional seats can be distributed to partners from other leading universities, if they are unfilled or if that matches the design of the particular GSP. Even then, around 80% or more of the students on any GSP should be from IARU universities..
9. GSP students should have full access to all university resources during their study, especially libraries, computer labs, and facilities available to other students.
10. GSP students, including those from the host university, should live on campus whenever possible and be integrated into campus life. Access to and learning about local cultures should be encouraged.
11. GSP costs should be minimized for students as much as possible, both by sending institutions providing aid as well as hosting institutions minimizing tuition and other costs.
13. GSP applications should be standardized and relatively unbureaucratic.

GSP Working Committee Meeting, Antwerp

September 8 – 9, 2008

Attendee List

Cambridge	Dr Sarah Ormrod	<i>Director of International Programmes, Institute of Continuing Education</i>
	Mr Matthew Jamison	<i>Officer, International Office</i>
Copenhagen	Dr John E. Andersen	<i>Director of International Affairs</i>
	Ms Hedvig Gyde Thomsen	<i>Head of Section, International Office</i>
ETH Zurich	Mr Anders Hagstroem	<i>Deputy Director, International Relations</i>
	Dr Angelika Wittek	<i>Head Student Exchange Office</i>
NUS	Associate Professor John Richardson	<i>Vice-Dean FASS</i>
	Associate Professor Tan Tai Yong	<i>Dean FASS</i>
Oxford	Dr Heather Bell	<i>Director of International Strategy</i>
	Ms Liza Denny	<i>Assistant Director International Programmes</i>
Peking	Ms Manli Zhou	<i>Deputy Chief, Exchange Programs</i>
UC Berkeley	Mr Rick Russo	<i>Director, Summer Sessions</i>
	Professor Khatharya Um	<i>Director, Berkeley Programs for Study Abroad</i>
UT	Professor Takeo Fujiwara	<i>Centre for Research and Development of Higher Education</i>
	Mr Tatsuo Kishi	<i>International Affairs Department</i>
	Mr Hisayuki Igarashi	<i>Student Exchange Planning Group, International Affairs Department</i>
Yale	Dr Jane Edwards	<i>Associate Dean for International Affairs</i>
	Dr Bill Whobrey	<i>Director, Yale Summer Session</i>
	Ms Kathy Yurko	<i>Student Services Officer, Study Abroad</i>
ANU	Associate Professor Richard Baker	<i>Deputy Dean, College of Science</i>
	Mr Darren Brown	<i>Director, International Development</i>
	Mr Tim Mansfield	<i>ANU GSP Coordinator</i>
IARU Secretariat	Ms Amelia Whitelaw	<i>Ms Amelia Whitelaw</i>

GSP Working Committee Meeting, Antwerp

September 8 – 9, 2008

Summary of discussions

Credit

It is not possible for all sending institutions to give credit for courses undertaken at IARU partner campuses.

There was a commitment by all partners proposing to host a 2009 GSP course, to provide full course details to ensure the sending university is able to make a judgement on what credit the course is worth.

Sending universities with measurable qualifiers for credit (eg. a specified amount of contact hours etc.) agreed to advise host universities of these so that they could be taken into consideration when designing courses.

Individual institutional support

Recalling the principle agreed by Presidents at their April meeting, the working party acknowledged that institutions needed to financially support their participation in programs like the GSP and would work towards securing greater funding support.

Members agreed to provide details of financial support, where available, before the Senior Officer Meeting.

Proposed 2009 GSP process

The working party evaluated the 2008 GSP application process and agreed to the following:

- Development of a timeline to maximise participation from all (agreed timeline attached)
- The development of a standard IARU application form and a set of shared application requirements (ie. application form, statement of purpose and curriculum vitae). Applications should be able to be submitted electronically
- Development of detailed documentation about GSP offerings to be published on the IARU website with extended lead time
- All costs involved in participation are stated up front (eg. Visa costs, linen costs etc)

- Universities noted the benefits of limiting the number of GSP offerings to just one or two. Those universities proposing to offer more than two courses agreed to explore repackaging of courses into no more than two program offerings.
- Institutions were asked to be pro-active in working with partner institutions to avoid the duplication of course offerings.
- Discussions also held about the possibility of joint teaching efforts out of the IARU research projects.

Opening GSP to non-IARU institutions

NUS sought feedback on their proposed Asia Now course which proposed to invite two universities from outside IARU. The discussions raised the issue of whether participation in the IARU GSP should be exclusively reserved for IARU members or whether universities outside the IARU could be invited.

It was agreed Asia Now should be included as an IARU GSP course. This discussion underlined the immediate need to revisit the mission statement.

IARU GSP Mission Statement

The Working Committee agreed to revisit the mission statement of the IARU GSP. Representatives from Oxford, Copenhagen, Yale and ANU developed a revised mission statement (see earlier document, *IARU GSP Mission Statement*).

2008 IARU Global Summer Program – Snapshots

2008 IARU Global Summer Program – Course Snapshot

Note: \$US amounts are approximate only, based on 3 September 2008 conversion rate.

Host University	Course	Dates	Duration (weeks)	Approx Tuition Fees (\$US)	Accommodation Costs (\$US)	Field Study Costs (\$US)	Additional Mandatory Fees (\$US)	Total
ANU	Great Power Politics in Asia	8 -25 July	3	\$2,340	\$1,600		\$50	\$3,990*
	International Environmental Policy	23 July – 8 August	2.5	\$2,340	\$1,050	\$380	\$50	\$3,820*
	Southeast Asian Frontiers	30 June – 28 July	4	\$2,340	\$420	\$1,420	\$50	\$4,230*
NUS	Field Studies in Biodiversity	9 June – 16 July	5	\$1,050	\$345	\$1,745	\$50	\$3,190
	South East Asia in Context	23 June – 25 July	5	\$1,885	\$250	\$1,400	\$50	\$3,585
Tokyo	Sustainable Urban Management	15 June – 1 July	2	\$205	\$1,120			\$1,325
	Nanoscience	29 June – 11 July	2	\$205	\$860			\$1,065
	Introduction to the Japanese Language	15 June – 1 July	2	\$205	\$1,120			\$1,325
Cambridge	Cambridge Connections	6 July – 2 August	4	\$2,654	\$2,700			\$5,354
Oxford	History, Politics and Global Leadership	29 June – 26 July	4	\$1,545	\$3,880			\$5,425
Yale	Moral Foundations in Politics	6 July - 8 August	5	\$2,500**	\$1,958		\$220	\$4,678

* ANU awarded a tuition scholarship (including mandatory health cover fee of \$AU62), and a AU\$1,500 subsidy on accommodation/field trip costs for each IARU partner student

** Yale awarded two tuition scholarships to each IARU institution

2008 IARU Global Summer Program – Participant Snapshot

Number of Students by Course

Host University	Course	Sending University										Total Students			
		ANU	ETH Zurich	NUS	Peking	Berkeley	Cambridge	KPU	Oxford	UT	Yale				
ANU	Great Power Politics in Asia	4				1									5
	International Environmental Policy	2									1		2		7
	Southeast Asian Frontiers	4						1							5
NUS	Field Studies in Biodiversity	3													3
	South East Asia in Context	1			1				1						3
Tokyo	Sustainable Urban Management	2		4		3				1		1			13
	Nanoscience	3		1		1				1					7
	Japanese Language	3		1		2				1			1		10
	Cambridge Connections	4		1	1								2		8
Oxford	History, Politics and Global Leadership	4												1	5
Yale	Moral Foundations in Politics	3	1	2	2	2			1		2	2	1	5	22

Host University	Overall Student Mobility										Total Students				
	ANU	ETH Zurich	NUS	Peking	Berkeley	Cambridge	KPU	Oxford	UT	Yale					
ANU	10				1	1	1		2	2					17
NUS	4			1		1									6
Tokyo	4		5		3	2	2	1			1				18
Cambridge	4		1	1					2						8
Oxford	4												1		5
Yale	4	1	2	2	2	1	2	2			5				21
Total	29	1	8	4	6	5	5	3	5	9	9	5	3	9	76

2008 GSP Reports from:

The Australian National University

National University of Singapore

University of Cambridge

University of Oxford

The University of Tokyo

Yale University

University of California, Berkeley

University of Copenhagen



IARU Global Summer Program

Report from the Australian National University (ANU)

PART ONE – SENDING

Applications from ANU Students

ANU applicants were asked to rank up to three preferred GSP courses on an *IARU GSP Course Nomination Form*. For each course listed on their nomination form, students were required to submit all paperwork required by the relevant host university.

The IARU GSP attracted 71 ANU applicants. Of these applicants, 23 expressed more than one preference on their course nomination form.

The ANU GSP Selection Committee, composed of senior ANU academics from a range of faculties, selected 20 students to participate in IARU partner GSP courses. The panel noted the high calibre of applicants, most with a very-high (on occasions, perfect) grade point average, a rich repertoire of extra-curricular involvement, and a well thought-out statement of purpose relating to the particular GSP course selected.

Following selection, one student who was nominated to participate in the NUS South East Asian Frontiers Course withdrew from the program. At the time of withdrawal (mid April), direct contact with the student had not yet been made by NUS, so the student dealt directly with the ANU GSP Coordinator, who, in-turn, advised the NUS GSP Coordinator of her withdrawal.

ANU Participants in IARU Partner Courses

Course	Total Number of applications (including 2nd & 3rd preference applications)	Number of successful Nominees	Number of Participants
CAMBRIDGE - Cambridge Connections	22	4	4
OXFORD - History, Politics and Global Leadership	15	4	4
NUS - Field Studies in Biodiversity	4	3	3
NUS - South East Asia in Context	3	2	1
TOKYO - Nanoscience	11	3	3*
TOKYO - Sustainable Urban Management	16	2	2*
YALE - Moral Foundations in Politics	13	3	3
TOTAL			19

* Note that one ANU student attended both the Nanoscience and Sustainable Urban Management Courses (ie. In total, four students travelled to UT)

Application Process

All ANU applicants to the IARU GSP were required to complete a course nomination form, as well as the application form (and related documents) for each course appearing in their ranked course preferences.

The ANU-GSP office encouraged students, where possible, to submit documents electronically. The office found that application forms that did not require hard copy submission were much simpler to process, and could easily be forwarded to host institutions. For forms requiring signatures and photographs, students did their best to scan these documents and submit them electronically, but at times, technical difficulties made this more complicated

The online evaluation revealed that for 70% of GSP participants from ANU, the application process matched expectations. 15% found the application process easier than expected, while 15% found the application process more difficult than expected. This might suggest, at least from a student's perspective, that the application process was appropriate for a program of this kind. Some comments regarding the application process included:

"There were some inconsistencies between the application procedures for different universities. Greater standardisation would have assisted the application procedure."

ANU Student to Oxford GSP

"It was relatively straightforward applying. There were numerous things that had to be submitted after we were accepted, but these were outlined in emails.."

ANU Student to Cambridge GSP

"I think this was a perfectly reasonable process. The statement of purpose was a good idea."

ANU Student to Oxford GSP

From an ANU-GSP Office perspective, the application process for students, and the selection process for administrators, could be simplified if some standardisation were to occur across the alliance. It would be useful, for example, if applicants could use a generic IARU GSP application form for each course they applied to. In order to achieve this, universities would need to agree on required documentation to accompany the form. The ANU-GSP office would like to suggest that in future, documentation required at the application stage be limited to:

- Academic transcript (unofficial, endorsed by sending university)
- Statement of Purpose (up to 400 words)
- Personal Resume (maximum two pages)

Host universities would be able to request additional information from students once they have been nominated to a course, however such additional information would be for the purpose of fulfilling the administrative requirements of the host university and/or providing course convenors with a more complete picture of the student. Documents requested may include, for example:

- Written references
- Photographs
- Additional forms for administrative purposes

Financial support for outgoing ANU students

ANU's funding support for students participating in the IARU GSP was particularly generous, with the university covering reimbursement of flights, tuition fees, accommodation and field trip costs. This provided an opportunity for all students to consider the program, regardless of their financial situation. Unfortunately, these funding arrangements were only finalised halfway through the application period, and it is possible that had the financial support available been advertised from the beginning of the application period, applicant numbers would have been greater.

In the online evaluation, the 19 returning students were asked if they would have considered applying to the GSP without financial support. Only three students responded with a "yes", and two of these students commented that it would have been a challenge to finance their own participation.

Most students made it very clear that their participation depended on financial support from ANU:

"There is no way I could have considered participating without the financial support."

ANU Student to Oxford GSP

"ANU support made my participation possible, as the cost of tuition and accommodation would have otherwise been prohibitive. I had heard of the GSP well in advance but in fact only sent in an application after I learnt that the ANU would be funding us."

ANU Student to Oxford GSP

"I could have potentially covered flights OR tuition OR accommodation, but any more than AU\$3000 would have been too great a financial commitment, and I certainly would have had to seriously consider the viability of attending."

ANU Student to Cambridge GSP

"I would not have been able to meet the costs involved if not for the support both from Yale and ANU - the cost would have totalled around \$9,000."

ANU Student to Yale GSP

Such responses demonstrate the important role ANU's provision of financial support played in attracting and sending high quality applicants on the IARU GSP.

Promotion of the GSP at ANU

A combination of communication channels were used to promote the program to ANU students.

To avoid confusion regarding the timing of the program, the tagline "Turn your winter upside down" was used in promotional material targeted towards ANU students.

The following message was included on ISIS, ANU's online information service for students:

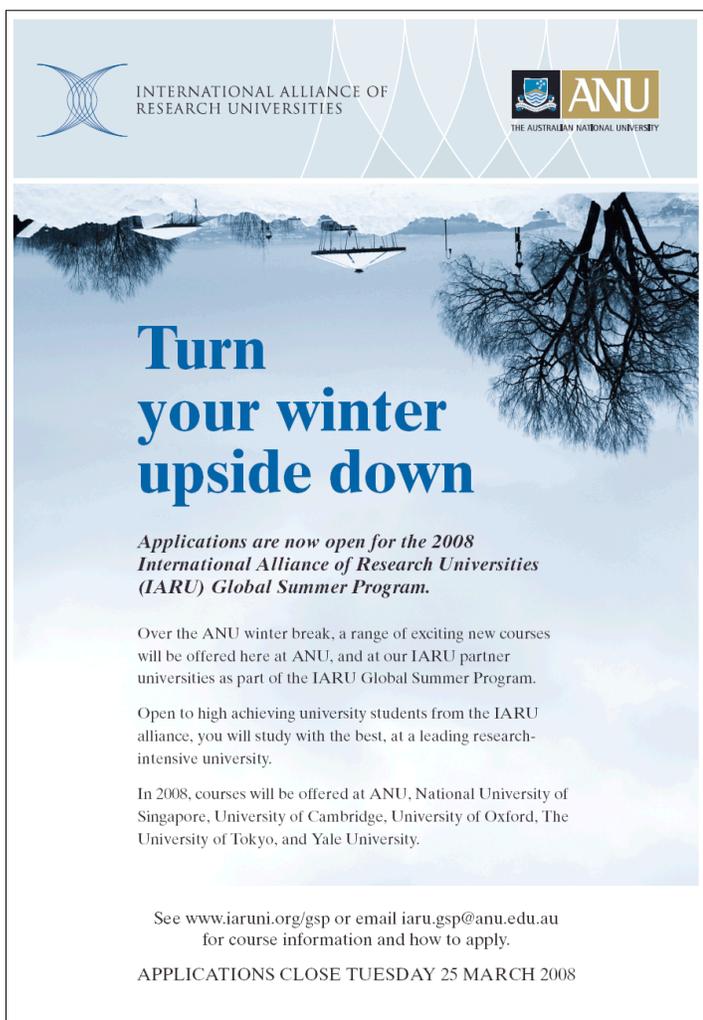
Turn your winter upside down – IARU Global Summer Program

Over the ANU winter break, a range of exciting new courses will be offered here at ANU and at our IARU partner universities as part of the IARU Global Summer Program. Open to high achieving university students from the IARU alliance, you will study with the best, at a leading research-intensive university.

A variety of courses across a range of disciplines will be offered at ANU, National University of Singapore, University of Cambridge, University of Oxford, The University of Tokyo, and Yale University. Further information is available at:

http://info.anu.edu.au/OVC/Executive/020PP_Strategies,_Initiatives_and_Alliances/IARU/_gspforanu.asp

An A3 poster using the same tagline was developed and distributed throughout the campus:



INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

ANU
THE AUSTRALIAN NATIONAL UNIVERSITY

Turn your winter upside down

*Applications are now open for the 2008
International Alliance of Research Universities
(IARU) Global Summer Program.*

Over the ANU winter break, a range of exciting new courses will be offered here at ANU, and at our IARU partner universities as part of the IARU Global Summer Program.

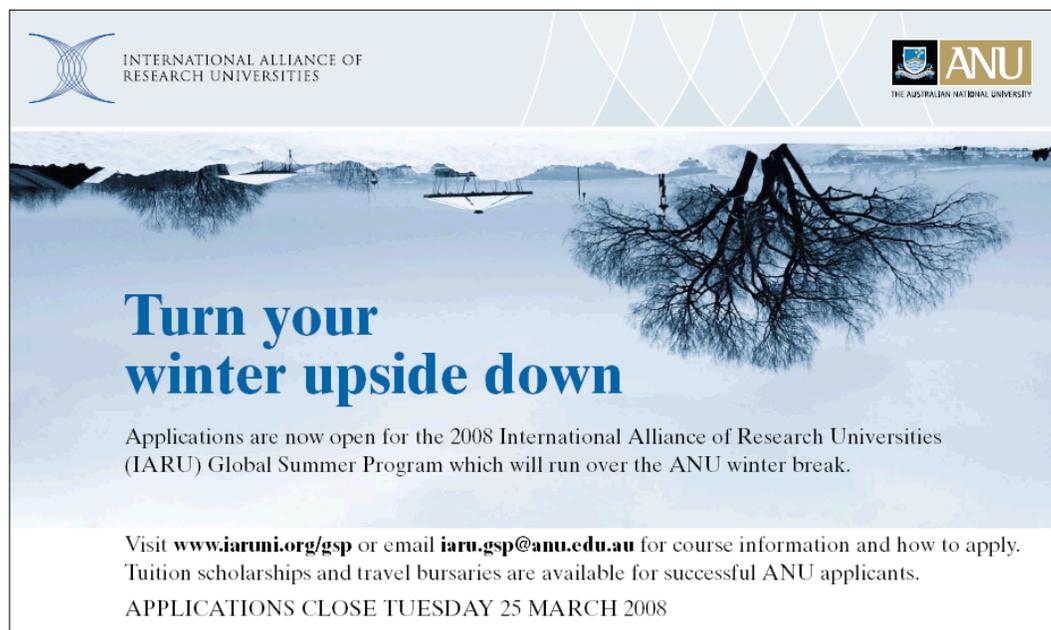
Open to high achieving university students from the IARU alliance, you will study with the best, at a leading research-intensive university.

In 2008, courses will be offered at ANU, National University of Singapore, University of Cambridge, University of Oxford, The University of Tokyo, and Yale University.

See www.iaruni.org/gsp or email iaru.gsp@anu.edu.au for course information and how to apply.

APPLICATIONS CLOSE TUESDAY 25 MARCH 2008

A version of the poster was developed for use on the plasma television located in the Student Administration waiting area:



INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

ANU
THE AUSTRALIAN NATIONAL UNIVERSITY

Turn your winter upside down

Applications are now open for the 2008 International Alliance of Research Universities (IARU) Global Summer Program which will run over the ANU winter break.

Visit www.iaruni.org/gsp or email iaru.gsp@anu.edu.au for course information and how to apply. Tuition scholarships and travel bursaries are available for successful ANU applicants.

APPLICATIONS CLOSE TUESDAY 25 MARCH 2008

In addition to these broad promotion efforts, targeted emails were sent to the Golden Key International Honour Society, and heads of residential halls and colleges. Members of the ANU GSP working group, which comprised senior academics from across a range of faculties, were also asked to play an active role in generating interest in the program within their respective faculty areas.

ANU's online evaluation revealed that most students found out about the program through person-to-person channels, either on the advice of lecturers or tutors, or from their peers. A number of Bachelor of Philosophy (PhB) students noted the PhB WebCT (an online discussion forum) as the channel by which they found out about the program.

This data suggests that university staff have a powerful role to play in the promotion of the GSP, and that tutors and lecturers should be encouraged to promote the GSP to their students. Indeed, university staff are in a unique position of being able to target cohorts of students for particular GSP courses.

The number of students hearing about the program through their peers also demonstrates the potential value in generating positive word-of-mouth amongst students. In 2009, it is hoped to enlist the assistance of past participants to provide testimonials of their experience to help stimulate positive word-of-mouth promotion.

Other communication channels, such as posters around campus did not rate highly. It is possible that this reflects the limited number of posters distributed in 2008, and the delay in them being issued. In 2008, posters were only used in very small pockets of the campus – distributed by those college representatives on the ANU GSP Working Group. In future, it would be advantageous to print a larger quantity of posters, and have these distributed more widely throughout the campus.

Feedback from ANU participants

Feedback from ANU students who participated in the program at our IARU partners has been overwhelmingly positive. In an online evaluation, returning students were asked to comment on the "best aspects" of their GSP experience. The following are a sample of their responses:

"This is impossible to answer because every aspect was as special as the next."

ANU student to Oxford

"Everything, from the course that I did to the trips away from Tokyo, the vibrant Tokyo and other fellows including Japanese and other people from other universities. It was an amazing experience."

ANU student to UT

"Meeting new people, seeing new and wonderful cultures, making lasting global connections."

ANU student to NUS

"The quality of students participating in the GSP program. They are highly diverse and sophisticated."

Yale

"Meeting people from other universities and other background and swapping stories about different experiences."

ANU student to Cambridge

All ANU students indicated in their online evaluation that they were either "satisfied"(11%) or "very satisfied"(89%) with their IARU Global Summer Program experience. When students were asked to rank the quality of their specific course, all students provided a "good"(15%) or "very good"(85%) ranking.

Suggestions for enhancement

IARU Website

All 19 outgoing ANU students found the information provided on the IARU GSP website "useful", however, three students suggested that the site should include more detailed course-specific information for applicants.

Two students suggested that testimonials from previous participants would be a useful inclusion in 2009. One student also suggested the addition of a "Frequently Asked Questions" page.

Provision of course-specific information prior to departure

15% of students noted dissatisfaction with the level of course information provided to them by their host university prior to departure. Some of these students acknowledged that this was a symptom of the program being in its first year; however, this may be an area for host universities to focus on in the future.

PART TWO – RECEIVING

Courses

ANU originally offered seven courses for the 2008 IARU GSP, however due to low enrolment, only three courses were able to run; these were:

- Southeast Asian Frontiers
- Great Power Politics in Asia; and
- International Environmental Policy

The four cancelled courses were:

- Artificial Intelligence
- Business Project Planning and Management
- Energy Resources and Renewable Technologies; and
- Sustainability Downunder

Southeast Asian Frontiers

This course engaged students in a cross-disciplinary approach to learning the Thai and Burmese languages as well as the cultures, societies, politics and security dynamics of contemporary Thailand and Burma. Students examined issues relating to international relations, transnational security and local politics. They also explored the experiences of ethnic minority groups, in particular the Mon, whose communities are divided by the international border between Thailand and Burma. As part of this course, students spent approximately three weeks on a field trip to Thailand, which included travel to the Thai/Burma border town of Mae Sot.

Participant summary

Sending University	Nominated	Participated	Comments
ANU	4	4	
Cambridge	1	1	
UC Berkeley	1	0	One student withdrew after accepting her offer
Total	6	5	

Nine ANU students applied to the course, and of these, four were nominated to participate as IARU GSP participants.

The ANU College of Asia and Pacific decided to supplement student numbers with five additional ANU students, who participated separately from the IARU GSP, and did not receive financial support from the ANU.

Great Power Politics in Asia

This course introduced students to the methods and concepts of security analysis in the area of great power politics. The primary objective was to provide students with a solid foundation on the great power strategies that craft the security architecture of Asia.

Participant Summary

Sending University	Nominated	Participated	Comments
ANU	1	4	Three additional students nominated through separate selection process run by College of Asia and Pacific
UC Berkeley	1	1	
Total	3	5	

The ANU College of Asia and Pacific decided to supplement student numbers with nine additional ANU students, who participated separately from the IARU GSP, and did not receive financial support from the ANU.

International Environmental Policy

This course focused on the dynamic and rapidly expanding field of international environmental policy. Taking an interdisciplinary approach, this course drew insights from areas including ecology, law, economics, international relations and politics. As part of this course, students spent five days at ANU's Kioloa Field Station on the south coast of New South Wales.

Participant Summary

Sending University	Nominated	Participated	Comments
ANU	0	3	Nominated through separate selection process run by College of Science
Cambridge	1	0	Did not accept official offer
Copenhagen	0	1	Student admitted approx 4 weeks before classes commenced
UC Berkeley	2	0	Did not accept official offer
PKU	1	0	Withdrew before official offer issued
Yale	2	2	One student admitted approx 4 weeks before classes commenced
Tokyo	1	2	One student transferred from a different ANU GSP course that was cancelled
Total	10	8	

This course was the most popular GSP course run by ANU. Unfortunately, the course ran during the first three weeks of semester two, limiting ANU students' ability to be involved. Consequently, only three ANU students were able to participate in this course as part of the IARU GSP - all graduate coursework students who had flexibility within their timetable to accommodate the 2.5 week long intensive course.

Feedback from Students

On completion of the program, all students were asked to complete an online evaluation form. Feedback from students was very positive, with all respondents rating their course "very good", the highest ranking along a five-point scale.

point scale.

"This was one of the best courses I have taken so far"

ANU student in Great Power Politics in Asia

"I really enjoyed this course. I learnt so much over the three weeks and it has really stimulated my interest in this region."

ANU student in Great Power Politics in Asia

"This was an amazing experience. I am so glad I could participate"

ANU student in Southeast Asian Frontiers

"What a stellar program!"

Yale student in International Environmental Policy

Suggestions for enhancement

Provision of course-specific information prior to departure

A number of students suggested that more detailed course information be provided prior to departure. ANU hopes that with a longer lead-time for the 2009 GSP, course convenors will be in a better position to provide more detailed pre-departure information earlier in the GSP timeline.

Scheduling of ANU GSP courses

ANU students found it very difficult to participate in courses that conflicted with the semester two teaching period. In future, ANU will endeavour to schedule its GSP courses between the end of semester one exam period and the beginning of semester two, enabling ANU students to more easily participate.

Financial support

Based on anecdotal evidence from student enquiries, it appears that the cost of participation was a significant barrier for many overseas students in participating in the IARU GSP at ANU. Four students pulled out of the ANU GSP after they were given a formal offer. Three of these cited the expense as their key obstacle to participation.

In 2008, in response to the number of applicants withdrawing due to financial difficulties, the ANU decided to provide a tuition scholarship (covering full tuition fees and overseas health cover), as well as a travel bursary of AU\$1,500 to all incoming IARU partner students. Unfortunately, this offer appeared to have come too late for those participants who had already withdrawn, with none opting to reconsider their participation. It is possible, however, that these funding arrangements prevented further students from withdrawing from the program, and made it easier for two additional students to join the International Environmental Policy course, closer to commencement.

NUS GSP REPORT 2008

1 Introduction

NUS elected to begin its participation in GSP in a measured and partial way. We opened 5 places on two existing summer programmes to students from other IARU members. One of these programmes has already run for two years with the participation of two other IARU partners, Yale and Copenhagen. Each of those universities sent 10 students, in accordance with an existing agreement.

2 The Two Courses

2.1 Special Features

Both courses were for credit, and involved fieldwork outside Singapore. The "Southeast Asia in Context" course was residential for all students, including Singaporeans.

2.2 *Southeast Asia in Context*

This programme adopts a multi-disciplinary approach to understanding the region, and students choose 2 from 3 courses. The programme lasts five weeks and is worth 40% of a semester's credit. The bulk of the students come from NUS, Yale and Copenhagen, and one of the teachers is from Copenhagen. This year's field trip was to Cambodia.

2.3 *Field Studies in Biodiversity*

The field course emphasizes teaching of multiple species-rich habitats with operational learning through assigning teams of students specific research goals. The field study takes place on the Malaysian island of Tioman.

3 Student Numbers

	ANU	Cambridge	Copenhagen	NUS	PKU	Yale
<i>SE Asia</i>	1	1	10	20	1	10
<i>Biodiv.</i>	3			20		

4 Future Plans: Asia Now! (2009)

4.1 Course Description

The programme aims to offer a stimulating and intellectually rigorous insight into issues and developments in contemporary Asia.

4.2 Special features

The first program will:

1. include students from twelve of the world's top universities, IARU members, plus two more;
2. teach about Asia in Asia, so that students can complement academic with non-academic learning and process their new knowledge of Asia in context;
3. supplement its formal teaching with talks by leading academicians, thinkers and practitioners; and
4. culminate in a mixed student and academic conference.

IARU Global Summer School 2008: University of Cambridge

INBOUND STUDENTS

Pilot programme in Cambridge: Cambridge Connections 6 July – 2 August 2008

Brief course description: Research inevitably calls for detailed and accurate investigation, but the ability to place that investigation in context, to realise the power of connections and links, is invaluable to not only to scholars, but also to anyone who wishes to be effective in a leadership role. This Cambridge Connections programme is designed to foster the ability to think beyond an immediate and narrow field of interest.

The programme was comprised of the following elements:

- Two weekly discussion sessions (a total of eight across the GSP), focusing on a range of topics (augmenting the theme of connections and *interdisciplinarity*)
- Four papers, written on subjects informed by plenary lecture attendance (primarily, but not exclusively, Literature or History).
- Once-weekly Cambridge-style supervision sessions (one hour) for pairs of students, during which papers are discussed
- Once weekly informal group meeting with the programme advisor
- Two or three daily plenary lectures chosen from: International Summer School Term I:(interdisciplinary) *Creation*; History: *States and nations*; Literature: *The line of beauty* Science: *Visions of the future: Newton to nanoscience*; Art History: *The making of Art: line, colour and composition from Giotto to Rothko*; Medieval Studies: *Superstition and belief*; and Shakespeare: *Shakespeare's skills*
- Research time in the University Library and other faculty libraries

Management and development of the programme: Sarah Ormrod, Dr Rob Wallach

Programme Director: Dr Rob Wallach

Supervisors: Sian Griffiths, Dr Fred Parker, Dr Spike Bucklow, Dr Paul Suttie, Dr David Smith

Discussion leaders: Dr Paul Suttie, Dr David Smith, Professor Simon Conway-Morris, Piers Bursill-Hall, Nicholas Friend, Dr Rowena Archer, Dr Rob Wallach

Resident Tutor: James Cherry

This pilot programme ran with just eight students (five of the original thirteen applicants dropped, for funding reasons or because they made alternative plans). Students were housed in Gonville and Caius College, very close to the centre of town.

Each student fulfilled the attendance requirements of lecturers, supervisions and discussions (producing a record of attendance which showed some 8 hours of supervisions, 12 hours of discussions and 50 hours of lectures, a total of c70 contact hours for each for the four-week period), and in addition each researched for and wrote four papers. Weekly papers and supervisions ensured academic rigour. The programme format largely mirrored the experience of regular Cambridge undergraduates, who in many subjects are not required to attend set 'classes', and can elect to hear particular lectures on topics within and beyond their immediate field of study, but who *are* required to attend supervisions and write papers.

Students found the programme of study to be very intensive. Feedback was very positive (with several sending additional detailed statements after the programme: Appendix 1) but with some useful and practical suggestions for future programmes. Inevitably, students, supervisors and organisers flagged areas for improvement after this first pilot year.

The calibre of students was very high. Fluency in English was an issue in one case, but the written work submitted was of a high standard in all cases. All participants received a cumulative Cambridge class mark of II i (Upper Second) or I (First) for their papers.

All in all, the programme was considered a great success, in this first year, and we hope to build upon it in the future.

Changes to our programme for 2009:

The current format for the programme worked well for 8, but, given very high organisational and management costs, a number this low is not financially viable in the longer term. The format can be adjusted to accommodate more, but above a certain number would require substantial restructuring. We would like to have a wider range of institutions represented (we had students from only four Universities).

We plan a number of minor but significant changes to the 2009 programme. The programme will remain supervision-based (these weekly sessions were flagged as the highlight of the programme), but reading suggestions, supervision and discussion topics, etc, will be made known to the students earlier in the year. We intend to use this year's timetable as a template, so that applicants have a clearer idea of the structure, and will also use parts of the feedback forms from this year's students when communicating with accepted students.

OUTBOUND STUDENTS

2008

We had 16 applications, of whom 7 were selected. Two withdrew after offers. The five students attended programmes at NUS, ANU, Yale and Tokyo University. The University of Cambridge supported all five with grants to cover tuition and accommodation costs, and support was also forthcoming from ANU for our student. Cambridge students paid their own flight costs. (See feedback, Appendix 2)

2009

With longer lead-in times we hope to be able to advertise the IARU programmes more effectively, and may well get a larger number of applicants. The University is unable to offer support to more than five, but students will be encouraged to seek funding through their own Cambridge Colleges.

GSP: GENERAL COMMENTS

Financial support, application and payment procedures

Students, home and host institutions all need to be very clear in advance what level of financial support is available in the case of each institution. There needs to be a standardised method of application and instructions for payment. Payment needs to include a non-refundable deposit as part of the cost of the programme. (It was not certain what level of support was coming in for each student this year, or how that support would be administered) Institutions will need to make clear their own cancellation procedures.

Application procedure

In this pilot year, we had difficulties resulting from the application timetable, confusion about funding for incoming students, and withdrawals: losing three students from one institution was

disappointing, especially when one of those students withdrew only days before the start of the programme. The timetable for recruitment and acceptance will need to be significantly earlier in the year for 2009.

Students should be responsible for submitting referee names and references to home institution, as well as application form, CV, statement of fluency in language (where language of instruction at host institution is not the student's native tongue), current academic standing (grades, etc) and statement of purpose by agreed deadline.

Credit and certificates

There needs to be greater clarity about credit transfer BEFORE the students leave home for the programme (some of ours unsure about credit rating of programme). The IARU's own certificates are a good idea. (This year, we sent students a certificate of completion and assessment, indicating their Cambridge class mark grade and, subsequently, a transcript equivalent which also indicated their contact hours.)

Cambridge 2009

Our programme is likely to be very similar to 2008, which was very well received by the participants.

Appendix 1: Feedback from inbound students

- a) Rosalind Attenborough - Australian National University
- b) Phoebe Downing - Australian National University
- c) Jessica Fitch - Australian National University
- d) Ben Gammon - Berkeley
- e) Takeshi Hirakoba - Tokyo University
- f) Sunbin Park - National University of Singapore
- g) Naoko Takahashi - University of Tokyo
- h) Joy Thompson - Australian National University

a) Rosalind Attenborough – Australian National University

I have just gone back and read the 'statement of purpose' which I wrote in my application for this program. I am struck by how well 'Cambridge Connections' has lived up to the expectations I had of it, and gone well beyond them. I'll give some feedback on the main aspects of the program, list the best aspects of the course in my opinion, and then list areas for improvement. Finally, I'll attempt to describe what I have gained from this program.

Lectures

Going to lectures from all the summer schools gave us a richness of experience which we could not have obtained by going to just one of them. Having the freedom to choose which lectures to go to allowed us to create a program which suited us individually - we were able to both explore areas that we already liked further, and take risks and attend lectures about areas which we had no background in. I particularly enjoyed going to literature lectures, which are totally different from my usual lecture experience, but most of all I enjoyed going to such a variety of lectures – both between and within summer schools. It was important for this program that each lecture was largely independent of other lectures in that particular summer school so we did not feel as if we were missing vital information by not going to all the lectures for a particular summer school. The quality of lecturing was extremely high in most cases, and some were simply outstanding (I could give a list of which ones I thought these were if you like!). There were very few lectures which were so obscure or required so much background knowledge that I had difficulty following them.

Discussions

These were incredibly valuable sessions. The group (8 people) was a perfect size to give everyone an opportunity to contribute without being under pressure to do so constantly (although I think that perhaps more opportunity could be given to people less sure of their English or less used to discussion sessions). It was also a great opportunity to hear directly from and interact with a very learned individual. The topics were very well chosen and there was good variety within them. In terms of preparation, it was clear that most if not all discussion leaders didn't expect us to have very much background knowledge and this is a good thing because we can only gain a very superficial knowledge of the subject by doing general background readings on the internet (which is what Rob recommended that we do). Where we are expected to do more substantial preparation (e.g. read 'Life's Solution' for Simon Conway-Morris), it would be appreciated if we had more forewarning – although in reality, we would not have needed to read and understand his whole book to fully participate in the discussion. All of the discussions went very well, and they varied a lot between having the majority of input from the discussion leader and comments from the students, and a largely student-led discussion. I don't think there is a problem with either of these styles of discussion, and each was suited to the issue being discussed (e.g. when talking about the English revolution, more input was required from the discussion leader because of our limited knowledge in the area, whereas discussion universities for the 21st century we already had significant knowledge and opinions to discuss).

Supervisions

For me, the most outstanding and challenging part of the course. I found supervisions to be the most effective learning strategy I have ever experienced – to have one's work carefully examined and commented upon, and then to have an opportunity to talk about the comments and your ideas, to discuss the issue further with an extremely knowledgeable person and another student with valuable ideas and a different perspective, is invaluable. I can only imagine how much I would learn if I always had supervisions, given how much I learnt after having just four!

In terms of choice of supervisor and subject area, it was very important to me that my comments about which area I would like to specialise in were listened to. I said I was interested in studying novels, so a supervisor in the area of literature was perfect. I could have probably got used to the idea of being supervised in a completely different area, but given that we spend a significant amount of time reading and writing and thinking about our supervision topic, it is good that we have some choice in what it is. For the same reason it is important to have choice, or at least variety, within the supervision topic. It suited me perfectly to study very different types of literature (poems, plays, novels...) from different periods in history. I know that other people on the program also experienced a good variety of supervision topics. This allows you to think broadly and prevents spending too much time on a topic which doesn't interest you as much (although having choice means that you could do more on a topic which interests you particularly). The Japanese students were studying a very particular time in English history for all their supervision topics and although this focused approach may have been a good way for them to learn given their lack of experience writing in English, I would have found it very constricting.

The choice of supervision partners worked very well to my perception, and I found being in a group with Sunny very good because we came from completely different backgrounds. We brought different perspectives to the supervision topic, but were on the same level enough to understand each other and benefit from the situation.

We found Paul Suttie to be an outstanding supervisor. We appreciated his gentle style, which was very comforting given the completely new situation we found ourselves in. It was important that he understood how new we were to studying literature. He gave us a lot of flexibility in what to study, and his comments on our work were very detailed and helpful, leading us to think further on the topic and question our ideas. At the same time he was never negative or overly critical, and this created a relaxed atmosphere in which we were not afraid to put forward our ideas. It felt like a pure kind of education, uninterrupted by a constant need for assessment – although we knew our essays and supervision sessions would be marked in some way, we never felt unduly judged for the sake of judgement – everything was about the literature and ideas surrounding it. His way of explaining ideas was particularly clear and his thoughts were particularly insightful – we benefited enormously from his expertise. I understand that his style was quite different to other supervisors, who were more rigorously critical. I don't think there is anything wrong with either style – it has to be suited to the personalities of the people involved, and personally I respond better to positive reinforcement and encouragement (not without constructive criticism) than a more argumentative and demanding style. However some people are the opposite, and it seems that (even if by chance) things turned out well in terms of matching supervisors to students.

The supervisions were the most demanding part of the course in terms of time and effort devoted to reading, thinking and writing. However I thought this challenge fitted well into the rest of the program. We worked very hard and produced work which we could be proud of, but we had enough time that we didn't have to think about supervisions constantly – we could appreciate the lectures and discussions and enjoy life in Cambridge with our fellow students.

Support systems

Although we were slightly overwhelmed at first (especially by the supervision tasks), I found that we quickly settled into life at Cambridge and the support systems available meant that any problems could be addressed. Having James as our tutor was very good in that it linked more directly with the administrative side of the program (he was able to provide us with information and answer our questions), and he became a friend and was able to tell us about life at Cambridge. Having the team of tutors and staff at Lady Mitchell Hall was very helpful – they were always there to answer enquiries in a friendly way.

The most important support system for the GSP in particular was Rob Wallach and his weekly reviews. In those sessions any problems could be addressed, and he injected us with a general enthusiasm for learning and exploring Cambridge life. The program would have been incomplete without these sessions.

Accommodation

Obviously we were very lucky to be in the old part of Gonville and Caius College and this may not happen in future programs. However I must just say that it was the best accommodation possible – the rooms were large and had everything which I needed, the laundry and bathroom facilities were great. The location couldn't have been better. The meals were extraordinary – good quality and there were many healthy foods available. My only criticism would be that after a couple of days of three-course dinners, we really didn't need that much food. I found myself having to leave large portions of my meal to avoid overeating every day, and this was very wasteful.

Exploring Cambridge and the social side of the program

The booklet was very helpful in providing suggestions of where to explore within Cambridge, and I would add the Orchard Tea Rooms (suggested by Sarah) should definitely be in there. Future students doing this program should be told that there is a lot to explore within Cambridge (as well as work to be done), so time for exploring other areas in the UK or overseas on weekends is limited. I would personally recommend staying in Cambridge for the whole time and seeing as much as you can there – there were still so many things that I wish I had had the time to see.

It was ideal to have such a small group staying together in the same college. We didn't get to interact much with the students from the other summer schools because of our different accommodation arrangements, but this did not matter to me (in fact I preferred the way it was) because I prefer to get to know a few people well than a lot of people superficially. I think having such a small group is much more conducive to forming a close group feeling than the large groups in the other summer schools.

Financial support

All the ANU students had their costs (including flights) covered by the ANU, which was very generous and enabled us to attend this program which we otherwise would probably not have been able to do (even if only some aspects subsidised, we may not have been able to come). However this was very different with other universities, and some did not cover any expenses for their students. I think that in general it will be difficult to maintain student numbers in this program unless of all the IARU universities agree to give their students scholarships, but personally I am surprised by how much the ANU paid in the instance, and I am not sure if they will continue it. But as you can see I found this program immensely valuable and I hope that it will continue to provide such great opportunities to students.

The best things about the program (in no particular order):

1. Its interdisciplinary nature, which encouraged broad and deep thinking and allowed us to make our own 'connections'
2. The variety in ways of learning (lectures, discussions, supervisions)

3. Supervisions (every university should have them if they possible can!)
4. The experience of Cambridge student lifestyle – having a balance of challenging work and opportunities to explore (punting, Shakespeare in the gardens, country walks, Colleges, galleries and museums, shopping...)
5. The supportive and intellectually stimulating environment – both in and out of class
6. Living in College
7. The flexibility in the program and the frequent opportunities for feedback

Areas for improvement (in no particular order):

1. Not having a supervision in the first week so soon after orientation would be better; perhaps it could be substituted with a general discussion with the supervisor to give the students an idea about the supervision topics and what will be expected of them
2. Timing the lectures in the different summer schools so that we can go to any combination of lectures without being late having to change our choice to a different lecture – this might be achieved by very small changes in the lecture times (take into account here the time in takes to move between some locations)
3. A greater awareness within the summer schools of the existence of this course, so that they understand why we may be late or need to leave early (this is only necessary if the timings of the lectures are difficult)
4. Arrangements for getting access to books – if was difficult at times because of not being able to borrow and the limited opening hours of the libraries (things which probable won't change). Without Rob's help (in borrowing from the King's library) it would have been very difficult for me to do one of the supervisions at all, because a lot of reading was required and I would have needed to read or refer to the books during times when the libraries were shut (if they even had the books). Because we only have 1 week between supervisions we need to get straight onto the reading, and if we have problems accessing the books the delay can be problematic. Sometimes I resorted to buying the books, which I didn't mind but I was glad not to have to buy all of them. If there is an expectation that we will need to invest in books, perhaps this could be stated explicitly in the literature about the course. It would be even better if some system for borrowing the books we need could be arranged, either by making them available in the summer schools library (although this may be difficult because the decision of what to study is often a spontaneous one made in supervisions, and this is the way it should be) or having someone lend them to us or borrow on our behalf (for example Rob borrowed some books from King's for us).

What I have gained from this program

It has given me a much broader outlook on academic studies - improved my level of education in general, and given me a more balanced perspective. It has impressed on me the importance of continuing to be aware of and appreciating other disciplines - both for integrating with them and communicating with them. I realise that we are increasingly required to specialise and spend all our time thinking about one discipline, which can be valuable, but can also make us forget about what other disciplines have to offer (or worse, forget their importance). The program has shown me just how important it is to be constantly open to new points of view and ideas, but at the same time to analyse and be critical of them – learning should never stop. I have been challenged and have learnt a lot from being asked to think in different ways (because analysing literature is quite different to science). I have learned a lot about many different areas, many of which have enriched my understanding of the world and people in general – I have gained knowledge about area I never expected to study, and this has given me a new appreciation of those areas. I have also learned more about areas which I already have a background in. Being at Cambridge has also given me a much better historical perspective on the world, and it was interesting to learn about how the university functions.

b) Phoebe Downing The Australian National University

It is not an exaggeration to state that the lectures I attended and the supervisors I met at the Cambridge Connections programme have reoriented the way I move through life. As an English and art history major, attending lectures, discussions and supervisions in materials science and legal theory, for example, has changed my focus within my chosen disciplines. This confrontation, this academic reorientation, was the explicit reason I gave for wanting to attend the programme in the first place. As written in my application, I will begin my Honours year in English next February, and wanted to test the prejudices inevitably, though perhaps unwittingly, developed through specialising in the Humanities. This I achieved, and more.

I intend to apply for a Summer Research Scholarship here at the ANU for the 2008-2009 summer break. As a direct result of the GSP at Cambridge, the topic for my proposed research project is 'The Rhetoric of Climate Change,' a thesis I wouldn't have contemplated without the inspiration and education provided by the lecturers I met at Cambridge. A single-degree Arts student does not, in ordinary circumstances, have the opportunity (and perhaps the initiative) to attend science lectures. I thus cannot recommend highly enough the interdisciplinary structure of the Cambridge GSP. Connections between the study of English and art history, and the current debate surrounding climate change, may seem tenuous, but I was inspired by the programme to find these connections, to evaluate the efficacy of the Humanities in effectuating political change and influencing public opinion in face what is essentially the first truly global crisis in the history of humanity. Finding a place for the Humanities in the brokering of a solution for this problem has become a passion of mine: my interests have not been changed by the Cambridge programme, so much as broadened to include

areas previously beyond the scope of my study. The GSP provoked in me a flood of ideas, ideas which are changing the direction of my current degree and my intended field of post-graduate study.

Tertiary education in the twenty-first century is largely professionally oriented, with vocation-specific degrees the almost inevitable product of the economic realities of administrating and attending a university. Students within this system, I believe, are at risk of being intellectually straight-jacketed into specific disciplines from an early stage. Indeed, many finance and accounting students I've spoken to are finding that they need to go so far as to tailor the 'right' courses within the 'right' degree in order to be competitive for summer internships and post-graduation employment. For some, this finely-tuned system is conducive to an effective university experience. For others, it throws into the starkest relief the rarity and value of the IARU programmes.

I would like to offer my sincere thanks, therefore, to the organisers of the global summer programmes. The International Alliance for Research Universities has had a direct bearing upon my overwhelmingly positive experience as an undergraduate student. I am fortunate enough to have now studied at three of the partners—at the ANU, at Cambridge, and at Copenhagen University—and must acknowledge, with pleasure, my debt to the Alliance for the education I have received. If there is any way in which I can help promote the programmes and the Alliance, I would be honoured to do so. My only recommendation is that as many undergraduates as possible benefit from the opportunities provided by IARU. To this end, provision for the cost for students attending the programmes may need to be addressed. I am deeply grateful to Vice Chancellor Professor Ian Chubb of the ANU for fully subsidising the cost of flights, tuition and accommodation for ANU students, as without this support I would have been unable to participate.

I also would like to thank Dr. Sarah Ormrod for her support and continued guidance throughout the stages of the programme; Dr. Rob Wallach, for his unmitigated enthusiasm and inspiring engagement with the eight participants of the GSP; Dr. Sian Griffiths for her rigorous and enjoyable supervisions; and to each of the lecturers at Cambridge who lead us in the discussions and presented the lectures that so inspired me throughout Cambridge Connections.

Sincerely and with thanks, Phoebe Downing

c) Jessica Fitch – Australian National University

Overall, the programme was amazing! It was such a wonderful opportunity and we were all really appreciative of this experience. Learning "unusual" subjects that we normally don't get to study was a really valuable experience - it definitely extended my borders and opened up so many possibilities of what is out there. Learning in class was great - but I think I learnt the most when the 8 of us would walk back to Gonville and Caius from the Sidgwick Site and discuss points that we raised in the lecture/discussion we just attended. Hearing different points of view from people with different backgrounds (culturally and academically) was so stimulating. Also, just talking over the dinner table about what we study back home, or what our home countries are like was one of the most rewarding experiences. For this reason, I believe it is important to maintain a diverse group of people for next years IARU programme.

The weekend activities we did we really enjoyable, and I'm sure next year's students would appreciate a list to help guide them. The Orchard Tea Gardens, the Fitzwilliam museum, the Whipple, Shakespeare in the gardens, Kettle's Tea Yard and punting were the highlights for me of what we did. Having Rob as our mentor was great - we all really benefitted from having such a close relationship with a Cambridge fellow, especially one who was so caring and supportive as Rob was.

When I arrived in Cambridge I really didn't know what to expect which was a bit scary - but this will no doubt be improved next year as the programme has now already run. Having the first supervision due so soon after we arrived was also a bit of a task - maybe if the first one was less demanding this would help. I think it is strange that different universities supported their students differently - I think this should be looked into for the coming years as I feel truly lucky that ANU supported us as much as they did and it would have been a financial burden if they hadn't been so generous.

Finally, I think it would have been nice if something had been organised for us on the second night we were there like it was done for the other summer school students. We still had something that we organised ourselves, but the coming years may not do this so it would be nice if the summer schools organised it on their behalf.

Thank you once again for the experience - it was wonderful and something I will remember for a long time to come.

Regards,
Jess

d) Ben Gammon - Berkeley

I very much enjoyed the IARU Global Studies Program. I would have to say that the highlight for me academically speaking was the freedom, independence and flexibility that the program offered. From being able to choose my own schedule on world perspective changing plenaries to collaborating at supervisions on which subject my professor was going to scrutinize me on next.

For me, the biggest downside was two fold. One was the sheer expense of the program(all coming directly out of my pocket), The 2nd was an underlying feeling of "what is my purpose here?" At times it felt as though there was no goal or

central theme to the program but rather a bunch of students randomly bumping between classes and pulling all nighters to finish essay topics.

All in all, I think that this is an amazing program and would rate it an 8 out of 10. I am confident that all of the wrinkles of the first year will be ironed out for the 2nd go around.

Cheers!
Ben Gammon

From email dated 6/10: After several months of reflection I have only come to love my experience at Cambridge more and have an increasing admiration for the individuals that make it such a unique and amazing institution.

e) Takeshi Hiraokoba - Tokyo University

It was a great experience for me to have participated in the Cambridge Connections programme. I believe that the experience will certainly be useful for me to achieve my study for master degree in my home university.

Now, I write down the review of the programme. I'm sorry for taking critical attitude in order to utilize this review.

Lectures

There were 7 summer schools, but I think it is not enough to maximize the effect of the programme. Although the concept of Term 1 was interdisciplinary, the content of some subjects of Term 1 was only introduction. In order to fulfill the aim (to place that investigation in context, to realise the power of connections and links) of the programme, lectures must cover wider fields and each lecture should explain from introduction to speciality.

And in our IARU programme, I think every student, including me, tended to take lectures which they are much interested in and study in home universities. Because it is great experience to realize the power of connections and links from other fields, I think students should also take other subjects. In order to make students take other lectures, I think some systems (ex. some lectures are decided by international summer office) is needed.

Discussions

I think the role of discussions in the programme is extremely large. In discussions, students can feel and experience many ideas and connections between ideas. So, I think there must be longer time for students to participate in discussions.

And in some discussions, teachers made order of discussions too strictly. I think that well ordered discussion seems to be beautiful, but it is not so useful for students participating in this programme. I think students have to consider deeply the topic or the development of discussion, and teachers have only to tell fundamental knowledge and support students a little. Teacher should leave the development of discussion to students to some extent.

Supervisions

This is the greatly original system in Cambridge University and also suits for this programme. I think there should be more communication between supervision groups in order to share each idea and result. We can communicate these things in chatting time but I think it is not enough and I want to record and share as our common results.

Accommodation

As this programme is an International programme, I think there must be more consideration of religion in foods. If there were Muslim or Hindu people, they cannot eat pork or beef. So, I think buffet style is better than course style, although course style seems to be luxurious.

f) Sunbin Park – National University of Singapore

It took me long to start writing about my summer in Cambridge. I kept feeling as if I woke up from a long and beautiful summer dream, and every time I tried to grasp something out of it, it kept disappearing like an illusion.

Well, yes, I had some unbelievable and fairy-tale kind of dreams in Cambridge. Like waking up in the 700-year-old college every morning. Like walking through one of the most beautiful chapels in the world without feeling like a stranger. Like having a serious conversation with the world-famous scholars and professors. Like chatting with fascinating friends from every corner of the world. Like studying what I want and not what I should. And above all, getting to know the genuine pleasure of studying.

A month is too short to become professional in one field, but it is a plenty of time to realize how privileged it is to be able to learn and study. It was a unique experience that is only possible in Cambridge, and it became a great turning point of my life.

I sincerely thank you all for giving me such a wonderful summer. It will always remain as the most cherished memory of my life, forever.

Best Wishes,
Sunny

g) Naoko Takahashi - University of Tokyo

1. Preparation

I wanted more precise or easy-to-understand description for the choice of the lectures because I had difficulty understanding what the plenary lectures are and which I could choose from. And if possible, I wanted to have the detail of the content of the lectures, discussion and supervisions earlier because I needed to explain the detail of the programme to get the permission from the department of my major for skipping one month of the summer semester at the University of Tokyo before participating in the programme.

2. Lectures

It would be convenient if there was enough time to transfer one lecture to the next lecture or lecture rooms were close each other. That is because the distance from Fitzwilliam College to Sedgwick Site sometimes restricted the choice of the lectures.

And if possible, I wanted to be understood to attend lectures without being the member of the course because it seemed that most students of the summer programme, such as Art History or Medieval course's students, didn't know who we were. I felt some skeptical feeling toward me from the course members, especially from the students in the course of smaller number of members, when I didn't sign the list for attendance during the lecture.

3. Discussions

I had not been used to the discussion style in English and was so confused at the first discussion that I couldn't get the timing to express my idea, though it was interesting to exchange ideas with each other after getting used to its way. If possible, I wanted to make consensus with group members briefly on how to discuss at the first meeting. And also, it would be fruitful to make consensus on the discussion style between the students and the doctor who organized the discussion.

In addition, some doctors and professors conducted the discussion on the premise of the knowledge in the Christianity. It is similar to the lecturers of plenary lectures. I understand that the history and the thought that the doctors and professors have are much related to the religion, especially Christianity, though itself was very new to me and sometimes had difficulty in keeping up with the discussion.

4. Supervisions

I had really great time in supervision. Dr. David Smith listened to us very carefully and also gave us suitable amount and content of materials to overview the topic briefly and write for it in one week. The discussion was very fruitful for me because I could get new view points in my own subject.

I suggest several points I realized through the supervision.

First, I think the subject for the essay needs to be related to the subject that a certain course covers. That is because some lectures of the history course really helped me to write the essay for the Civil War, which is completely new subject for me but very interesting with connecting the topic with history course's lectures.

Next, the supervision group member is better to be the student from another major. My supervision member was Takeshi, who is from the same department, and sometimes had the same view point against the subject. I think it would be nicer to have new point of view not only from the supervisor but also from the member.

However, the language skills of the students in the same group are better not to be so different as long as two students form one group. I assume that I would suffer heavy pressure if I would have been with the student who had far great ability in English. That is because I took longer time to read the same amount of the material than the native English speakers and I would have difficulty keep up with the discussion with the supervisor and the student. To this point, it was nice to be with Takeshi, because I and Takeshi had close situation regard to the language ability that this programme was the first experience to study abroad using English and the English was the second language for both of us.

5. Accommodations

The room was really comfortable and nice to live in except for the noise from the outside at night, though the defect may come from the convenience of getting to the city center easily, which was nice to look around the town.

6. Excursion

Excursion was really nice experience for me to know students from the other courses.

7. Administration

I wanted to make decision on whether or not to give us the credit and the amount of the subsidy before participating in the programme because I have not been decided both from the office of my university.

I am afraid this review is not appropriate to give you; however, I want to let you know how the administration office worked in my university on the process of participating in the IARU programme in case you have the chance to negotiate the administration issue with the other universities including my university.

h) Joy Thompson – Australian National University

I've organised my feedback into several headings and provided a short comment under each one. Hope this helps!

Accommodation: I think all the GSP students were delighted at the last-minute move to the Old Courts. We did have a little further to walk to class, but living in the city centre more than made up for that. (It also gave me the chance to fill my sketchbook with drawings of the Gate of Honour!) The quality of the meals was always high, and for those of us from ANU colleges, living on a stairwell instead of a corridor was a new experience.

Plenaries: I greatly enjoyed being able to put together a lecture programme tailored to my own interests. Several of the plenaries were also helpful for our supervision topics, in my case Fred Parker's evening lectures on Shakespeare. Unfortunately, lectures on some subjects were difficult to timetable with others of interest; this was particularly true for Science and Creation.

Supervisions: Although some of us from ANU have experienced a similar system of supervision during individual research projects, this is not usually the case for undergraduate courses. Science in particular is taught in lectures and laboratory classes, with very few smaller group tutorials. The combination of informality and academic rigour that was a feature of our Cambridge supervisions was therefore a refreshing change from formal lectures. I think the workload was appropriate, although we were a little apprehensive at first; we certainly had enough time left over to explore the city and surrounds. I also enjoyed having two supervisors who specialised in different areas, although it did mean that we could not explore each topic in as much detail as I would have liked.

The social scene: I was pleased that the summer school excursions were available to the GSP students and went on a few, which had the added bonus of being relevant to my supervision topics. Sarah gave us excellent tips on the various attractions surrounding Cambridge, which led to several enjoyable excursions to the Orchard Tea Rooms. I think I can also speak for everyone when I say that we were grateful to Rob Wallach for his kindness and hospitality, especially the memorable *Porterhouse Blue* evening and our expedition on the King's punts. The only problem for me was the difficulty we had in getting to know students from some of the other summer schools. The only opportunities we really had to socialise with students outside the GSP were the evening events and weekend excursions, since our lecture timetables kept changing from day to day.

General improvements: Most of the administrative problems we encountered were solved during the programme. However, it would have been convenient to have printing quota at Gonville and Caius as well as at the various faculty libraries. I would have also liked a little more information upfront on the college library – I only started to explore it at the end of the last week.

Appendix 2: Feedback from outbound students

- a) **Alex Bescoby**, attending South East Asian Frontiers in Thailand, programme organised by Australian National University
- b) **Clemens Mathiesen**, attending 'Introduction to the Japanese Language` and `Nano-science` at the University of Tokyo

a) Alex Bescoby

POSITIVE

- Incredible and very moving experience. Opportunity to meet those directly affected by the issues we are discussing. This is an incredibly hands on and intense approach to research. The report I have produced is simply a starting point for an infectious interest in Burma and Thailand; have decided to pursue the issues I was introduced to in this course in my final year dissertation and hopefully at MA level.
- Unbeatable and unique introduction to two cultures, two languages and two intertwined historical narratives of which I had no prior knowledge or experience. I arrived knowing nothing, left knowing more than I could ever have expected, but more importantly with an intense curiosity about the region.
- Course conveners, particularly Ma Khin Ma Mar Kyi and Chintana Sandilands, made the course. Their infectious enthusiasm and compassion for their respective cultures, languages and the future of their nations made this experience life changing. The opportunity to see Thailand through Thai eyes and Burma through Burmese eyes has forever altered my conception of how foreign travel should be undertaken.
- More than this, the course became more than a research journey, it took on a very personal and communal experience. The 13 or so travellers are still in constant contact, even across thousands of miles. Every individual who went returned changed, and now continue to engage with the issues we were confronted with, e.g. helping Burmese refugees we encountered attain asylum in Australia.
- At an organisational level, I can see that the course must have involved a lengthy and time consuming period of preparation. As a result the time in the field was used to maximum effect. The course conveners must definitely be congratulated for their monumental efforts.
- To the IARU I also give thanks, for giving me the opportunity to have had one of the most incredible summers of my life. I could never have done it without the GSP, or the financial support I was given. As a student from a poor background, I could never have imagined myself spending my summer in this way. This must continue for future students in similar positions.

IMPROVEMENTS

- Understandably as this is the first year there were always going to be some glitches. One I could suggest would be making sure the courses reflected the global aspirations of the GSP. I was a little disappointed at first to be the only non-ANU student on the SEAF course (however I would not now have changed one of my travelling companions given the choice!)
- The SEAF course is a very intense experience, with 3 conveners all trying to use their allotted portion of the time to full effect. However a month is a long time in which to be constantly on the move and in often intensely emotional or intellectually challenging environments. In retrospect, however low spirits may have been at later points in the course, I am grateful for the amount of material and geography covered.
- One major objection – the “Feminist International Relations” viewpoint with which we were required to approach the research project was at times incredibly frustrating, stifling and confusing. I and my fellow students all arrived with particular avenues of investigation we were keen to pursue, and were repeatedly disillusioned when difference of opinion or approach were often rejected, or only begrudgingly tolerated. More room for broader and reflexive debate between convener and students would have made for a smoother and more (if that is possible) fulfilling experience.

b) Clemens Mathiesen

I participated in the courses 'Introduction to the Japanese Language` and `Nano-science` at the University of Tokyo this summer. There is not much to say about how the programme was run in Tokyo. It was clear that a lot of effort had been put into organising both courses and the trips in and around Tokyo. The language course was very well-structured and progressed at a good speed, so that a surprisingly large amount of material was covered. The learning material put online was a great help. The lectures for the Nanoscience-course were given by senior scientists of the university, each experts in their field. They were happy to answer questions in detail and to show us around in their laboratories. Overall, I am very satisfied with both courses and would recommend them to anyone interested in these fields. The University of Tokyo involved a group of their students (University of Tokyo International Relations Institution of Students) in the organisation of extra-curricular activities and these contacts proved very useful for getting around in Tokyo and doing sight-seeing. It would have been nice if some Japanese students had participated in the Nanoscience-course too, which seems to have been difficult due to timetable constraints. In summary I have no complaints at all about organisation and realisation of the programme in Tokyo, it was a great experience and I believe I have benefited a lot from it! Some thoughts on the general organisation: The IARU GSP was not very well publicised, none of my friends at university had heard of it and I can not imagine many people applied. Advertising this programme at relevant university department would have had a

bigger impact. Also, as interesting and fascinating the experience was, it was an expensive experience too. The International Office did pay the tuition fees for us, but this constituted the smallest part of the expenses. I applied to all suitable College grants, but the applications were unsuccessful. Only because my parents agreed to cover the costs I was able to attend the course. Talking to other participants I know that some people were put off applying because of the high costs. I do not know how most other universities handled this issue, but at least at the ANU practically all expenses were covered by the university. Participation in a programme such as this should not depend on private funding and I would be surprised if Cambridge University did not have the means to support those few participants a bit more generously.



IARU GLOBAL SUMMER PROGRAMME AT OXFORD

OUTBOUND STUDENTS

Advertising

We advertised widely throughout the university:

- Sending an electronic flyer to senior tutors and Junior Common Room presidents in all colleges and to the Student Union
- Introducing the GSP on our International Office and International Collaboration web pages.

Applications

We received five applications: three for Yale, one for ANU, and one for Tokyo. These were good applications, from students who were clearly interested in learning about areas adjacent to their subject of study. (In Oxford, when you study a subject, that's all you study, so it was interesting to see students attracted to the GSP as a way of broadening their horizons: a fine art student applying to sustainable urban management, a history student interesting in the moral foundations of politics.)

But the small numbers of applicants – we had 43 applicants for 6 international internships we advertised at the same time, of markedly high quality – highlight the fundamental challenge we are likely to always have in attracting our students to these courses. We do not provide credit for these courses and they are expensive, even with generous scholarships from our partner institutions. They are less attractive than other summer options for many of our students.

Two of our students dropped out: one broke his leg; the other could not afford to go, though the offer of a scholarship from ANU had her reconsidering.

Experience

Our two students who went to Yale spoke extremely highly of the academic experience, describing the course as challenging and stimulating, and valuable to their studies. They felt extremely welcome and made great new friends. When asked what worked particularly well, they said:

“The workload was just right, and student panel discussions provided additional more open arenas for discussion. Afternoon classes meant conversation often continued well past dinner on what we'd just covered. Having access to Yale's superbly resourced and student-friendly libraries and gym was a bonus.”

“The mix of students was really great, and they were all very engaged in the course. Yale organised lots of class social events so we bonded as a group, and spent a lot of our free time together. Being able to study together and discuss the material with the other students was really fun.”

In terms of things to improve, funding is clearly an issue. Both students were grateful for their Yale tuition scholarships, and both had received £350 (\$700) college travel grants. They each described putting in £2,000 of their own funds to pay for their airfare and additional costs. (You can see why a paid internship that at least offers the prospect of breaking even is attractive.) Said one: "I think this is a great programme and Oxford should look into making it more accessible."

Both were also critical of their accommodation and found the process of obtaining a visa challenging. Both described confusion/irritation at having to fill in two application forms.

Areas for improvement for next year

We will be working on:

- Earlier and wider advertisement, giving students maximum time to apply for funding
- Identifying possible sources of financial support
- Streamlining/simplifying the application process?

INBOUND STUDENTS: OXFORD GLOBAL LEADERSHIP SUMMER PROGRAMME (IARU) 2008

Staffing

Programme Director
Programme Tutor
Co-ordinator

Dr Angus Hawkins
Dr Nim Pathy
Ms Liza Denny

Details of the courses offered

The Oxford Global Leadership Summer Programme 2008 comprised two academic strands.

- 1 The first was made up of research seminars and tutorials (in which two students meet with one academic) in areas being investigated by the James Martin 21st Century School at Oxford University. (The James Martin School is made up of 17 research institutes addressing the most urgent challenges and opportunities for humanity in the 21st century.)

The **tutorials**, undertaken by all the students, discussed

- Which three infectious diseases of humans may have the greatest impact in the 21st century *and*
- Which source(s) of energy should we pursue in the next hundred years?

Each student prepared an essay on special topics for each tutorial meeting.

Research seminars discussed the following topics:

- Environmental issues (led by staff of the Environmental Change Institute)
- The Future of the Internet and its impact on Society (led by staff of the e-Horizons Institute)
- Human Enhancement (led by staff of the Future of Humanity Institute)

Finally, the students were divided into small groups to research and prepare a **presentation** on either:

- Globalisation and economic growth vs environmentalism: are they really incompatible?
- Information Technology and the WWW: forces for social cohesion, or social exclusion?

Each group presented their project for assessment on the final morning.

- 2 The second strand of the Oxford Global Leadership Programme comprised participation in a selected seminar of the Oxford University Summer Programme in History, Politics and Society. The seminars met for two hours on six occasions. Students elected to study either

- The European Union in Perspective *or*
- Warfare in the Modern World

Each student researched and wrote a long essay on a topic relevant to their chosen seminar.

In addition, the students attended the History, Politics and Society lecture series, which is designed to broaden and enhance students' awareness of the issues and events that have shaped the contemporary world. The fifteen lectures comprising this series were given by leading scholars and distinguished guest speakers.

Summary of programme feedback

Tutor's Report

Dr Nim Pathy (GLSP tutor) thought very highly of all the students, describing them as conscientious, enthusiastic, organised and committed. Their tutorial papers and essays were well argued, the students engaged actively in debate, and the final presentations were well structured and well delivered.

Student Evaluation

An hour-long review meeting was held at the end of the programme and evaluation forms were received from the students. A summary of their comments follows.

The academic programme received the highest rating possible on all the forms from the respondents. When asked whether they would recommend the course students responded: "Of course! It was fantastic!!" "Absolutely (particularly if it's funded)."

GLSP tutorials and seminars were rated very highly. Student comments included: "These were by far my favourite part of the academic part of the course. It was a time where you could really express intellect and challenge ideas. The tutor was a fantastic facilitator for this as well." "I really liked the topics and Nim was a great tutor."

The History, Politics and Society seminars were praised, especially for the quality of the teaching. Student comments included: "The [seminars] were incredibly engaging, provocative, insightful and energetic." The lecture series was also rated highly, with one student commenting she was "lucky to have such an informative experience". Another student commented: "I really enjoyed the lectures. Every day I learnt something new with a very fresh perspective."

The students greatly valued being housed in a historic college with members of the History, Politics and Society programme. Many of the informal activities, eg evening debates, were relevant and appropriate for the IARU group to join and the History participants were diverse in age, nationality and outlook and hence provided an interesting social context.

The resident administrative assistants and the college staff were praised for their efficiency and friendliness.

Nominations vs actual enrolments

- 6 applications were received and all were offered places.
- 5 students attended the programme, 4 from ANU and 1 from Yale. We believe the student from Berkeley withdrew due to funding.

Outline of successful aspects and the challenges/concerns regarding the programme in 2008

Overall, the programme was very successful. Working with the research institutes of the James Martin 21st Century School provided a broad introduction to the latest research and debates about critical issues confronting the world and humanity at the beginning of this century. The combination of tutorials, research seminars and student presentations seemed to work well. The researchers brought in to the seminars very much enjoyed their discussions with the students. Dr Nim Pathy proved a very effective tutor. The integration of the History, Politics and Society seminars with the James Martin School tutorials and seminars, went well. The lectures were very well received. We were also pleased with how well the GLSP students integrated with the wider student body, with whom they were accommodated in Exeter College. As Dr Pathy reported, the GLSP students were very enthusiastic and committed, producing work of high quality.

In the light of this first programme, there are two improvements we would like to make for 2009. We think it would be beneficial to have James Martin School seminars throughout the programme, rather than just at the end. It is also hoped that future groups will be larger and more diverse, comprising students from more than just two IARU member institutions.

Clearly cost is a critical barrier to having a more institutionally diverse student body. Our accommodation costs are structurally high and are a significant issue when

airfares are added on. We are exploring ways to obtain less expensive accommodation, though this may require trade-offs (e.g., less historic housing, distance from History, Politics, and Society programme site at Exeter College).

Oxford GLSP Programme 2009

With regard to the Oxford 2009 programme we would like to propose the following:

- A four-week programme from Sunday 5 July to Saturday 1 August 2009, once again integrating tutorials and seminars with the James Martin 21st Century School with the Oxford History, Politics and Society Summer School.
- The likely fee for 2009 is £3,210 (Course fee - £915; accommodation and meals - £2,295).
- Deadline for applications 20 March 2009.

Angus Hawkins
Liza Denny
Heather Bell

1 September 2008

2008 IARU Global Summer Program

The University of Tokyo had offered three lecture courses, “Sustainable Urban Management”, “Nanoscience” and “Introduction to the Japanese Language”. “Introduction to the Japanese Language” was for students taking one of the courses "Sustainable Urban Management" and/or "Nanoscience". These courses were open also to UT students, except “Introduction to the Japanese Language”. Study visit was arranged during the period of the courses, which may include Industry, Univ.Lab and Japanese Culture.

Schedule of Lecture

- (1) Sustainable Urban Management (June 15-July 1) : 13 participants
- (2) Nanoscience (June 29-July 11) : 7 participants
- (3) Introduction to the Japanese Language (June 15-July 1) : 10 participants

Level : Undergraduate

Venue : Hongo Campus (Main Campus in the central area of Tokyo)

Lecture Contents

- (1) Sustainable urban management

This course provided students with good opportunities to think how to overview the existing social capital and the technologies to implement it and to discuss a comprehensive approach that is able to reorganize them. Many undergraduate and graduate students from the University of Tokyo also attended the course. The topic covers both planning aspects and engineering aspects. The course consisted of Part 1: “Planning aspects: How can sustainable urban regeneration be achieved?” and Part 2: “Engineering aspects: How can urban stock be well-managed?”

In the process of urban development in the 20th century characterized by urban expansion and redevelopment, a huge and advanced complex of urban structures was formed in the industrialized countries. However, with the conventional technologies focused on the construction of structures, it has become difficult to keep urban space adaptable to environmental constraints and economic, social and cultural changes. Those conventional technologies can no longer meet the social demands for upgrading social capital in a sustainable manner and regenerating attractive urban space not only safe and highly efficient but also conscious of historical, cultural and local identities to guarantee a high quality of life for all.



(2) Introduction to the Japanese Language

1. Target level

This course was aimed at beginning Japanese language learners. When students applied to this course, they were not expected to have had any previous experience with the Japanese language. However, students were expected to be able to read HIRAGANA (a Japanese phonetic character system consisting of 46 characters) by the start of the course. Learning support for this was provided prior to the start of the course. (See 2.)

2. Learning support prior to arrival

We (International Center of U-Tokyo) provided an e-learning website through which students were able to study HIRAGANA and numbers up to 100 before coming to Japan. Students were provided with a password which permitted them to access the e-learning materials (usually only available at the International Center of U-Tokyo) for a limited period of time.

3. Contents

We provided an introductory course for those new to Japan. This course not only provided conversational ability over a short period of time which facilitated communication with Japanese people, but it also balanced this by providing knowledge on certain characteristics of the Japanese language, such as the Japanese writing system, elementary grammar, and communication patterns. To improve students' Japanese literacy, certain topics that are usually taught in the second half of an elementary language course, such as the use of dictionaries, were also included in this course.

The course consisted of 15 lessons of 100 minutes each.

- 1) Orientation + Conversation: Study guide, Greetings, "Minimal" conversation
- 2) Characters + Conversation: Japanese writing system, Numbers, Shopping conversation
- 3) Grammar: Nominal sentences, Question words
- 4) Grammar: Verbal sentences (1)
- 5) Reading and writing: Writing a self introduction using a word processor
- 6) Characters: Introduction to Kanji (History, system etc.)
- 7) Conversation: Practice using communication strategies + Reaction
- 8) Grammar: Verbal sentences (2), Particles
- 9) Characters: Using a Kanji dictionary + Calligraphy experience
- 10) Conversation: "Mini interview" in Japanese
- 11) Grammar: Adjectival sentences
- 12) Reading and writing: Reading + Using a Japanese-English dictionary
- 13) Conversation: Making skits
- 14) Test + Conversation: Making TV programs in Japanese
- 15) Test feedback + Writing

Our students were able to experience a range of Japanese cultural aspects using the Japanese they learned in these classes. Further,, the course also provided a firm basis which enabled the students to continue their study of Japanese after they returned to their home countries.

4. Students

10 students participated in the course.

All of the students studied HIRAGANA using our e-learning support program before coming to Japan and were able to read HIRAGANA at the outset of the course.

9 students attended every class and completed the course.

5. Comments from course feedback made by the students

"The classes were great."

"This course was an excellent introduction to Japanese writing and conversation."

"Very well planned to make the most use of only 2 weeks."

"The course gives a very good introduction to the Japanese language and is a good platform for one to continue learning the language in the future."

"I very much enjoyed this opportunity to get a first insight into the Japanese language."

"If you've wanted to start learning Japanese, but don't know where to begin, then this course is perfect!"

"It was very good! Can I come back?"

"Very intensive and interesting. More classes would be useful to helping us consolidate our learning the Japanese language."

"The topics covered were good – especially how to use the dictionary. I would have liked to learn colors so we can describe things to buy."

"More verb conjugations?" "More colloquial conversation / pronunciation"

"It should be offered in future at a different time to the Sustainable Urban Management course."

6. Course evaluation by the students

Q: "Overall, were you satisfied with the course?"



Results: "5"= 7 students, "4"= 2 students, "3","2","1"=none,

Average score: 4.78



The University of Tokyo



(3) Nanoscience

Biotechnology: This “biotechnology” lecture (at the Graduate School of Pharmaceutical Sciences) focused on advanced biomedical science and technology bound to the drug discovery. For example, the use of drug transporter function in the delivery of a drug to the target organ was discussed. Advanced bioimaging technology was overviewed, which reveals where and when genes and their products function in the body during the development and pathological processes. Novel NMR-assisted technology was shown, which enables to observe protein-protein interactions at the atomic level. Unique molecules involved with the carbohydrate recognition and the carbohydrate presentation was illustrated to play important roles in pathological processes.

The titles of lectures were as follows:

- (1) Membrane transporters and drug response (Prof. Y. Sugiyama)
- (2) Bioimaging and genetics of programmed cell death signal (Prof. M. Miura)
- (3) NMR study in ligands-membrane proteins complexes (Prof. K. Shimada)
- (4) Carbohydrate recognition in action (Prof. T. Irimura)

Tours were offered to those who desire to visit the laboratories.

- Sugiyama Lab. (Molecular Pharmacokinetics)
- Miura Lab. (Genetics)
- Shimada Lab. (Physical Chemistry)

- Irimura Lab. (Cancer Biology and Molecular Immunology)

Biomedicine and Nanobiotechnology: The “nanobiotechnology” lectures were offered, which focuses on the understanding of the structure and functions of the living systems at the nano level as a basis for the development of bioinspired structures and functions as well as for the establishment of methodologies to integrate living components, including biomolecules and cells, into nanodevices while regulating their functions. To effectively achieve this goal, three subthemes were set in the course: (1) bioinspired nanomachines; (2) nanobio sensing systems; and (3) nanotechnology and materials science for nanoscale cell therapy.

The titles of lectures were as follows:

- (1) Computer-Integrated Surgical System Based on Biologically Compatible Processes
(Prof. M. Mitsuishi)
- (2) Biomimetic Molecular Programming for Functional Nanomaterials (Prof. T. Aida)
- (3) Microchip and device technology (Prof. T. Kitamori)
- (4) Supramolecular nanocarriers assembled from block copolymers for gene and drug delivery (Prof. K. Kataoka)

Tours were offered to those who desire to visit the laboratories of lecturers.

- Mitsuishi Lab. (Nano-Micro Manufacturing)
- Aida Lab. (Supramolecular Chemistry)
- Kitamori Lab. (Microchip and Device)
- Kataoka Lab. (DDS)

Nanotechnology: This lecture covered fundamentals and applications of nanotechnology mainly established in a field of semiconductors, including the following four topics. (1) Fundamentals of semiconductor materials and devices. (2) Future challenges and opportunities of silicon-based integrated nanoelectronics. (3) Physics and technology of semiconductor nanostructures. (4) Nano-quantum electronics for future optoelectronics and quantum information processes.

The titles of lectures were as follows:

- (1) Nanostructures and photonics (Prof. Y. Arakawa)
- (2) Future challenges and opportunities of silicon-based integrated nanoelectronics
(Prof. T. Hiramoto)
- (3) Physics and technology of semiconductor nanostructures (Prof. S. Tarucha)
- (4) Spintronics: fundamentals and applications (Prof. M. Tanaka)

As a part of this lecture, visiting tours to some laboratories took place.

- Clean Room Facilities in IIS
- Fujita/Toshiyosi Lab. (MEMS and Optical MEMS)

- Takahashi Lab. (Nanoprobe Technology)
- Clean Room Facilities in Takeda Bldg.
- Tarucha Lab. (Nano Quantum Physics)
- Tanaka Lab. (Spintronics)

IARU-GSP 2008 at the University of Tokyo Course Schedule

Jap: Introduction to the Japanese Language

Sus: Sustainable Urban Management

Nano: Nanoscience

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
6/15 AM	16 10:30-12:00 Guidance	17	18	19	20	21
PM	13:30-15:10 Class (Jap1) 15:20-17:00 Class (Jap2)	13:30-15:10 Class (Jap3) 16:30-18:00 Class (Sus)	13:30-15:10 Class (Jap4) 16:30-18:00 Class (Sus)	13:30-15:10 Class (Jap5) 15:20-17:00 Class (Jap6)	13:30-15:10 Class (Jap7) 18:15-19:45 Class (Sus)	9:00-17:30 Study Visit
18:00 Welcome Party	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	
6/22 AM	23	24	25	26	27	28
PM	13:30-15:10 Class (Jap8) 15:20-17:00 Class (Jap9)	13:30-15:10 Class (Jap10) 16:30-18:00 Class (Sus)	13:30-15:10 Class (Jap11) 16:30-18:00 Class (Sus)	13:30-15:10 Class (Jap12) 15:20-17:00 Class (Jap13)	13:30-15:10 Class (Jap14) 15:20-17:00 Class (Jap15)	
18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	18:15-19:45 Class (Sus)	
6/29 AM	30	7/1	2	3	4	5
PM	9:15-17:30 Student Exchange Program 18:00-20:00 Party	9:30-17:00 Study Visit	13:00-14:30 Class (Nano-III) 14:40-16:10 Class (Nano-III) 16:30-17:30 Labo Tour (Nano-III)	13:00-14:30 Class (Nano-I) 14:40-16:10 Class (Nano-I) 16:30-17:30 Labo Tour (Nano-I)	13:00-14:30 Class (Nano-II) 14:40-16:10 Class (Nano-II) 16:30-17:30 Labo Tour (Nano-II)	
7/6 AM	7	8	9	10	11	12
PM	11:30-17:00 Study Visit	13:00-14:30 Class (Nano-II) 14:40-16:10 Class (Nano-II) 16:30-17:30 Labo Tour (Nano-II)	13:00-14:30 Class (Nano-III) 14:40-16:10 Class (Nano-III) 16:30-17:30 Labo Tour (Nano-III)	13:00-14:30 Class (Nano-I) 14:40-16:10 Class (Nano-I) 16:30-17:30 Labo Tour (Nano-I)	12:00-13:30 Farewell Meeting	

Yale University
Global Summer Program
Report 2008

Prepared by Kathy Yurko
Yale GSP Coordinator
August 21, 2008

IARU GSP 2008

		Yale University			Moral Foundations of Politics	
Last name	First name	Home University	Citizenship	Gender	Class	Major
Neoh Weng Fei	Joshua	ANU	Malaysian	male	2nd Year	B.Arts/B.Law
Dunlop	Craig	ANU	Australian	male	3rd Year	B.Arts/B.Asian Studies-Japanese
Crespo	Maria-Laura	ANU	Australian	female	5th Year	B.Arts/B.Economics
Degawa	Haruka	Univ. of Tokyo	Japanese	female		Politics
Wheater	Katharine	Oxford Univ.	English	female	2nd Year	BA History
Northedge	Leonie	Oxford Univ.	English	female	2nd Year	BA Oriental Studies/Arabic
O'Flanagan Henrichsen	Kathryn Louise	Univ. of Copenhagen	British	female	1st Year	African Studies
Ingerslev	Maria	Univ. of Copenhagen	Danish	female	2nd Year	Economics
Nunez-Elizade	Anwar	Univ. of California, Berkeley	Mexican	male	4th Year	Economics & Cognitive Science
Zeumer	Mathias	Univ. of California, Berkeley	German	male	4th Year	Peace & Conflict Studies
Hee	Chun Hui	National Univ. of Singapore	Singaporean	female	3rd Year	Industrial & Systems Engineering
Ho	Derek	National Univ. of Singapore	Singaporean	male	2nd Year	Economics
Richards	Joanne	ETH Zurich	English	female	1st Year	Master's-Comparative & International Studies
Zhang	Chi	Peking University	Chinese	female	2nd Year	Finance
Zhang	Lu	Peking University	Chinese	female	2nd Year	Russian
Widdess	Laragh	University of Cambridge	English	female	1st Year	Master's-Phil. in Classics (Ancient Pol. Thought)
Bristow	William	Yale Univ.	USA	male	3rd Year	BA Humanities
Stegmaier	Andrew	Yale Univ.	USA	male	(on leave)	Philosophy
Smith	David	Yale Univ.	USA	male	4th year	
Opalo	Kennedy	Yale Univ.	Kenya	male	3rd Year	Political Science & Economics
Hays	Foster	Yale Univ.	USA	male		

21 total students in Yale's GSP

Global Summer Program-OUTGOING Yale Students-Summer 2008

Last name	First name	Gender	Class	Major	Citizenship	Program	Course 1
Misas	Henry	male	sophomore	Mechanical Engineering	Colombian	ANU	Energy Resources & Renewable Technologies(cancelled)
Wang	Chun Ying	female	sophomore	Environmental Studies	USA	ANU	International Environmental Policy
Chua	Samuel	male		Cognitive Science	Malaysian	U of Tokyo	Sustainable Urban Mgmt/Intro to Japan. Lang.
Zvara	Jessica	female	junior	History & Biology	USA	Cambridge	Cambridge Connections
Levin	Brian	male	freshman	Political Sci/Internat'l Relations	USA	ANU	International Environmental Policy
Levander	Samuel	male	sophomore	Political Science	USA	Oxford	History, Politics, & Global Leadership
Bai	Jie	female	freshman	Econ & Math	Chinese	U of Tokyo	Sustainable Urban Mgmt/Intro to Japan. Lang.
Paulson	Caitlina	female				ANU	International Environmental Policy

Total Outgoing Yale Students that participated in Summer 2008: 4

Date Applied	Accept Letter from host Univ.	Outcome
3/7/2008	Offered spot in Internat'l Environ. Policy.	Original Course cancelled(low enroll)-he's going to work in Colombia
3/25/2008	yes	Will participate in a language scholarship program in Korea.Decision is based on financial reasons.
3/25/2008	yes	Answered survey question, but hasn't heard from them in a week. Yes, he will participate
3/25/2008	yes	Turned offer down in favor of a research intership
3/25/2008	yes	Yes, accepted offer, Yes, he will participate
3/24/2008		Offered spot, not sure what he will do yet. Yes, he will participate
3/25/2008		No formal offer received as of 4/10/08, but she is going to do an internship in Singapore instead
7/9/2008	yes	Applied last minute, got the acceptance letter from ANU.

Yale Summer Session

Be a part of the Global Summer Program at Yale

Join a community of global citizens

By participating in the International Alliance of Research Universities (IARU) Global Summer Program, you will be joining a community of future world leaders. Your classmates will be outstanding students from the other IARU universities. Together, you will analyze some of the great challenges facing a globalizing world.

Spaces still available for Yale students to apply!

Course: Moral Foundations of Politics

Instructor: Ian Shapiro

7 July-8 August: MWF 3:30-5:45 | 1 Yale Credit

<http://www.yale.edu/summer/gsp/yale> for course information & syllabus

TUITION: \$2,500* | On-campus accommodation: \$1,958

*Full tuition scholarships available.

Application deadline Thursday, May 1, 2008

For Application: <http://www.yale.edu/summer/apply/procedures.html>

(scroll down to bottom of the page)

If you have any questions, please contact summer.session@yale.edu

Yale University

Yale Summer Session
P.O. Box 208355
New Haven, Connecticut 06520-8355
Fax: 203 432-2434
summer.session@yale.edu

Campus address:
55 Whitney Avenue
Suite 430
Telephone: 203 432-2430

Yale Summer Session 2008

List of Charges for Yale Summer Session, Global Summer Program:

Tuition for 1 YSS student @ <u>\$2,500.00</u> each:	2,500.00
Room and Board for 1 student @ <u>\$1958.00</u> each:	1,958.00
SUBTOTAL for Tuition, Room and Meal: (subtotal)	<u>4,458.00</u>
Less 1 <u>Tuition scholarship</u>:	-2,500.00
Total Tuition, Room and Meals:	<u>1,958.00</u>
YSS Sevis Fee for 1 student @ <u>\$100.00</u> each:	100.00
YSS Health Insurance for 1 student @ <u>\$120.00</u> each:	120.00
Total after Sevis and Health Insurance:	<u>2,178.00</u>
<hr/>	
Total due for 1 student: <u>\$2,178.00</u>	

Global Summer Program at Yale ♦ 2008 Activities

Monday July 7-Welcome BBQ-Courtyard behind 2 Hillhouse Ave (SSS Courtyard), 12-2pm.

Wednesday July 9-Brown bag lunch meeting to set up schedule & topics for student discussion panels, Saybrook Fellows Lounge, Saybrook College, 12-1:30pm.

Friday July 11- Social-Whitney Humanities Center, 53 Wall St, Room 108, dinner provided, after class until 7:30pm.(Pizza)

Wednesday July 16- Student Panel discussion #1, “Global Leadership in Democratization: Avoiding Neocolonialism”, WLH, 3rd Floor, Room 309, 12-1:30pm.

Friday July 18- Social-Whitney Humanities Center, 53 Wall St, Room 108, dinner provided, after class until 7:30pm.(Mexican)

Tuesday July 22- Breakfast & Campus Tour, the Graduate Club, 155 Elm St., 9:30am.

Friday July 25, Social-Whitney Humanities Center, 53 Wall St., Room 108, dinner provided, after class until 7:30pm. Student Panel discussion #2.(Thai)

Friday August 1, Social-Whitney Humanities Center, 53 Wall St, Room 108, dinner provided, after class until 7:30pm. Student Panel Discussion #3 (Italian)

Tuesday August 5, Trip to the United Nations, NYC. Bus leaves Yale @ 7:15am. Meet at 242 Elm St., Saybrook College, Entryway E (by summer housing office). Bus returns to Yale around 4:30pm. Proper dress required.

Thursday August 7, Program Evaluations(e-mail) & Farewell Party, Black Bear Saloon, 124 Temple Street, 5-7pm.

Program Evaluation Summary

We are very pleased with the results of the 2008 Yale Global Summer Program. A total of 21 students, eleven female and ten male, representing all ten IARU institutions, participated in this inaugural program. Most students indicated that their reasons for pursuing the GSP at Yale were to gain a cross cultural experience and for intellectual stimulation and growth. We believe the Yale GSP fulfilled these criteria. According to evaluations, more than 50 % of students rated the course Moral Foundations taught by Dr. Ian Shapiro as *excellent* and 100% of participants said they would recommend the program to other students. 58.8% of students will apply the credits earned in the GSP towards their program of study.

Yale hosted a series of extracurricular activities as a compliment to the course content which focused on global topics. By far the activity students benefitted from most was the Student Panels, in which student groups prepared and led topics for discussion ranging from the role of religion in the modern state to global leadership in democratization, all in an informal meal-time setting. Another program highlight, according to students, was the trip to the United Nations in New York which included a lunch in the delegates' dining room and a meeting with a delegate at the Permanent Mission to India.

Activities aside, most students said that one of the major benefits of the program was studying with and getting to know students from all over the world. The following quote from one of the evaluations sums up this aspect of the program:

“The people, hands down. The class was great, exceptional as far as classes go, but by no means what I'm taking away from the program. The chance to experience small slices of the world through mutual engagement in a shared interest was amazing. The bonds I made, the perspectives I've gained, the take-aways from spontaneous conversation over a meal, or a beer, or after class was, for me, the highlight of the entire experience. I came into the course seeing it as one of the two course credits I needed to receive my diploma. I'm leaving the course with a wealth of experiences and diverse perspective which have in some sense, shaped a large part of how I intend to engage my future.”

Lastly, 64.7% of students stated that the two-part application process was manageable. The students who found the application process difficult attributed it to higher rate of competition at their home university to get into the GSP and another said the program was not well known at their home university. When asked about financial support, 41.2% said they didn't feel enough financial support was given. Many said the tuition scholarship from Yale was generous, but they would have liked to receive more support for the housing costs, either from Yale or their sending university.

Recommendations for 2009

GSP General Recommendations

1. Provide more financial support to students from sending & receiving institutions.
2. Provide students going abroad with an orientation.
3. Determine the target size for the GSP programs (20, 40, 60 students?)
4. Application:
 - Should there be a single GSP application for all institutions?
 - Statement of Purpose from sending university should include the student's name.
5. Determine a standard deadline date for applications and a standard date for institutions to provide receiving institutions with the student nominations.
6. All schools provide general GSP information for their specific schools so we can advise students better (general course info, housing info, events info., getting from the airport, etc.)
7. Confirm the students participating & send this info. to home university.
8. Credits--can each program provide a course syllabus, program agenda, etc. that would provide enough detail (contact hours, projects/work completed, readings, etc.) that we could then take to Course of Study Committee to begin the credit approval process. Without this the pool of Yale students might be limited.

Yale GSP Recommendations

1. Add a second course for 2009.
2. Work on marketing strategies for incoming and outgoing students.
3. Resolve the credit issue.
4. Hire specific residential counselors for the GSP students.
5. Make sure all GSP students live in the same residential college.
6. Two Yale students who receive the tuition scholarship will be required to live on campus.
7. Improve faculty involvement, have a faculty panel on global leadership.

GLOBAL SUMMER PROGRAM 2008 BERKELEY REPORT

SUMMARY OF ACTIVITIES:

In this inaugural year, Berkeley did not plan to offer any GSP courses but we did enroll students in the GSP program. In total, we made 17 nominations to five partner institutions: ANU, Cambridge, Oxford, Tokyo and Yale. Of the 17 applicants, 8 students successful enrolled and completed the programs.

It is anticipated that Berkeley will field at least 2 courses in 2009.

ISSUES AND CONCERNS:

1. Timeline

The biggest challenge for Berkeley in the initial round was the timeline. Because of the scheduling constraints of our partner institutions, we had to roll out the program just a few weeks after the GSP meeting at Cambridge, which gave our office very little time to coordinate and fine-tune the process. Although this was true for all GSP institutions, it was particularly challenging for Berkeley because the critical deadlines fall during our Spring recess. This had serious implications for outreach and recruitment, for student advising and for the processing and review of the applications.

The fact that GSP application/nomination process and coordination among partner institutions were still being refined further complicated the situation because we had to anticipate student questions and insure their access to some basic advising during the application period when our office was closed.

2. Streamlining information dissemination

In the initial phase, there were inconsistencies and errors in the information posted on the IARU website particularly with regards to contact information and web addresses. Although the problems were redressed rather quickly, any delays posed a problem for

us because of our time constraint. In general, we should improve the process of information dissemination and aim to channel students through a singular information portal and to provide consistent information throughout the different facets of GSP.

3. Lack of standardization in application requirements and process

Some institutions had requirements and forms that could be transmitted electronically. Others had more and different requirements, some of which could not be easily submitted electronically. We need to standardize.

Moreover, some institutions required additional supporting documents after the nominations had been made. Here again, the problem was more acute for Berkeley because of the Spring recess and the difficulty that that presented for meeting institutional requests and deadlines.

4. Retention

As the numbers indicate, one of the biggest problems that we face was retention. Although we are pleased with the number of applications received, especially in light of the limited recruitment time, we are also deeply concerned about the number of withdrawals. The two overriding and related factors are a) cost 2) credit value.

Cost

Despite the generous waivers and financial aid packages that partner institutions had provided, there were additional factors that made it financially impossible for some of our students to participate in GSP. The rising cost of airfare, the drop in the value of the dollar, and other unanticipated and not overtly publicized costs such as visas, were major deterrents to study abroad especially for economically vulnerable students who constitute the majority of the Berkeley students.

It is not surprising that despite the high level of interest, the highest withdrawal rate was from the ANU and Tokyo programs.

Additionally, Berkeley students on financial aid were unable to use it for GSP for 2 reasons:

- a) GSP falls into a certain category of programs for which they could not use certain types of aid
- b) GSP courses were too short or did not yield sufficient units for students to qualify for support (as such even though the policy for 2008-2009 is going to do away with the first impediment, it will not eliminate the problem unless GSP are structured differently)

Credit Value

While Berkeley students fully understand the intellectual importance of international learning, and the unique and invaluable opportunity provided through GSP, many still have to consider the practicality and cost of participation. The ability to gain credit through study abroad is essential to many of our students.

Even though it was possible for GSP courses to yield transferable units, some were too short or did not have sufficient contact hours to be credit bearing. Combined, high cost and limited (if any) credit yield constitute a significant deterrence to GSP participation.

KEY RECOMMENDATIONS:

GSP is a wonderful concept and has the potential to be a unique, intellectually and socially significant, and world-leading program. It needs to continue but must do so with these recommendations in place

- More financial support for economically vulnerable students in the form of scholarship, tuition waivers etc.
- Early planning and recruitment
- Streamline information dissemination preferably through a single GSP portal
- Insure consistency of information
- Improve coordination and information sharing loop among partner institutions
- Insure that courses yield sufficient credits to warrant program costs



MEMORANDUM

27 AUGUST 2008

Re: Report on IARU Summer Schools 2008

INTERNATIONAL OFFICE

The University of Copenhagen had five students participating in the IARU summer programme. The five students participated in programmes at Yale University (2 students), Tokyo University (2 students), and ANU.

FIOLSTRÆDE 24
POB 1143
DK-1010 COPENHAGEN

(We did have a very good success-rate with five applicants, who were all nominated, and finally also enrolled !)

TEL +45 +45 35 32 38 96
DIR +45 +45 35 32 38 98
FAX +45 +45 35 32 39 00
MOB +45 +45 28 75 38 98

In general, the students were very satisfied with their programmes; all five students reported of very intensive and demanding programmes, and were thankful for the chance given to take part in these programmes. Students also expressed satisfaction with their accommodation and extra-curricular activities.

hgt@adm.ku.dk
<http://international.ku.dk>

Excerpts from the student reports:

REF: HGT

The level of teaching was extremely high and the teacher encouraged students to explore the texts at the level to which they were able. It was generally a well-structured course, but very intensive – the frustration was not having enough time to explore each of the theories before moving on to the next. (Student participating in five-week course on “Moral Foundations of Politics” at Yale University)

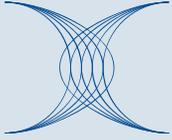
The group-dynamics and community-feeling that built up during the lectures created an open and inviting atmosphere for dialogue and discussion, as well as a close bond between the professor and students (Student participating in five week course on “International Environmental Policy” at ANU)

In addition to sending KU students to summer schools, KU co-organised a summer school at NUS in Asian studies. About 12 KU students flew out for the five-week course. The course was evaluated by Asian studies, which found the co-operation most rewarding as the pulling of expertise from two universities made it possible to cover a great field. Other positive features were the different teaching approaches and the thought-provoking and stimulating discussions caused by the gathering of students from three continents (USA, Europe and Asia) with very different perspectives. Good student-teacher relations, and built up network between students. Among the challenges were the pressure of the short time-period (5-weeks), and the different standards set by the universities as regards to student scholarships.

As for the course offerings for 2009 from the University of Copenhagen; it is obvious that we want to focus on climate change and the consequences. However our course coffered with NUS/Yale on “South East Asia in Context” will be offered again.

May we suggest that with the lid on courses offered from each partner university, IARU should consider more co-teaching as in the case with “South East Asia in Context”.

John E. Andersen



2.2 2009 Course offerings

2009 GSP Proposals from:

The Australian National University

National University of Singapore

University of California, Berkeley

University of Cambridge

University of Copenhagen

University of Oxford

The University of Tokyo

Yale University

Note from IARU Secretariat: These reports were prepared for discussions at the GSP Working Committee in Antwerp.

International Environmental Policy Proposal for ANU IARU GSP Course 2009

Background

The ANU Fenner School of Environment & Society offered a GSP course in International Environmental Policy from 23 July – 8 August. The course attracted 5 international students, and we allowed 3 ANU students to participate; it received very favourable evaluations from them. For 2009, we propose to build on our 2008 experience to offer a next-iteration International Environmental Policy course. It will again be convened by Dr Rosie Cooney (Fenner School); we propose also to draw on a substantial contribution from Professor Ben Cashore of Yale University. Their profiles are attached for information.

Program Overview

International Environmental Policy focuses on the dynamic and rapidly expanding field of international environmental policy. International environmental policy has grown dramatically over the last three decades, driven by concern over unprecedented and large-scale global environmental change, including climate change, biodiversity loss, deforestation, marine degradation, and expanding trade and consumption. International environmental policy now directly and indirectly affects the behaviour and decisions of governments, corporations, NGOs, local communities and individuals.

This course will incorporate lectures, including external speakers from contexts such as NGOs, corporations and government, and a range of learning approaches such as peer learning, small group seminars, panel discussions, workshops, and a simulated "Conference of the Parties". The emphasis is on understanding the real-world dynamics of policy formation and debate. The course takes an interdisciplinary approach, drawing insights from areas including ecology, law, economics, international relations and politics.

The course program is outlined in Annex 1. Professor Cashore's contributions will focus particularly the rise of new-generation forms of environmental governance, and will serve to link the very active research and teaching programs in environmental governance at ANU and Yale. As in 2008, we propose to allow enrolment for a small cohort of outstanding ANU students, to facilitate the realisation of IARU and course objectives.

**International Environmental Policy
IARU Global Summer Program 2009
Course overview
30 June – 17 July**

Kioloa Coastal Campus 30 June – 5 July

The first five days will be spent at the ANU Kioloa Coastal Campus. Here we explore the foundations of the course, including:

- global dimensions of environmental degradation;
- international cooperation: why do we need it, and why is it difficult?
- what is IEP? who are the main actors, and how does it work?
- where did it come from? its growth and development over recent decades;
- the policy-making process: how does an issue move from a local concern to international agreement?

Fenner School, ANU 6- 17 July

We then return to the ANU where we engage more deeply, both in the classroom and through individual/group work, with major aspects, issues, direction, and debates within IEP. We examine:

- dynamics between "North" and "South" – developed and developing countries
- trade, globalisation and the environment
- the role of corporations
- the rise of new governance approaches: "governance without governments".

Major themes include:

- what do we protect? tensions between conservation and human/economic development;
- who decides? equity and power in international decision-making;
- when do we act? conflicts around knowledge, science, and uncertainty;
- what strategies will work? "command and control" vs market-based approaches.

These debates and issues will be explored through analysis of specific international environmental policy regimes, such as those on ozone, climate change, or biodiversity; and of topical case studies, such as biofuels and deforestation; biopiracy and indigenous knowledge; and genetically modified organisms and international trade. The program also draws on contributions from leading ANU researchers in policy and international relations, and leading public sector practitioners.

Preliminary Reading

Speth JG and Haas PM (2006) *Global Environmental Governance* Island Press, Washington
Millennium Ecosystem Assessment (2005) *Ecosystems and Human Well-Being: General Synthesis*. Summary for Decision Makers (pp 1-24) Online at

<http://www.millenniumassessment.org/documents/document.356.aspx.pdf>

UN (2002) *Johannesburg Plan of Implementation* (pp1-33) Online at

http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

Convenor's biographical notes

Rosie Cooney

BSc (Hons)/ LLB (Hons) ANU, PhD Cantab.

Rosie completed Honours in Law and Science at ANU in 1995 before carrying out a PhD in evolutionary ecology at Cambridge, the recipient of a Commonwealth Scholarship. Since completion in 1999 she has been working on biodiversity-related research and policy development for a range of international environmental organisations, including WWF, IUCN-The World Conservation Union, Flora & Fauna International and TRAFFIC. For WWF she led the development of policy on wildlife trade and CITES, and in recent years she has led an international collaborative initiative developing policy guidance on the implementation of the precautionary principle in biodiversity conservation and natural resource management. This led to the adoption by IUCN-The World Conservation Union of guidelines on applying the precautionary principle, and publication of her book (co-edited with Barney Dickson) *The Precautionary Principle and Biodiversity: Risk and Uncertainty in Conservation and Sustainable Use* (2005).

Her research interests focus on policy and management related to biodiversity at national and international level, and she carries out a range of consultancy and policy work for environmental organisations and Australian government bodies. Recent research interests include how decision-making and policy responds to the uncertainty and complexity of ecological systems, examining in particular world trade rules as they relate to invasive alien species; and the potential for commercial sustainable use to contribute to biodiversity conservation and rural livelihoods, in Australia and overseas. She is an active member of the IUCN Species Survival Commission's Sustainable Use Specialist Group.

Some recent publications include:

- Cooney R 2008 *Landholder collaboration in kangaroo management: models for landholders to share benefits from kangaroo harvesting*. Rural Industries Research and Development Corporation, Canberra.
- Cooney R & Lang A 2008 *Taking uncertainty seriously: adaptive governance and international trade* European Journal of International Law 18(3): 523-551
- Cooney R 2006. A long and winding road? Precaution from principle to practice in biodiversity conservation. In Von Schomberg R, Fisher L & Jones J (Eds) *Implementing the Precautionary Principle: Perspectives and Prospects*, Edward Elgar: Cheltenham, UK and Northampton, MA, US.
- Cooney R & Jepson P 2006. The international trade in wild birds: what's wrong with blanket bans? *Oryx* 40(1): 18-23
- Cooney R & Dickson B (Eds, 2005) *Biodiversity and the Precautionary Principle: Risk and Uncertainty in Conservation and Sustainable Use* Earthscan, London
- Cooney R 2004 *The Precautionary Principle in Biodiversity Conservation and Natural Resource Management: An issues paper for policymakers, researchers and practitioners* IUCN Policy and Global Change series, No. 2. IUCN, Gland, Switzerland and Cambridge, UK
- Cooney R 2003. Looking ahead - international wildlife trade regulation and enforcement. In Oldfield S *The Trade in Wildlife: Regulation for Conservation*. Earthscan, London, pp 196-204

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Benjamin Cashore

Professor, Environmental Policy and Governance and Political Science;
Director, Program on Forest Policy and Governance.
Yale School of Forestry & Environmental Studies

B.A., M.A., Carleton University; Ph.D., University of Toronto

Benjamin Cashore is Professor of Environmental Governance & Political Science at Yale University's School of Forestry and Environmental Studies. He is Director of the Yale Program on Forest Policy and Governance and is courtesy joint appointed in Yale's Department of Political Science. He holds a PhD in political science from the University of Toronto, BA and MA degrees in political science from Carleton University, and a certificate from Université d'Aix-Marseille III in French Studies, and was a Fulbright Scholar at Harvard University during the 1996-1997 academic year. He has held positions as Assistant Professor, School of Forestry and Wildlife Sciences, Auburn University (1998-2001); postdoctoral fellow, Forest Economics and Policy Analysis Research Unit, University of British Columbia (1997-1998), and as a policy advisor to the leader of the Canadian New Democratic Party (1990-1993).

Cashore's major research interests include the emergence of private authority, its intersection with traditional governmental regulatory processes, and the role of firms, non-state actors, and governments in shaping these trends. His book, *Governing Through Markets: Forest Certification and the Emergence of Non-state Authority* (with Graeme Auld and Deanna Newsom) was awarded the International Studies Association's 2005 Sprout prize for the best book on international environmental policy and politics. Published by Yale University Press in 2004, the book identifies the emergence of non-state market driven global environmental governance, and compares its support within European and North American forest sectors. Cashore's latest effort on this topic consists of a 622 page, 16 country analysis, *Confronting Sustainability: Forest Certification in Developing and Transitioning Societies*, that he co-edited with Fred Gale, Errol Meidinger and Deanna Newsom.

His current efforts include a major international comparison (with Constance McDermott & Peter Kanowski) of 20 countries' domestic forest policy regulations, (under provisional acceptance from CABI Press); a comparative study on firm responses to forest certification in the US forest sector (with Auld, Prakash and Sasser); and an analysis (with Bernstein) of the emergence of non-state market driven global governance generally.

“ASIA NOW!”

IARU NUS Global Summer Program

29 June – 31 July 2009

What is “Asia Now!”?

"Asia Now" is a residential summer program taking place at NUS from 29 June to 31 July 2009. It focuses for five intensive weeks on the themes of Asia's transformation and the growing importance of the region in world affairs. To do this, it draws on the intellectual capacity and unique geographical situation of NUS.

Why Singapore?

Singapore is one of the few Asian countries where English is the *lingua franca*, though a variety of other Asian languages are also understood and spoken here. It is a city-state at the cross roads of East and South Asia and with intimate ties to North America, Europe, and Australia. These characteristics make it a perfect context for open, cross-cultural and nuanced discussions about Asia and its relations with the rest of the world.

Why sign up for “Asia Now!”?

Exciting student mix

The program will be open to 5 students each from NUS's 9 International Alliance of Research Universities (IARU) partners, as well as two other specially selected partner institutions. This means twelve of the world's top universities will be involved.

There will be 20 NUS students in the program, who will act as hosts as well as participants.

Rigorous and relevant modules

Students may take one or two of three specially created multidisciplinary modules, and learn in them about the global impact of key developments in contemporary Asia:

- *Technology And Culture in the Asia-Pacific;*
 - *Asia.com – Media and Emerging Technologies in the Asian Landscape;* and
 - *Re-making the Global Economy: The Rise of Asia.*

Technology and Culture in the Asia-Pacific

Convener: A/P Gregory Clancey (<http://www.fas.nus.edu.sg/hist/hisgkc.htm>)

This course examines technology in Asian culture and society, focusing on the interaction between technologies and societies in the Asia Pacific region (particularly Japan, China, Singapore, and the U.S.) from the early 20th century until now. Starting with ideas and theories about "technology", students will then look at micro-electronics, computers and IT and biotechnology, as these have related to colonialism, indigenous environmentalisms, the rise of youth culture, and other themes. Although the module will often be dealing with systems and devices originating in the West, the focus will be their re-invention, manufacture, use, and other types of deployment in Asia, and how these have affected the lives of Asians. This is a history course, so will be organized chronologically as well as thematically. Students will be expected to work on a research project of their own choosing related to one or more of the module topics.

Asia.com – Media and Emerging Technologies in the Asian Landscape

Convener: Dr Lim Sun Sun (<http://profile.nus.edu.sg/fass/cnmlss/>)

This module explores the complex relationships between media and technology in Asia's socio-cultural context. New media such as the Internet and mobile communications have had an indelible impact on various parts of the Asian landscape – on governance and political participation, business, education, social and family relations and leisure habits. Relevant communications theories will be introduced, including social shaping of technology, diffusion of innovations, technology domestication, and social psychology of new media and political economy of the media. The course uses problem-based learning, and students will both apply theories and conduct independent fieldwork to solve problems relating to the impact of media and technology on Asia. Some examples are: reconciling governance and political participation in the age of the Internet, managing the use and abuse of info-comm literacy, and maximizing opportunities while minimizing harm in the adoption of new media.

Remaking the Global Economy: the Rise of Asia

Convener: Prof Henry Yeung

(<http://courses.nus.edu.sg/course/geoywc/henry.htm>)

This module examines the interrelationships between business firms and regional integration in an era of global economic change, paying particular attention to the rise of Asia as a global production centre. The knowledge of global firms such as HP, Nike and Sony, and their cross-border operations is indispensable to any serious attempt to understand the dynamics of the global space-economy. In the Asia-Pacific rim, these global firms and their Asian partners are major economic agents spearheading economic development and social change at both national and regional levels. Through their complex global production networks, these firms also play a prominent role in integrating different economic spheres (production, consumption and exchange) and industrial sectors (primary, secondary and tertiary) of the global economy. The module seeks to achieve a mixed blend of theory and practice of business organization and regional

integration. It provides students with not only description and explanation of global operations of firms, but also practical knowledge in analyzing the impact of these global firms on regional integration in Asia. In addition to regular readings, students are expected to conduct specific case studies on the role of global firms in regional integration. Fieldtrips will showcase the presence of global firms in Singapore's major industrial clusters.

Learn with(in) Second Life

NUS in Second Life is an online 3-D virtual world. It has been created to enable learning, teaching, sharing, social interaction, playing and working. In addition to their work in the modules, students will be able to:

- Create a virtual classroom as a site for discussion;
 - Make a gallery which features, for instance, fieldtrip videos, pictures, and writings; and
 - Interact with other students from the participating universities who, though not attending the program, are keen to take part as observers.

“Asian Conversations”

Students will have the opportunity to engage in weekly dialogues with specially invited academics, business people and policy-makers. These conversations will address key issues confronting Asia, and the relationships between Asia and other parts of the world.

Get to know Singapore

There is a Chinese saying that “seeing once for oneself is better than listening a hundred times from others” (_____). In the spirit of this saying, students will participate in weekly fieldtrips led by our experts to selected sites in Singapore.

Capstone event: Student-Faculty Conference

After five weeks of classes with professors, debates with business and policy leaders, fieldtrips, virtual discussions, and written assignments, we reach the highpoint of the program. This is a conference intended to promote more dialogue among participants and share the lessons learnt. The two day event will feature presentations by students and faculty, as well as plenary talks by specially invited experts.

Credits too!

Each module is equivalent to four credits at NUS, and may be taken for credit or not for credit, according to the decision of the participating university. Grades may be transferred if the participating university wishes. Where necessary, NUS will work with participating universities for evaluation and approval.

Still uncertain?

If you are still uncertain about whether you want to take this adventurous step, then access the following:

You-Tube video

Join a video tour of NUS Second Life via You-Tube: www.fas.nus.edu.sg/asianow/tour

“Asia Now!” Website

Visit www.fas.nus.edu.sg/asianow for information on modules, activities, application processes and costs.

NUS Second Life (SL)

Access a dedicated area in NUS Second Life (<http://u.nus.edu.sg/secondlife>) and obtain a preview of the program as well as learn about the environment at NUS.

How to participate?

Registration

You can register for this program through your university, which will do the necessary selection before sending us their list of participants. The final list from each university should reach NUS by early April 2009.

Please enquire with the following:

Australian National University: Mr Tim Mansfield, iaru.gsp@anu.edu.au
Cambridge University: International Office, international@admin.cam.ac.uk
Copenhagen University: Ms Anne Bruun, abru@adm.ku.dk
ETH Zurich: **ETH Zurich**, Student Exchange Office, mobilitaet@rektorat.ethz.ch
Oxford University: Mr James Tibbert, international.office@admin.ox.ac.uk
Peking University: Ms Ma Lan, malan@pku.edu.cn
Tokyo University: Ms Mami Yagihashi, iaru.gsp@adm.u-tokyo.ac.jp
University of California Berkeley: Study Abroad, eapucb@berkeley.edu
Yale University: Ms Kathy Yurko, Kathy.yurko@yale.edu

Or for more information from NUS, you can write to: Ms Shirley Koh:
shirley.koh@nus.edu.sg.

Costs

NUS will charge no tuition fees for the program. You can expect to spend approximately S\$2,000 (excluding airfare) for the five weeks, based on the estimates below (excluding costs of travel and tourism):

Accommodation (weekly rates)

On campus
S\$140 to S\$160

Meals (weekly rates)

On campus (higher off campus)
S\$90 to S\$120

Books, stationery supplies (for the duration of the Summer Program)

S\$100 to S\$150

Transportation (for the duration of the Summer Program)

Travel expenses on public buses / trains (does not include cabs)
S\$100 to S\$150

Personal expenses (weekly rates)

Toiletries, clothing, groceries, entertainment, etc
S\$100 to S\$150

NUS IARU GSP Scholarships

NUS will offer two scholarships for each participating university. Each scholarship will be worth S\$2,000, plus a return economy airfare. Each participating university will select two of their students for the scholarships.

Berkeley Global Summer Programs 2009

For Summer 2009, Berkeley proposes to offer three courses, one of which is a 6-week seminar in the Humanities, and the other two are 3-week intensive institutes that include service learning and community projects. As a cluster, they will provide students with different options in terms of discipline, pedagogies, and approaches, and, above all, enrollment sessions.

In order to minimize the chance of courses having to be cancelled due to low enrollment, there will be specific space allocations for GSP students in one course (Global Generation) and priority enrollment in the other two courses (Global Narratives and Global Peace) with the provision that unfilled slots will be opened to non-GSP students.

Berkeley Course Information

1. Global Narratives By and about Asian Americans

Professor Saul-ling C. Wong

6 weeks (July 6 - August 14, 2009)

4 units

Course description

This course examines the place of Asian Americans in a globalize world Through recent works of literature by and about Asian Americans. Basic concepts in globalization discourse and Asian American discourse will be introduced at the beginning of the course; these concepts will be applied to the analysis of the narrative readings.

The reading list, covering the last two decades, includes four novels (Mukherjee, Ozeki, Kunzru), one autobiographical account (Pham), and one short story collection (Le). The authors are from a variety of backgrounds. Of those who can be considered Asian American, Mukherjee was born in India; Pham, in Vietnam; Ozeki, in the U.S.; Le was born in Vietnam and raised in Australia before coming to the U.S. Kunzru is Indian British. All are widely traveled. Because of the brevity of the summer term, the course does not aim to provide comprehensive coverage of various Asian American subgroups; the readings are chosen less by ethnicity than by their potential for being put in conversation with each other.

The "global" themes covered by the authors include colonialism and postcoloniality; technology; "First World"- "Third World" disparities; different forms of mobility; refugees vs immigrants; American exceptionalism; national boundaries; gender and sexuality, racial/ethnic "impersonation"; and environmentalism. The readings will be supplemented by

films and videos.

Bharati Mukherjee, Jasmine (1989)
Andrew X. Pham, Catfish and Mandala (1999)
Ruth Ozeki, My Year of Meats (1998)
Hari Kunzru, Transmission (2005)
Nam Le, The Boat (2008)

Assignments include short quizzes, an oral presentation (group or individual), a term paper, and a creative/personal piece.

**The Berkeley Institute for the Global Generation:
Focus Topic: Environment and Social Justice**

Instructors:
Professor Ananya Roy
Francesca Giovannini, Lecturer
3-week intensive institute (July 28 - August 15)
4 units

Course Description

The 3-week institute adopts a pioneering, innovative and integrated approach to global studies and leadership development. Through IG2 students will be trained in the fundamental concepts of globalization, global inequality, and global change. Students will gain in-depth knowledge of an area of specialization in addition to the general education provided by the core module of the course. IG2 will also link theory and analysis to transformative forms of practice. With the guidance and mentorship of faculty and graduate students, IG2 students will work in teams on a real-world project related to the institute theme, thus developing leadership skills.

Building Global Peace: Critical Analysis and Constructive Practice

Instructors:
Jerry W. Sanders, Ph.D. and Chair, Peace and Conflict Studies
Julie Shackford-Bradley, Ph.D. and Lecturer, Peace and Conflict Studies
3-week intensive (July 28-August 15)
4 units

Course Description

In this intensive, three-week seminar students will learn to critically analyze different forms of violence, and to engage constructively in the building of peace. We will explore a variety of conflict and issue areas, seeking out root causes, investigating local and

global manifestations, as well as considering approaches and efforts to address these problems and construct viable solutions. Classroom and service-based settings will provide an integrative learning experience, enhancing both theory and practice, and reinforcing the importance of each in relation to the other. By means of this process, the course guides students through a series of analytical and reflective steps toward realizing institutional and personal capacities for building peace.

Classroom exercises and field research activities will be organized into cross-national teams as a simulation of the global collaboration and partnership that the GSP philosophy seeks to impart. The culminating objective of the course is for each student to design a service-learning project, incorporating the critical and practical skills learned, and the knowledge gained, through their course work. In addition to their project designs in class, students will develop strategies for carrying out their projects during the next academic year once returning to their home communities and universities. These strategies will include building communication networks and continuing to collaborate through the cross-national project teams established during the course, thereby modeling cosmopolitan citizenship in action.

All projects are eligible to apply for mini-grants for this purpose, providing a faculty supervisor in the student's home university agrees to oversee the project and a proper institutional sponsor is found.

COST : Please see attached spread sheet

INSTITUTIONAL SUPPORT: We are still working to secure institutional support, including tuition waivers, but with the budget crisis, I am not optimistic.

CREDITS AND FINANCIAL AID

For Berkeley students to be able to use their financial aid for GSP, two requirements will have to be met:

- 1) A consortium agreement will have to be signed between Berkeley and GSP institutions
- 2) Berkeley students will have to be enrolled in a program that would yield 6 semester units (or 90 contact/working hours). These units could be accrued through enrollment in one course (of sufficient length and/or content for 90 contact/working hours) or in multiple courses in a single program.

These requirements would not apply to students not receiving Financial Aid.

TRANSFER OF CREDIT

The conventional practice at Berkeley is not to pre-approve transferable credits. Students are required to bring back the necessary documentation for credit evaluation. Because of the uniqueness of GSP, however, our office will work with appropriate campus entities to determine whether unofficial preliminary evaluation could be made of GSP courses once detailed course descriptions and syllabi are made available.

IARU GSP Program Cost Estimates 2009

University of California, Berkeley

Note: Tuition is calculated at \$290 per unit

	3 Weeks	6 Weeks
	(Session E)	(Session D)
Enrollment Fee	390	390
International Service Fee (visa)	300	300
Course Fees / Tuition		
(6 units = 2 courses at 3 units each)		1740
(4 units = 1 course at 4 units each)	1160	
University Housing	1173	1984
(room and board in a double room)		
Books and Supplies	200	200
TOTAL	3223	4614

IARU Global Summer School 2009: University of Cambridge

Cambridge Connections 5 July – 1 August 2009

Research inevitably calls for detailed and accurate investigation. Developing the complementary ability to place any investigation in context and also to realise the power of connections and links, are additional invaluable skills, both for scholars and also to anyone intending to be an effective leader. The Cambridge Connections programme is designed to foster this ability to think beyond an immediate and narrow field of interest. It resonates, too, with the plenary theme of '*Understanding*' for the four-week International Summer School running concurrently with this programme in 2009. Participants will benefit immensely from the exchange of ideas both with lecturers and with their student peers from around the globe.

This four-week programme for up to 20 GSP students is comprised of the following elements:

- two seminar meetings of the GSP group each week (a total of eight across the GSP), focusing on *interdisciplinarity*;
- four papers to be written on subjects informed by plenary lecture attendance (primarily, but not exclusively, Literature or History);
- weekly Cambridge-style supervision sessions (one hour) for individuals or pairs of students, during which their papers are reviewed and discussed;
- two or three daily plenary lectures from the International Summer School programme
 - interdisciplinary *Understanding*
 - literature: *Imagined worlds: the creative imagination*
 - science: *Atoms to galaxies*
 - history: *History and memory*
 - art history: *Paint and passion*
- research time in the University Library (a Copyright Library) and access to other faculty libraries.

Plenary lectures are given by eminent scholars from a wide spectrum of specialist fields, and include question and answer sessions after each talk. Lecture topics range from the latest interpretation of historical events and works of literature to cutting-edge scientific discoveries. For these plenary lectures, the GSP students will be in the company of participants in the International Summer Schools, affording the group a truly *global* experience.

Tapping in to the full range of subjects on offer will allow GSP students with widely differing fields of interest to benefit from the experience, tailoring a programme to their own personal areas of interest, while focusing on *understanding* (the 2009 theme) and also making connections between writings, events, discoveries and disciplines.

The morning and evening plenary lecture programmes offer a range of over one hundred talks, covering a vast number of topics. Applicants will be sent final details of speakers (and can access the programme lists as they develop on the web), and precise timings so that options can be selected in advance; applicants will be asked to indicate their preferred subject area(s). Selected candidates will be required to submit detailed proposals for the supervision field of study, so that supervisors can be selected and allocated before the start of the programme. Supervisions will normally be conducted by experienced University/College lecturers who are also course directors on the International Summer Schools.

Weekly papers and the associated supervisions ensure academic rigour. This programme format - a combination of self-directed research, lectures, discussions and supervisions - also largely mirrors the experience of regular Cambridge undergraduates who, in many subjects, are not required to attend set 'classes' and can elect to hear particular lectures on topics within and beyond their immediate field of study. The four weeks of study will be very intensive. Assessment will be based on contributions to supervisions and on written papers. Oral feedback on papers will

form part of the supervision, but students will also receive narrative reports on submitted papers. Please note: the Cambridge system does not include 'credit'. IARU participants who wish to receive credit from their *home* institution will need to arrange this themselves, typically by submitting to their home institution, after completion of the programme, the percentage marks for their written papers as well as their study timetable (some 50 contact hours of lectures, 8 hours of supervision and 12 hours of discussion, and therefore a total of some 70 contact hours over the four weeks, *excluding* additional research and self-directed study time).

IARU GSP students will be housed alongside other members of the International Summer School, most probably in Harvey Court, part of Gonville and Caius College. Harvey Court is a comfortable modern building on West Road, close to teaching rooms and lecture theatres on the Sidgwick Site of the campus, and a 10-15 minute walk across the river from the main college site in the centre of town. Breakfasts will be in Harvey Court, but evening meals will be served in the nineteenth-century Hall in the main college buildings.

Programme costs: UK £1570

Accommodation costs for four weeks (bed, breakfast and evening meal: UK £1,540

Download the application form here: xxxxxxxxxx

Please note that the application form should be submitted to the contact person for the IARU Global Summer Programme at your home university. See www.iaruni.org/gsp/indes2/contacts

Website: <http://www.cont-ed.cam.ac.uk/intsummer/IARU/index.html> (to be updated)

University of Copenhagen

Evolutionary ecology of invasive organisms under climate change

Proposal for summer school program 2009¹

Joint activity of IARU and EuroLeague of Life Sciences (ELLS, Theme 'Insect Ecology')

Course dates: August 17 – August 30, 2009

Venue: Frederiksberg Campus, University of Copenhagen, Denmark (max. 40 students)

Course description:

This course explores the theoretical background and methodological approaches to study evolution of invasive organisms under the influence of climate change. Climate change is a major threat to sustainable use of natural resources, and biological invasions, including new species with direct impact on plant production systems, represent a significant component of global change. The way these organisms (together with existing pests and beneficials) respond to a changing climate is of fundamental importance to plant production, land use and conservation of biodiversity.

The course will introduce key scientific theories, methods and problems associated with understanding, predicting and managing invasive species, including evolutionary biology, global change ecology, macroecology, invasion ecology, weed and pest science, and agroecology. The course will consist of a series of lectures and seminars by international professors (primarily from IARU partners and ELLS Universities) and project work of the students. The students will work with specific cases where they apply the theoretical concepts and learn new analytical methods. The course will also include theoretical discussions and field excursions.

The target group is graduate IARU students with a broad disciplinary background in evolution, systematics, ecology, agriculture, forestry and conservation management.

Course tuition fee: Students cover board and lodging (DKK 2.500).

Contact persons: Assoc.-Prof. Johannes Kollmann and Prof. Jørgen Eilenberg, Dept Ecology, and Assoc.-Prof. Jes Søe Pedersen, Dept Biology, University of Copenhagen.

Website announcement: The course will be announced in summer 2008 at the websites of Forest & Landscape as well as the Dept Ecology.

¹ Funding for external teachers, field transportation and assistance to organization is supported by Temaklynge 1 seed money (University of Copenhagen).

University of Copenhagen

Globalization and sustainable local landscapes
Proposal for summer school program 2009²

Course dates: August 9 – August 22, 2009

Venue: off campus – field station – Denmark (max. 40 students)

Course description:

This course aims at exploring methodological approaches to landscape changes.

The focus is on landscape patterns and functions as they are affected partly by local agents and processes; partly by external decisions, events and processes. The specific balance of local and global drivers is considered a key to understanding the dynamic process of landscape change.

The course will present and employ complementary analytical approaches to provide theoretical and practical policy insight into the potential of local agricultural landscapes to adapt to global influences in a sustainable way.

The target group is graduate IARU students with a broad disciplinary background in land sciences (landscape ecology, planning, natural resource management, sustainability science, geography, sociology, political science, landscape architecture, agricultural economy, etc)

The course will consist of a series of lectures and seminars by international professors (primary from IARU partners). Reading material will be organized around a forthcoming book publication. The students will be actively exposed to analytical challenges through field excursions and field work sessions as well as to theoretical discussions.

Course tuition fee: students cover board and lodging (2.500 DKK)

Contact persons: Professor Jørgen Primdahl, Forest and Landscape, KU and Professor Anette Reenberg, Department of Geography and Geology, KU.

Website announcement: course will be announced summer 2008 at the websites of Forest & Landscape as well as Department of Geography and Geology.

² Funding for external teachers, field transportation and assistance to organization will be applied for through Temaklynge 1 seed money.

IARU GLOBAL SUMMER PROGRAMME

OXFORD UNIVERSITY GLOBAL LEADERSHIP PROGRAMME 2009

Dates

Arrival: Sunday 5 July
Departure: Friday 31 July

**Programme Director
GLP Tutorial Director**

Dr Angus Hawkins
Dr Nim Pathy

The Oxford 2009 Global Leadership Programme will offer GSP students the opportunity to explore the most urgent challenges and opportunities for humanity in the 21st century. Students will have tutorials and research seminars with faculty from the Oxford University James Martin 21st Century School, in which various research institutes are investigating the many facets of the future of humanity. In addition, students will study political and social aspects of the contemporary world as part of the context for understanding the challenges facing humanity today.

Global Leadership Programme Tutorials and Project

Students will attend three weekly tutorial meetings, usually in pairs. For each meeting they will each have prepared an essay for submission and will present their findings to the tutor and the other student for discussion. The subjects for the **tutorials** will include:

- Which three infectious diseases of humans may have the greatest impact in the 21st century?
- Which source(s) of energy should we pursue in the next hundred years?

Students will work on their **project** in small groups and present their project on the final day for assessment. They will choose one or other of these topics:

- Globalisation and economic growth vs environmentalism: are they really incompatible?
- Information Technology and the Web: forces for social cohesion, or social exclusion?

Global Leadership Programme Research Seminars

Five seminar discussions will be led by members of the James Martin 21st Century School. Topics are expected to include:

- Environmental issues (Environmental Change Institute)
- The future of the internet and its impact on society (e-Horizons Institute)
- Human enhancement (Future of Humanity Institute)

The Contemporary Political and Social Context

To provide an informed background for their investigations of the current challenges and opportunities for humanity, students will select **one** of the following seminar topics:

- Post-Cold War Conflicts
- Global Political Economy
- Empire in the Twentieth Century
- The European Union in Perspective

These seminars will run over a three-week period, meeting twice a week. They will enable GSP students to study alongside students coming from around the world to undertake summer study at Oxford. Students will prepare one 2000-word essay for submission in the third week.

GSP students will also attend the Oxford History, Politics and Society lecture series which is designed to broaden and enhance students' understanding of issues and events that have shaped the contemporary world. The lectures are given by leading scholars and distinguished guest speakers.

Class Contact Hours and Study Hours

Tutorials	3 @ 1hr	3.0 hrs
Project Presentation	1 @ 3 hrs	3.0 hrs
Research Seminars	5 @ 1.5 hrs	7.5 hrs
Contemporary Context Seminars	6 @ 2 hrs	12.0 hrs
Contemporary Context Lectures	15 @ 1.5 hrs	22.5 hrs

Sub-Total Class Contact Hours **48.0 hrs**

Study and Preparation Hours 4 wks @ 36 hrs **144.0 hrs**

Total Hours **192.0 hrs**

Accommodation and Meals

Accommodation will be offered in Exeter College, which is one of the University's oldest colleges and is situated in the heart of Oxford.

Participants will have a single study-bedroom. The bedrooms are located up the four to nine floors of a staircase; bath and/or shower and toilet facilities on each staircase are shared.

Participants will take meals in the college dining hall. The first meal provided will be dinner on Sunday 5 July and the last will be breakfast on Friday 31 July. Lunch will not be provided on Saturdays and Sundays.

Costs

Provisional tuition fee £915

At the Antwerp GSP meeting, we joined our colleagues in endorsing the principle of tuition fee waivers for IARU GSP participants. We are still working on how to fund this and should have a definitive position shortly.

Accommodation and meals charges £2,225

2009 IARU Global Summer Program at the University of Tokyo

The University of Tokyo offers three (more than three?) lecture courses, “Sustainable Urban Management”, “Nanoscience” and “Introduction to the Japanese Language”. “Introduction to the Japanese Language” is for students taking the courses “Sustainable Urban Management” and/or “Nanoscience”. These courses are open also to Todai students, except “Introduction to the Japanese language”. Study visit will be arranged during the period of the courses, which may include Industry, Univ. Lab and Japanese Culture.

Course Costs (in Japanese Yen) (Tentative)

Course	Duration	Tuition Fee	Accommodation Fee **	Study Visit
Sustainable Urban Management	June 14- 30	JPY 22,000	JPY 68,800 (16 nights)	Costs to be announced
Nanoscience	June 28-July 10	JPY 22,000	JPY 51,600 (12 nights)	
Introduction to the Japanese Language*	June 14-30	JPY 22,000	JPY 68,800 (16 nights)	

* This course is for students taking one of the courses “Sustainable Urban Management” and/or “Nanoscience”. Also this course is only for non-Todai (The University of Tokyo) students.

** Students will be charged the fee depend on actual number of nights to stay. If one takes the course of “Sustainable Urban Management” and “Introduction to the Japanese Language”, the accommodation fee should be counted only once. This rate is the special for IARU GSP students. Half of the fee was subsidized by the University of Tokyo.

Level

Undergraduate (maybe graduate too)

Course Hours

15 classes each (each class=1hour 30mins.) 1.5 credits

Venue

Hongo Campus (Main Campus in the central area of Tokyo)

Lecture Contents

(1) Sustainable urban management

In the process of urban development in the 20th century characterized by urban expansion and redevelopment, a huge and advanced complex of urban structures was formed in the industrialized countries. However, with the conventional technologies focused on the construction of structures, it has become difficult to keep urban space adaptable to environmental constraints and economic, social and cultural changes, that is, those conventional technologies can no longer meet the social demands for upgrading social capital in a sustainable manner and regenerating attractive urban space not only safe and highly efficient but also conscious of historical, cultural and local identities to guarantee a high quality of life for all. Therefore, what is needed is to find a new approach that is able to reorganize the existing social capital and the technologies to implement it. That is a mere planning approach nor a mere engineering approach, but a comprehensive approach.

This course provides students with good opportunities to think how to overview the existing social capital and the technologies to implement it and to discuss a comprehensive approach that is able to reorganize them. The topic covers both planning aspects and engineering aspects.

(2) Nanoscience

Biotechnology: This “biotechnology” lecture (at the Graduate School of Pharmaceutical Sciences)

focuses on advanced biomedical science and technology bound to the drug discovery. For example, the use of drug transporter function in the delivery of a drug to the target organ will be discussed. Advanced bioimaging technology reveals where and when genes and their products function in the body during the development and pathological processes. Novel NMR-assisted technology will be shown, which enables to observe protein-protein interactions at the atomic level. Unique molecules involved with the carbohydrate recognition and the carbohydrate presentation will be illustrated to play important roles in pathological processes. Tours will be offered to those who desire to visit the laboratories.

Biomedicine and Nanobiotechnology : The “nanobiotechnology” lecture focuses on the understanding of the structure and functions of the living systems at the nano level as a basis for the development of bioinspired structures and functions as well as for the establishment of methodologies to integrate living components, including biomolecules and cells, into nanodevices while regulating their functions. To effectively achieve this goal, the course sets three subthemes: (1) bioinspired nanomachines; (2) nanobio sensing systems; and (3) nanotechnology and materials science for nanoscale cell therapy.

Nanotechnology : This lecture covers fundamentals and applications of nanotechnology mainly established in a field of semiconductors, including the following four topics. (1) Fundamentals of semiconductor materials and devices. (2) Future challenges and opportunities of silicon-based integrated nanoelectronics. (3) Physics and technology of semiconductor nanostructures. (4) Nano-quantum electronics for future optoelectronics and quantum information processes. As a part of this lecture, a visiting tour to some laboratories will take place

(3) Introduction to the Japanese Language

We will provide an introductory course for those new to Japan which will both facilitate participation in life in Japan, and introduce characteristics of the Japanese language, such as the Japanese writing system, elementary grammar, and communication patterns. Using the Japanese learnt in these classes we hope our students will be able to experience a range of Japanese culture. To improve students’ Japanese literacy, certain topics that would usually be taught in the second half of an elementary course, such as the use of dictionaries, will also be included in this course. This will also enable students to continue their study on return to their home country.

This course is aimed at beginners to the Japanese language. When students apply to this course, they are not expected to have any previous knowledge of the Japanese language. However students are expected to be able to read HIRAGANA (a Japanese phonetic character system consisting of 46 characters) before this course starts. The International Center of U-Tokyo provides an e-learning website through which students should study how to read HIRAGANA and numbers up to 100 before coming to Japan. Students will be provided with a password permitting them to access the e-learning materials (usually only available within the International Center) for a limited period.

Yale University - 2009 IARU GSP Course Proposal

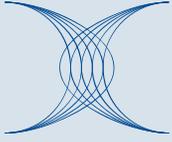
Received from IARU GSP Coordinator (Yale) on 10 October

Dates: 29 June – 31 July. Students will be able to check into housing on Sunday 18 June and will check out of housing on Friday 31 July. Length of the program will be five weeks.

Course description: To be decided

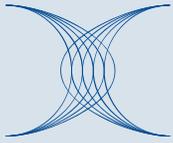
Tuition fee: As in 2008, tuition scholarships will be awarded to each IARU partner university.

Accommodation cost: The accommodation fee in 2008 was USD 1,958. It is anticipated that this fee will be slightly higher in 2009.



INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

3. 2009 International Scientific Congress on Climate Change, Copenhagen



3. 2009 International Scientific Congress on Climate Change, Copenhagen

Confirmed
Plenary speakers

Dr. Rajendra K. Pachauri, Chairman of the IPCC

Mr. José Manuel Barroso, President of the European Commission

Mr. Anders Fogh Rasmussen, Danish Prime Minister

Mrs. Connie Hedegaard, Danish Minister of Climate & Energy

Mr. Helge Sander, Danish Minister of Science, Technology & Innovation

Lord Nicholas Stern

Professor Amanda Lynch, Monash University

Professor Diana Liverman, Oxford University

Professor Nebojsa Nakicenovic, The International Institute for Applied Systems Analysis (IIASA)

Professor William D. Nordhaus, Yale University

Dr. Balgis Osman-Elasha, Higher Council for Environment & Natural Resources (HCENR), Sudan

Professor Stefan Rahmstorf, Potsdam Institute for Climate Impact Research

Professor John Schellnhuber, Potsdam Institute for Climate Impact Research & visiting professor at the University of Oxford

Professor Dan Kammen, University of California - Berkeley

www.climatecongress.ku.dk

For further information about Copenhagen, please visit www.visitcopenhagen.dk. For further information about the COP15, please visit www.cop15.dk/en/

Theme 1

Exploring the Risks: Understanding Climate Change

1. Cryosphere, Instabilities, Sea Level Rise.
Chairs Prof. Dorthe Dahl-Jensen, University of Copenhagen & Prof. Konrad Steffen, University of Colorado
2. Global/Regional Climate State in 2030.
Chairs Prof. John Mitchell, Met Office & Prof. Masahide Kimoto, University of Tokyo
3. Changes in Ocean Circulation Related to Regional Climate.
Chairs Prof. Dr. Martin Visbeck, IFM-GEOMAR, University of Kiel & Prof. Nathan Bindoff, University of Tasmania
4. Vulnerability in Carbon Sinks.
Chairs Dr. Mike Raupach, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine and Atmospheric Research & Prof. Nicolas Gruber, ETH Zurich
5. Developing a Spectrum of Models to Describe the Earth System.
Chair Prof. Martin Claussen, Max Planck Institute for Meteorology, University of Hamburg
6. Tipping Elements in the Earth System.
Chairs Prof. Matt England, University of New South Wales & Prof. Tim Lenton, University of East Anglia
7. Informing the Future by Understanding the Past.
Chairs Dr. Bette Otto-Bliesner, National Center for Atmospheric Research (NCAR) & Dr. Chris Turney, University of Exeter
8. Earth System Feedbacks and Carbon Sequestration.
Chairs Prof. Keith Paustian, Colorado State University & Prof. Scott Denning, Colorado State University
9. Detection and Attribution: State of Play in 2009.
Chair Prof. Ann Henderson-Sellers, Macquarie University

Theme 2

Sharing the Burdens and Opportunities: Equity Issues

10. Equity between Sectors and Individuals within Countries.
Chairs Dr. Paul Baer, Co-director, EcoEquity & Dr. Sivan Kartha, Stockholm Environment Institute
11. Equity between Nations and Regions.
Chairs Prof. Timmons Roberts, The College of William and Mary & University of Oxford & Prof. Coleen Vogel, University of the Witwatersrand
12. Equity in Time: Past, Present and Future Emitters and Victims.
Chairs Dr. Carlos Nobre, Brazil National Institute for Space Research & Chair of IGBP & Dr. Cameron Hepburn, University of Oxford
13. Equity between Humans and the Rest of Nature.
Chairs Prof. Dale Jamieson, New York University & Dr. William Schlesinger, Gary Institute of Ecosystem Studies
14. Differential Effects of Climate Change on Human Health and Well-Being.
Chairs Prof. Tony McMichael, Australian National University & Dr. Roberto Bertollini, WHO's regional office for Europe
15. Avoiding Land-Cover Change to Reduce Carbon Emissions.
Chairs Prof. Mark S. Ashton, Yale School of Forestry and Environmental Studies & Prof. Liping Zhou, Peking University

Workshop: Creating Green Universities
(tbc)

Theme 3

Reducing the Risks of Climate Change: Opportunities for Mitigation

16. Integrating Economic Models and the Dynamics of the Carbon Sinks.
Chair [Dr. Pep Canadell](#), Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine and Atmospheric Research & Executive Director Global Carbon Project
17. Carbon Capture and Storage: Technology, Economy, Social Attitudes.
Chair [Prof. Dr. Wim C. Turkenburg](#), Director Copernicus Institute, Utrecht University
18. Potentials and Limitations of Biofuels.
Chairs [Prof. Akiyoshi Sakoda](#), University of Tokyo & [Professor Claus Felby](#), University of Copenhagen & Science Manager [Anders Viksø-Nielsen](#), Novozymes Biofuels R&D
19. Renewable Energies: How Far Can They Take Us?
Chairs [Director Henrik Bindlev](#), Risø National Laboratory for Sustainable Energy, Technical University of Denmark & [Prof. Jim Skea](#), Research Director, UK Energy Research Centre
20. Enhancing Energy Conservation and Efficiency
Chair [Prof. Diana Ürge-Vorsatz](#), Central European University
21. Integrated Energy Mixes from a Socio-Economic and Environmental Perspective.
Chair [Prof. Jiahua Pan](#), Chinese Academy of Social Sciences
22. Transforming Institutions to Managing a Carbon Constrained World.
Chair [Prof. Dr. Joyeeta Gupta](#), VU University Amsterdam
23. Integrating National and International Approaches to Carbon Pricing Strategies: Developing a Global Framework
Chair [Prof. Warwick McKibbin](#), Australian National University
24. The Role of Agriculture in Mitigating Climate Change.
Chairs [Prof. Pete Smith](#), University of Aberdeen & [Prof. Jørgen E. Olesen](#), University of Aarhus
25. The role of forests in climate change mitigation
Chair [Director General Frances Seymour](#), Center for International Forestry Research (CIFOR)
26. Beyond Technology: Changing the Ways We Live?
Chair [Prof. Jacquie Burgess](#), University of East Anglia
27. Low Carbon Science, Technology Policies.
Chair [Prof. Dan Kammen](#), University of California - Berkeley
28. Climate Change and Air Pollution:
The Role of non-CO2 Atmospheric Pollutants (CH4, Halocarbons, N2O, Ozone, Aerosols) in Climate Stabilization.
Chairs [Dr. James E. Hansen](#), NASA Goddard Institute for Space Studies & [Prof. Ole John Nielsen](#), University of Copenhagen

Theme 5

Managing the Planet

43. Integrating Climate Change into Global Sustainability.
Chair Prof. Kazuhiko Takeuchi, University of Tokyo
44. Filling in the Gaps between IA (Integrated Assessment), GCM (General Circulation Model), Economic and ES (Earth System) Models.
Chair Dr. Rik Leemans, Wageningen University
45. From Geo-Perturbation to Geo-Management.
Chair Prof. Ken Caldeira, Stanford University
46. Consequences of Acidification of Land and Ocean.
Chairs Prof. Mary Scholes, University of Witwatersrand & Dr. Carol Turley, Plymouth Marine Laboratory
47. Optimizing Food and Agricultural Production: Climate Constraints.
Chair Prof. Pam Matson, Stanford University
48. Earth System Governance.
Chairs Agus Sari, EcoSecurities & Prof. Oran Young, Bren School of Environmental Science and Management, University of California
49. The Role of Integrated Assessment Models in Handling Climate Change.
Chair Dr. Chris Hope, University of Cambridge
50. Enabling Long-Term Climate Policy.
Chair Senior Scientist Detlef Sprintz, Potsdam Institute for Climate Impact Research (PIK)

Theme 4

Preparing for Impacts: Adapting to the Inevitable

29. Climate Change and Water Systems.
Chairs Prof. Maria Carmen Lemos, University of Michigan & Prof. Torkil Jønych Clausen, DHI
30. Impact of Climate Change on Ecosystem Services.
Chair Prof. Hal Mooney, Stanford University
31. Biodiversity: Enhancement of Resilience or Facilitating Transformation?
Chair Dr. Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Climate Adaptation Flagship
32. Economic costs of adapting and not adapting to climate change.
Chair Dr. Frank Jotzo, Australian National University
33. Adapting Urban Areas to Climate Change.
Chair Prof. Roberto Sanchez Rodriguez, University of California Riverside
34. Adapting Human Land Use to Climate Change.
Chair Prof. Anette Reenberg, University of Copenhagen
35. Adapting Coastal Zone and Marine Resources to Climate Change.
Chair Prof. Pier Vellinga, Wageningen University
36. Approaches to Measuring and Enhancing Adaptive Capacities.
Chairs Prof. Tom Downing, Stockholm Environment Institute & Dr. Dagmar Schröter, The Sustainable Development Group of the Umweltbundesamt, Austria
37. Adapting Future Agricultural Production to Climate Change.
Chairs Prof. John R. Porter, University of Copenhagen & Prof. Peter Gregory, Director of Scottish Crop Research Institute (SCRI)
38. Adapting Forests to Climate Change.
Chair Prof. Niels Elers Koch, Vice President of the International Union of Forest Research Organizations and Director General of the Danish Centre for Forest, Landscape and Planning, University of Copenhagen University of Copenhagen
39. Climate Tools and Information to Support Adaptation.
Chair Dr. Jill Jäger, Sustainable Europe Research Institute (SERI)
40. Learning from Ongoing Adaptation: A Comparative Study.
Chair Jamie Pittock, WWF Research Associate, Australian National University
41. Adaptation to Climate Change in Least Developed Countries – Challenges, Experiences, and Ways Forward.
Chairs Head of Centre John Christensen, UNEP Risoe Centre on Energy, Climate and Sustainable Development & Ph.D. Fatima Denton, Team Leader, Climate Change Adaptation in Africa (CCAA)
42. Adaptation and Climate Risk Insurance.
Chair Dr. Koko Warner, Munich Climate Insurance Initiative (MCII)

Theme 6

Mobilising the Populace: Human Dimensions of Climate Change

51. Optimizing Food and Agricultural Production: Food Security.

Chair Prof. Dr. Louise Fresco, University of Amsterdam

52. Economic Costs of not Mitigating Climate Change.

Chair Kevin Anderson, Research Director, Energy and Climate Change Programme, Tyndall Centre for Climate Change Research, Mechanical, Aerospace and Civil Engineering, University of Manchester

53. Role of Media in Dealing with Climate Change.

Chair Dr. Max Boykoff, University of Oxford

54. The Role of non Nation State Actors (Cities, NGOs, Business) in Combating Climate Change.

Chair Director Kim Carstensen, WWF's Global Climate Deal

55. Resources in a Changing Climate: Building Collaboration and Avoiding Conflict.

Chair Prof. Johan Rockström, University of Stockholm & Executive Director at Stockholm Environment Institute & Dr. Tariq Banuri, Senior Researcher at Stockholm Environment Institute

56. Human Migration - Geopolitical Conflicts - Climate Security.

Chair Prof. Ole Wæver, University of Copenhagen

57. Cultures, Values and World Perspectives as Factors in Responding to Climate Change.

Chairs Prof. Karen O'Brien, University of Oslo & Prof. Thomas Heyd, University of Victoria

The IARU International Scientific Congress on Climate Change is sponsored by:

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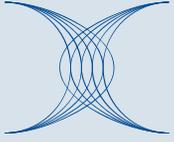
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Rethink Tomorrow

ROCKWOOL

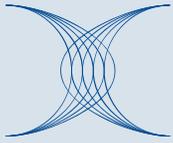
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INTERNATIONAL ALLIANCE OF
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4. Research and institutional review



4.1.1 Open Access Publishing

A short overview of the Past, the Present and the Future – Open Access Policy at ETH

Dr. Rahel Byland and Dr. Margrit Leuthold, International Institutional Affairs, ETH Zurich,
Switzerland

Introduction

The main objective of scientific journals has always been the diffusion of research results, on one hand within their own discipline and on the other hand also to a wider interested public. In addition, journals provide a way of public documentation of copyright on research results. However, subscription fees for classical journals are constantly rising, putting libraries under considerable financial strains, and are thus acting as entry barriers to scientific literature. A discussion about alternative ways of publishing has therefore arisen during the past years, which is concomitant with new possibilities enabled by the internet as a medium for content distribution. This discussion led to the idea of Open Access Publishing, which should grant free and facilitated admission to high quality scientific information in the internet, and also provide the means for long term storage of this information. Whilst it won't be possible to make publication absolutely cost-free by these means, the burden of cost will be taken from the subscriber's shoulders. Research should be accessible for researchers but without omitting the peer-review and publication processes.

History

The beginnings of Open Access root in the early nineties of the last century and are based on three main movements¹: First, E-print-Archives or Repositories like ArXiv or CogPrint were established to provide access to the latest research results before peer-review and publication in a scientific journal. However, despite the fast access, data could not be widely exchanged, since different protocols and surfaces were used by the different providers. Second, the opening of the internet led to government

1 Zimmermann I. Freier Zugang zu wissenschaftlicher Information: Ein Ueberblick über die Open Archives Initiative und die Open Access Initiative. Swiss Medical Informatics SMI 2005; No55

supported research initiatives to promote e-libraries and new ways of information distribution. These two developments together created a need for standardisations in data transfer formats. Third, authors of scientific publications were increasingly unhappy with the delay from submitting an article until it was available in a published form. Since they were in most cases selling their author rights to a commercial publisher, they had no way of influencing this process.

The movements described above led to the formulation of **two initiatives**, which in general had one and the same goal: **Open access to scientific information**.

The **Open Archives Initiative**², set up by Paul Ginsparg, Rick Luce and Herbert van de Sompel from Los Alamos in 1999, started with a “Call for participation in the UPS (Universal Preprint Service) initiative aimed at the further promotion of author self-archived solutions”. The initiative resulted in the formulation of two aims including the creation of a common set of metadata and the development of a navigation protocol to enable data research based on information from different servers. The term “open” in this initiative referred to the technical aspects; the protocol for data searches should be accessible for everyone on a web server.

At the same time scientists publicly stated their demand for openly accessible research articles in December 2001, which resulted in the **Budapest Open Access Initiative**³. The initiative demanded that all literature, which is published by researchers without conflicting financial interests, should be freely available to the public in the internet. Copyrights should be fully under the control of the respective authors, which have to ensure that their work is cited accordingly.

In accordance with the Budapest Initiative, the **Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities**⁴ was signed in 2003. The aim of the declaration was to promote the internet as a functional instrument for a global scientific knowledge base and human reflection and to specify measures, which research policy makers, research institutions, funding agencies, libraries, archives and museums need to consider. Information in the internet should be widely available to society and a comprehensive source of knowledge that has been approved by the scientific community. To fulfil these tasks, the future web has to be of a sustainable, interactive and transparent nature. To establish open access as a worthwhile procedure, producers of scientific knowledge have to commit actively. They have to grant free, irrevocable worldwide access to and rights to copy and use their contributions. Thus a complete version of the work including all supplementary material has to be deposited in at least one repository using suitable technical standards. Parties signing the declaration will have to encourage scientists to publish their work accordingly and will support the development of means and ways to evaluate and publish open access contributions.

Until mid 2007 233 institutions worldwide had signed the Berlin Declaration. The Declaration was followed by a further definition of aims in Southampton in February 2005.

2 <http://www.openarchives.org>

3 Budapest Open Access Initiative: <http://oaister.umdl.umich.edu/o/oaister/>

4 <http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>

Goals of Open Access Publishing

Like it was previously stated, Open Access aims at the public and free access to scientific information in the internet. It should be based on high quality publications, which are reliably archived for a long period of time. Publications should have undergone a peer-review process and a process of publication similar to a classical journal. Open Access will not affect the intellectual property rights of the authors and while copyrights were formerly sold to a commercial publisher, they now remain with the author himself.

Apart from the open availability, Open Access may have several other benefits for the involved parties. Online publication should result in considerably shorter publication times, meaning that authors will see their work out earlier giving them an advantage over competition, but also that interested peer scientist get access to results when they are really novel. The absence of a print version will lead to lower production and distribution costs; however, online publishing does not mean that no print version should exist; an online journal may decide to publish a print version against a fee for customers who express the need for one. The public and worldwide availability of articles in the internet should lead to a higher visibility, which may reflect in a higher amount of citations and thus benefit the authors. Further, worldwide free availability should also guarantee that researchers in the developing world who have no subscriptions to classical scientific journals have access to the most recent data.

Of course, Open Access does not only have advantages and a lot of scientist still have a sceptical attitude towards using it (see below), but some statements that have been disseminated, mainly by publishers of traditional print journals, are not exactly right⁵. Just to give some examples: Open Access will not reduce the amount of funding available for research. Even though Open Access publishing is not free and costs will have to be carried by the authors themselves or by their institutes through memberships for Online Journals, the cost for one single publication will not be higher than the cost for a print article. In contrast, it is expected that the web technology used will lower publication costs.

Current Practice

Currently two general strategies are used to make Open Access to scientific publications possible: Self-Archiving (**Green Road to Open Access**) means that a complete version of all published scientific articles will have to be deposited by the author in a data server, which is openly accessible. Such servers are generally run by universities. The second way (**Golden Road to Open Access**) means the publication of an article in an Open Access Journal whenever such a journal is available. Publishers committing to Open Access are following a new model of financing, they moved from subscription funded to author funded publication. Authors or their institutions pay for the possibility of publishing

5 <http://www.biomedcentral.com/openaccess/inquiry/myths/>

articles, which will then be freely available to everyone in the internet. The two best known members of this group of publishers are BioMed Central⁶ and the Public Library of Science (PLOS)⁷. In the meanwhile around 1500 Open Access Journals have been registered and the number is constantly growing.

A recent study⁸ among 688 scientists of different disciplines from 49 countries showed that the attitude towards Open Access publishing was generally positive. However, when asked about their favoured publication channel, the majority of scientist stated that they were predominantly using traditional print journals, only about a third of them had own experiences with publishing in Open Access Journals and even fewer were intending to use this channel for publication within the near future. In contrast, three quarters of the scientists were using Open Access Journals to search and read literature.

So there was an obvious gap between the highly positive attitude and the low active use of Open Access. The study evaluated several reasons for this gap. While the intention of Open Access is to make scientific publications accessible for everyone, the researchers stated that they were mainly targeting peers within their own discipline, who were best reached with their classical high reputation specialist journals. This argument will probably not hold true for much longer though, since more and more Open Access Journals are emerging, which are targeting specialists and are becoming more known among them, the growing PLoS family is an example for this.

Scientists saw a big advantage in the increased publication speed of Open Access Journal, but only half of them believed that Open Access would result in higher citation rates. They were concerned that Open Access media would have a negative impact on gaining promotion and tenure and may be disadvantageous with regard to securing research grants. A reason given for the concern were the relatively low impact factors of Open Access Journals during the past years, also an argument, which may be no longer valid, since impact factors are drastically increasing. For example the impact factor of “PLOS Pathogen” has risen from 6 in summer 2007 to currently 9.3, which places it highest in the “Parasitology” category⁹.

The advantages of Open Access Journals for researchers in developing countries on a restricted budget were highly estimated, and scientists believed that it would not cost them too much effort to learn how to publish in Open Access, since the technical preconditions were all given. However, they expressed a concern regarding the guarantee for long term availability of publications and the lack of support from their institutes.

Generally it can be said that **scientists have a “wait and see” attitude**. Only about a quarter of the researched group of scientists believed that their peers are using Open Access for publishing, and this low level of peer use also influenced their own decisions about publishing. For the providers of Open

6 <http://www.biomedcentral.com/>

7 <http://www.plos.org/>

8 Mann F. et al. Open Access Publishing in Science: Why It Is Highly Appreciated But Rarely Used. Communications of the ACM 2008

9 <http://www.plospathogens.org/static/information.action>

Access Journals the findings of the study implicate that reaching a critical mass is most vital, meaning scientists will start to use it when their colleagues do as well. A concentration on new subject matter areas, where traditional print companies are not already established, may help in this process.

Open Access practice at ETH Zurich¹⁰

ETH Zurich considers it important to disseminate knowledge originating at ETH Zurich itself via the internet according to the Open Access principle. ETH has thus signed the Berlin Declaration in March 2006. Subsequently, the ETH Executive Board has adopted their Open Access Policy in July 2008, in which they ask all academics to become actively involved in implementing Open Access.

The ETH E-Collection¹¹ has been chosen for the implementation of ETH's Open Access strategy. The ETH E-Collection serves as a repository for scientific literature produced from members of the whole institution. It provides free and unlimited access via the internet to relevant research and teaching materials published there, and thus belongs to the so called "Green Road of Open Access". The E-Collection at ETH has been started in 2001 already as a document server.

ETH's Open Access policy requires staff and postgraduate students to post electronic copies of any research papers that have been accepted for publication in a peer-reviewed journal (post-prints), theses and other scientific research output (monographs, reports, proceedings, videos etc.), to be made freely available as soon as possible into the ETH E-Collection, if there are no legal objections. Regarding the Golden Road of Open Access, ETH encourages their researchers to publish in a suitable Open Access Journal where a suitable one exists.

The ETH E-collection is freely accessible from everywhere in the world and is based on the system Fez/Fedora from the University of Queensland, which has been further developed by ETH's own IT department. Posting of publications is done by the authors themselves, who only have to give their personal details and upload their documents; all cataloguing is done by the library according to international standards and does not require any additional metadata. While posting of scientific articles is recommended, it is compulsory to store all theses on the repository. For any kind of document in the E-collection the copyright remains with the author. The publication policy for ETH's Open Access repository will be deposited together with the policies of similar repositories worldwide on the internet¹², and authors are supported by the library in legal issues regarding publications. In addition, the library is promoting the Green Road of Open Access actively, contacting responsible persons by phone, organizing information events and printing advertisements on refectory napkins. Since the active promotion of the repository has only just started, no numbers about its use are available yet, but the acceptance among scientists appeared to be high.

10 <http://www.open-access.ethz.ch/> and Arlette Piguet, Heike Hartmann, ETH Library, personal communications

11 <http://e-collection.ethbib.ethz.ch/index.php?lang=en>

12 <http://www.eprints.org/openaccess/policysignup/>

The Golden Road is not further promoted actively at ETH, but it does exist and is generally supported by the institution.

ETH is a member of BioMed Central and PLoS, which means that publications with BioMed Central are currently free of fees for ETH authors and there is a 10% discount on publications in PLoS. An analysis, however, showed that journals of these publishers were not chosen very frequently (only 20 published articles from the whole of ETH during 2007), but numbers are currently rising. Researchers prefer to publish in established top journals only, every thing else is regarded a “waste of time”.

ETH scientists agree with the general opinion about the small impact of Open Access Journals on promotion and fundraising. It also has to be considered that many of the traditional journals now offer an Open Access option. Against a fee authors can make their published articles freely available on the web server of the publisher. However, this is doubling the costs, since the institution of the author is still paying the subscription fee to the journal.

Discussion

The overview shows that Open Access has developed from being merely a good idea just ten years ago to a respected medium in scientific publishing. The acceptance among scientists is broad and active use as well as impact of Online Journals are steadily increasing. But does Open Access provide a solution to the fee problems of the libraries, the so called “serials crisis”? It is a fact that organisations like PLoS are non-profit and contracts with them are cheaper than getting a subscription to a traditional journal. But there is no guarantee that it will remain this way: publication is not free and in the end Open Access is just another business model, where the costs are shifted from the subscriber to the author. It is also certainly the case that more and more publishers of traditional print journals offer Open Access options for a fee (and fees for Nature and Science will not be cheap).

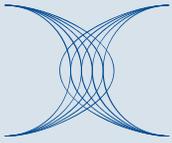
In the end, researchers in developing countries will have the chance to read all scientific articles for free, but they won't be able to afford publishing anymore. In addition, there are currently two publishing models running in parallel, which means libraries will have to start paying for contracts with Open Access publishers, while they are still paying for the subscriptions of the traditional print journals, since they are still preferred by many researchers at their institutions. This thus means initially doubling the cost, what is going to make the crisis even worse.

So, in order to really profit from the good idea of Open Access it would be necessary for all scientists to convert to it, at least with regard to the Golden Road. And this would still neglect the risk of publishers increasing their fees for Open Access contracts, like they have increased their fees for subscriptions during the past years. Will the Green Road thus be the right way to a real Open Access future, where scientific data is freely available? Does the Golden Road need yet another business model; may be financing through adverts?

Whatever the solution may be, it is clear that scientists and institutional libraries will need to work together to find a way, which facilitates their access to information and keeps the costs for it at a supportable level.

What could IARU contribute? - Possible discussion points:

1. State of Art of Open Access Publishing at other IARU universities
2. Development of a common understanding about the importance of open access publishing
3. Formulation of an Action Paper within IARU for the further promotion of Open Access



4.1.2 Research-led Teaching Workshop

Thursday February 19 and Friday February 20, 2009
Madingley Hall, University of Cambridge

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the hosting of this workshop.

Workshop organisers

Dr Richard Baker (ANU), Professor Elizabeth Fallaize (Oxford) and
Professor Ewan McKendrick (Oxford)

Recommended attendees

Two senior representatives from each partner for example the Provosts, Vice-President, DVC/PVCs responsible for education and the head of teaching and learning support centres or their equivalent.

Purpose

This meeting will explore opportunities for learning from each other and possible collaborative projects that we might develop in terms of the following four key dimensions to the research-teaching nexus:

1. having active researchers teaching who are able to convey to students the excitement of the research they are carrying out, and engage students in deep and active learning.¹
2. having learning and assessment modes that develop research skills in our students (eg projects, dissertations)
3. teaching in research mode – inquiry-based teaching
4. carrying out research into our teaching and our student's learning and applying this in action research cycles to constantly enhance our teaching and our students learning.

¹ See for example Ramsden, P. and Moses, I. 1992 "Associations between research and teaching in Australian higher education", *Higher Education* 23: 273-295 who argue note "the continuing study of and intellectual curiosity about a subject is necessary for effective teaching".

Themes to explore might include:

- what a student-centred approach to research-led education might be. For example what do students want in relation to research? What do students who experience research-led teaching say about the experience? What is displaced by a research-led approach and what do students think about this?
- research project/benchmarking on best practice amongst IARU partners in terms of the research-teaching nexus;
- initiating a project to build up shared resources for our students to explore key issues around the nature of research. A shared web resource of video or audio broadcasts from outstanding IARU researchers might be created. Courses that our respective universities offer on research methods would be greatly enhanced by having access to such resources.
- embedding a strong research-led focus in the IARU global summer programs²;
- collaborative teaching of research methods courses using the web or as a global summer school? The rapidly emerging social networking capabilities of the Web 2.0 could be used to encourage dialogue/group assignments between students at our respective universities on topics such as research ethics and contrasting perspectives between disciplines and cultures on research.
- a clear recognition and explanation of the ways in which different forms of teaching by active researchers can contribute to the research-teaching nexus.
- a strategy for the integration of teaching and research at the institutional and organisational levels of our universities.

Planning process to develop the workshop

Richard Baker has contacted each IARU partner asking for details of the key people at that institution to see if they are able to attend the workshop and to get feedback on how their institutions sees the issue of “research-led” education and what they would like to get out of the 2009 Cambridge workshop.

Richard will visit NUS, Zurich, Copenhagen, Oxford, Cambridge and Berkeley to have first hand discussions with key individuals to assist in the planning of the workshop and continue electronic contact and initiate phone hook ups if appropriate with the other three partners.

2 See http://info.anu.edu.au/OVC/Executive/020PP_Strategies,_Initiatives_and_Alliances/IARU/___gspforanu.asp

Time commitment

Wednesday February 18, 2009

1800 – 2100 Informal dinner for those international participants who have already arrived

Thursday February 19, 2009

0900 – 1200 Meeting Session 1

1200 – 1300 Lunch

1330 – 1700 Meeting Session 2

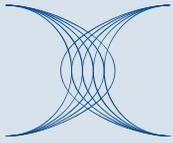
1800 – 2100 Pre-dinner drinks and dinner

Friday February 20, 2009

0900 – 1200 Meeting Session 3

1200 – 1300 Lunch

1300 – 1600 Meeting Session 4



4.1.3 IARU Programme on “Industrial Innovation & the Role of Modern Research Universities”

Prepared by: Dr Eoin O’Sullivan, Senior Policy Fellow, R&D Interfaces Programme
Department of Engineering, University of Cambridge

Background

A proposal for an IARU programme on industrial innovation, “Making the Most of Ideas!” was submitted to the April 2008 Presidents’ Meeting by Professor Mike Gregory (University of Cambridge). Based on feedback from the April meeting, and further discussions with IARU colleagues, the focus and agenda for a first meeting under this programme has been reconfigured as outlined below.

Theme and objectives

The first workshop, “Industrial Innovation and the Role of Modern Research Universities”, will explore trends and drivers associated with the evolving nature of industry research and, in particular, how these influence the practices and structures for university-industry engagement.

The first workshop will focus on opportunities and challenges associated with hosting formal industry-university collaborative initiatives on campus. The IARU group of universities is particularly well positioned to consider and gain new insights into these activities. Some of the most interesting and high profile examples of such initiatives are based at IARU institutions, for example: Berkeley’s BP Energy Biosciences Institute and Intel Lablet, the Oxford-Man Institute (of Quantitative Finance), Microsoft Research Cambridge, etc.

It is hoped that this workshop will offer an opportunity for IARU institutions to share lessons learned and effective practices related to industry-university engagement. The workshop will bring together not only academic experts interested in these themes, but also university officials responsible for research and innovation strategy, and the leaders of major industry-university initiatives.

Approach and format

The planned meeting will be relatively small (8-10 speakers and 25-30 attendees) and be more “round table” than workshop, with significant opportunities for sharing of experiences and practice, and for networking.

The meeting may adopt “Chatham House rules” or a similar format (i.e. participants are free to use the information received, but neither the identity nor the affiliation of speakers or other participants may be revealed). It is hoped that colleagues feel free to engage in open and frank exchange regarding experiments in university-industry collaboration that have taken place on their campus. In particular, it is hoped that colleagues will be willing to discuss both what has worked and, importantly, not worked at their institutions.

Participants and speakers

Participants and speakers will be drawn from three broad constituencies:

- Leaders of major industry collaborations based on university campuses
- Academic leaders who study industry-university collaboration
- Senior university officials interested in university strategy for industry collaboration

The following participants have agreed to speak (subject to final confirmation of the schedule):

- Prof Ian Leslie, Pro Vice Chancellor (Research), University of Cambridge
- Dr Andrew Herbert, Managing Director, Microsoft Research Cambridge
- Prof Alan Hughes, Director, Centre for Business Research, Cambridge
- Prof Neil Shephard, Director, Oxford-Man Institute for Quantitative Finance, Oxford

Location and timing

The “Industrial Innovation and the Role of Modern Research Universities” meeting will take place in Cambridge on 27 April 2009, just before the IARU Presidents’ Meeting on April 28-30.

It is hoped that this scheduling will allow any participants at the Presidents’ Meeting, who are interested and who have arrived early, to also attend the Industrial Innovation workshop.

Future workshops

It is expected that future workshops will consider other important themes related to innovation and university-industry engagement (see below).

Input from IARU Senior Officers

Comments or recommendations from the IARU Senior Officers on any of the following would be gratefully received:

- Suggestions regarding the proposed approach and agenda
- Comments on the usefulness (or otherwise) of “Chatham House Rules”
- Recommendations of potential speakers or attendees from their university campus
- Suggestions for future workshop themes related to “innovation” and university-industry engagement

By way of further information and background, here is a list of suggestions from some IARU colleagues for: (a) initiatives on other IARU campuses that they would like to learn more about; (b) industry-university activities on their campus that they believe IARU colleagues might find interesting or informative; (c) individual experts they would like to hear speak on industry-university themes:

- Berkeley’s IPIRA Office, i.e. several colleagues have expressed an interest in any lessons learned from the bringing together of the Office of Technology Licensing and the Industry Alliances Office into the single Office of Intellectual Property and Industry Research Alliances
- Academic research leaders on industry-university collaborative R&D, e.g. Berkeley Professor David Mowery
- Berkeley’s BP Energy Biosciences Institute
- The Intel “Lablet” on the Berkeley Campus
- Microsoft Research Cambridge
- The Oxford-Man Institute
- The Berkeley Wireless Center’s Visiting Industrial Fellow programmes
- NUS Singapore industry alliances created in partnership with government agencies such as A*STAR and the Economic Development Board, e.g. the recent Clinical Imaging initiative with A*STAR and Siemens
- The Cambridge Institute for Manufacturing
- The Cambridge “Integrated Knowledge Centre”
- ANU involvement with the Australian Cooperative Research Centres (CRC) Program
- ANU engagement with the National ICT (Australia) centre of excellence, NICTA

Industrial Innovation & the Role of the Modern Research University – workshop outline

Cambridge, UK 27 April 2009

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the hosting of this workshop.

Outline agenda

Each session will have 2-3 short presentations followed by a period of substantial discussion.

10:15 COFFEE

10:45 WELCOME & INTRODUCTION

11:00 SESSION I: The Evolution of Industry R&D – Opportunities & Challenges for Research Universities

Although the final topics and issues discussed will be determined by the speakers and participants, it is anticipated that Session 1 may consider some or all of the following issues and themes:

- Drivers & trends influencing the evolution of industrial engagement with universities
- Filling the vacuum created by the decline of many great corporate research labs (Bell Labs, Xerox PARC, et al) and the decline of “basic” longer term, high risk industrial research
- University participation in “open innovation”
- How do interactions with business create value for universities (and vice versa)?
- How can universities engage with industrial research and retain appropriate independence?
- How do different modes of industry-university interaction contribute to innovation?
- How can the institutional impact of industry-university engagement be assessed? How can the impact on economy and society be best understood and assessed?
- **Opportunities and added value offered by industry activities co-located / “embedded” on campus**

12:30 LUNCH

14:00 SESSION 2: Establishing & developing industry partnership activities on campus

It is anticipated that Session 2 may consider some or all of the following issues and themes:

- Mechanisms for building trust
- Understanding the different motivations, cultures, contributions and constraints of the partners
- The role of university-industry “boundary spanners”, e.g.: Visiting Industry Researchers, Professors of Practice, Entrepreneurs-in-Residence, etc
- Importance of engaging with key individuals at multiple levels within the partner company
- Industry-sponsored endowed chairs
- Appropriate governance structures
- Intellectual property
- Variations by research domain; by industry sector; by size of activity
- **Lessons learned from particular university case studies (e.g. Cambridge partnerships with Nokia, BP, Hitachi, Marconi)**

15:30 COFFEE

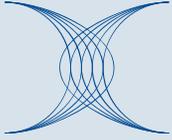
16:00 SESSION 3: Directing and managing major industry-university campus initiatives

It is anticipated that Session 3 may consider some or all of the following issues and themes:

- Aligning the different objectives, cultures, contributions and constraints of the industry and academic partners
- Optimising the value created for university and partners
- Value for students, faculty and departments
- The role of university-industry “boundary spanners”, e.g.: Visiting Industry Researchers, Professors of Practice, Entrepreneurs-in-Residence, etc
- Multidisciplinary initiatives
- Adding new industry partners to major initiatives
- **Lessons learned from particular university case studies (e.g. Microsoft Research Cambridge)**

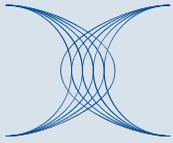
17:30 CLOSE

19:00 DRINKS & DINNER



4.1.4 Women and men in the globalising university (progress report)

Note from IARU Secretariat, the Presidents' committed funding up to USD 10 000 for the development of an online/printed publication and up to USD 15,000 for the hosting of a workshop.



4.1.5 Career Development Professionals Workshop (report)

National University of Singapore
23–24 July 2008

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the hosting of this workshop.

Meeting summary and recommendations

Workshop organizers: Ms Wong Sing Chee, Career Centre (NUS) and Ms Kate Gemmell, Director, Career Centre (ANU)

The IARU Inaugural meeting for Career Development Professionals was attended by ten delegates representing seven universities. For your reference the list of delegates and the workshop program is also included.

Participants

	Name	Designation	University
1.	Mrs Lykke Friis	Pro Rector	University of Copenhagen
2.	Mrs Kate Gammell	Director, ANU Career Centre	Australian National University
3.	Dr Gordon Chesterman	Director, Careers Services	Cambridge University
4.	Ms Tracey Wells	Assistant Director, Career Services	Oxford University
5.	Ms Li Jun Kai	Deputy Director, Career Centre	Peking University
6.	Prof Hong Jung-Kook	Professor, Division for International Relations	University of Tokyo
7.	Ms Wong Sing Chee	Head, NUS Career Centre	National University of Singapore
8.	Ms Tio Phaik Hoon	Manager, NUS Career Centre	National University of Singapore
9.	Ms Cammie Tan	Senior Career Advisor, NUS Career Centre	National University of Singapore
10.	Ms Venetia Ng	Employer Relations Officer, NUS Career Centre	National University of Singapore

Objectives

The delegates unanimously agreed that the three objectives of the meeting were met. These objectives were:

1. To establish among the IARU Universities, a network of Career Development Professionals
2. To share knowledge and best practices among the Career Development Professionals, including information on international employment trends and cultural differences
3. To discuss areas of collaboration to enhance the efficacy of this network of Career Development Professionals

The delegates believed that the meeting had enabled them to meet and relate with the career development professionals of other universities, and facilitated the formation of the network of IARU Career Development Professionals. This network will be beneficial for mutual support and assistance. However, one delegate expressed regret that if there had been representation from American universities as well, the network would have been more complete.

The delegates agreed that they have benefited from the generous sharing of knowledge and best practices among the Career Development Professionals who represented the various institutions at the meeting. They have also gained insight on Japanese and Chinese work cultures; employment trends; and hiring practices in the Asia Pacific region as presented by the invited speakers.

The delegates also appreciated the opportunity to discuss areas of collaboration among the universities representatives. Through the discussion, several projects were identified and proposed for follow-up among the delegates, if approved by IARU.

Duration of meeting

Several delegates commented that the two-day workshop was inadequate for in-depth discussion of the topics. A possibility of extending it to three days for future meetings was suggested.

Contents

The delegates believed that the contents of the meeting were useful and relevant, and had enriched them professionally.

The session on “Global Career Services Delivery – An International Snapshot” stimulated a lot of interest and lively discussion among the delegates. Information on services and best practices were shared and discussed. Several delegates indicated that they would consider adapting and introducing some of these services and best practices at their respective universities.

Professor Hong Jung Kook from University of Tokyo and Ms Li Jun Kai from Peking University shared insights on workplace culture in their countries during the session on “Understanding Cultural Differences in Workplace”. The delegates found the information meaningful and helpful, especially for those who have students from Asia, or students who hope to work in these countries. They also found the session “Global Recruitment Trends – Employers’ Perspectives” facilitated by Ms Carolyn Philips, Regional Head, Campus Recruiting, Credit Suisse and Mr Phua King Song, Director of Human Resource, Glaxosmithkline, engaging and stimulating. However, the session on “International Internships” by representatives from “Contact Singapore” was not as well-received.

The delegates acknowledged that the meeting had provided them with the opportunity to discuss common goals and objectives for this network of career development professionals, and possible areas for future collaboration.

Meeting outcomes

- Given the increasingly global nature of graduate recruitment, particularly among large corporations, it was decided to hold the next meeting in the UK, in 2010. While this will involve some on-campus activity at the IARU UK institutions, a part of the meeting will be held in London, to facilitate major graduate employer participation.

Action *Gordon and Tracey to do initial scoping for this i.e. costs, dates, etc. Kate to seek remainder of IARU funds for 2008 meeting as seeding fund for 2009 meeting*

- Similarly, to further facilitate global IARU employer involvement and to increase global opportunities for IARU students, an IARU Green Careers Website will be created. This will feature career information on emerging sustainable careers and alumni stories with an environmental focus, to be contributed by each delegate. The focus of the website will be green careers information, in keeping with the increasing importance of environmental sustainability as an issue with IARU. Links will be provided to actual green jobs that students can access. Each delegate will contribute alumni and green careers information, and the sponsors of the 2009 Sustainability Conference will be asked if they would like to contribute to the website.

Action *Each delegate to contribute country specific careers information and alumni. Lykke to investigate involvement with 2009 sponsors.*

Kate to investigate logistics of establishing the website .

- In keeping with our broad theme of enhancing global employability, delegates present have been asked to produce a two page handout on “Finding a job in my Country.” This will incorporate resume styles and job-seeking and interview tips, with a particular emphasis on the local cultural differences that may impact on job search. References, for example, are still largely character-based in Japan; whereas in Australia, they focus almost exclusively on a candidate’s suitability for a position. This document is also intended to assist students who may be seeking internships or part-time work as part of their cross-institutional study experience with other IARU universities.

Action *Gordon and Kate have agreed to coordinate this project.*

- In order to continue to build our relationships as IARU Careers colleagues, the ideas of an IARU Careers list server and IARU job swaps between services was also discussed,

Action *Tracey to explore idea of list server. Job swaps to be arranged on request, using the current Cambridge reciprocal agreement as the model.*

Workshop program:
International Alliance of Research Universities (IARU)
Inaugural meeting of career development professionals
23-24 July, 2008, National University of Singapore program

Objectives of Meeting

1. To establish among the IARU universities, a network of Career Development Professionals.
2. To share knowledge and best practices among the Career Development Professionals, including information on international employment trends and cultural differences
3. To discuss areas of collaboration to enhance the efficacy of this network of Career Development Professionals.

Programme

Date/Time: Wed, 23 July to Thurs, 24 July 2008
9 am to 6 pm
Venue: Conference Room, Office of Student Affairs
National University of Singapore (NUS), Singapore

Tuesday, 22 July 2008

Arrival of Delegates
7.00 pm **Dinner Reception**
Wan Hao Restaurant, Marriot Hotel

Wednesday, 23 July 2008

9.00 am **Welcome**
Dean of Students, NUS,
Assoc Prof Tan Teck Koon
9.30 am Tea Break
10.00 am **Delegates' Presentation**
Global Career Services Delivery –An International Snapshot

- (Sharing of ideas/best practices among the Career Development Professionals)
- 12 nn Lunch
NUS Society, Kent Ridge Campus
- 1.30 pm **Delegates' Presentation (cont'd):**
Global Career Services Delivery –An International Snapshot
(Sharing of ideas/best practices among the Career Development Professionals)
- 2.30 pm **Discussion:**
Understanding Cultural Differences in the Workplace
(Sharing of insights from different cultures represented at the meeting, especially Asian cultures)
- 3.30 pm Tea Break
- 4.00 pm **Guest Speaker:**
International Internships
Mr Raymond Tan
Deputy Director, Contact Singapore
- 5.00 pm **Visit:**
NUS Career Centre, NUS Museum
- 6.00 pm **Dinner at KR 50 Restaurant**

Thursday, 24 July , 2008

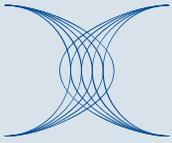
- 9.00 am **Dialogue:**
Global Recruitment Trends – Employers' Perspectives
Ms Carolyne Philips
Regional Head of Campus Recruiting for IT, Operations and Shared Services,
Credit Suisse
Mr Phua King Song
Director, Human Resource, Glaxosmithkline
- 10.00 am Tea Break
- 10.30 am **Round Table Discussion (I):**
Working Together - Common Goals & Objectives
(Discussion on areas of collaboration)
- 12 nn Lunch
NUS Staff Club
- 1.30 pm **Round Table Discussion (II):**
International Internships (Facilitation, areas of assistance)
- 3.00 pm Tea Break

3.30 pm **Round Table Discussion (III):**
Going Forward
(Identification of future plans)

4.30 pm **Summary and Concluding Remarks**

5.00 pm **End of Meeting**

6.00 pm **Visit**
Dinner at Ulu Ulu Safari Restaurant
Visit to Night Safari



4.1.6 Proposed IARU workshop on 'Culture and Citizenship' (progress report)

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the hosting of this workshop.

Proposed date: April (dates tbc)

Location: University of Copenhagen

Workshop Organisers: Professor Amin Saikal and Professor James Piscatori (ANU)

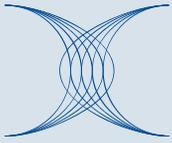
Local host: Professor Jorgen Nielsen, Director of the Centre for European Islamic Thought

Professor Amin Saikal and Professor James Piscatori have contacted Professor Jorgen Nielsen, Director of the Centre for European Islamic Thought at the University of Copenhagen, who has enthusiastically agreed to serve as local host for the proposed workshop on 'Culture and Citizenship: Towards a New Civic Pluralism'.

The IARU Secretariat has been advised the workshop organisers are actively considering a workshop date in April 2009 for a meeting of some 15 to 20 participants from IARU members. Participants will be by invitation only and Professors Saikal, Piscatori and Nielsen are in the process of identifying suitable invitees. The IARU office at Oxford has been in touch to express interest and to offer assistance in identifying Oxford participants, and Professor Nielsen has already indicated that he would like to include several of his Copenhagen colleagues. ANU will send Professors Saikal and Piscatori to the meeting.

It is assumed participants will cover their own travel and accommodation costs. The University of Copenhagen will receive funding up to USD 15 000 for hospitality, venue, additional funding resources and post conference costs.

In the meantime, the organisers will decide on a final list of participants and issue formal invitations.



4.1.7 Ageing, Longevity and Health



In April 2008, a report on the progress of the three sub-projects of the IARU research project “Ageing, Longevity and Health” was submitted at the Presidents Meeting. The present document is a short update on the major activities since then.

On 12-14 May 2008, the IARU research group for the sub-project “Neurodegeneration and Life Course Issues” at the University of Copenhagen hosted a successful workshop on the topic “Ageing – From Molecules to Population”. The workshop was attended by 40 participants representing a number of IARU universities (ANU, NUS, Yale, University of Tokyo, University of Copenhagen) as well as other universities and institutions such as the University of Washington, the Buck Institute, University of Jyväskylä, University College London, MRC Unit for Lifelong Health and Ageing, London, and a number of Nordic universities. A report covering the topics of the more than 20 presentations from the workshop delegates has been accepted for publication by the American journal “Mechanisms of Ageing and Development” and is now in press (Attachment 1).

The workshop also covered a breakout session for IARU representatives with focus on future funding strategies. In order to strengthen the development of new funding proposals, a taskforce was formed by Hiroko Akiyama (Tokyo) Kaarin Anstey (ANU), Barry Halliwell (NUS), Martin Lauritzen, Kirsten Avlund and Vilhelm Bohr (Copenhagen). As a starting point, the taskforce agreed to explore the availability and content of existing cohorts in the IARU member countries as well as to propose biomarkers for oxidation and neurodegeneration. The idea is to base the first grant proposals on these questions, and it is planned to expand the taskforce further. Activities to strengthen this are underway at different IARU universities.

In connection with the Evolutionary Medicine sub-project, the Copenhagen Centre for Social Evolution (CSE) is hosting professor Stephen C. Stearns from Yale for a 3 months sabbatical (mid August – mid November 2008). Stephen Stearns is teaching the first MSc course in Evolutionary Medicine in Copenhagen. He and CSE Director Professor Jacobus J. Boomsma are also hosting a IARU workshop (10-12 November 2008) of 13 participants from Cambridge, Copenhagen, ETH, Oxford, Berkeley and Yale to prepare a grant proposal on “The Evolution and Ecology of Disease”. Stephen Stearns will further give a Biology Departmental seminar on “Evolutionary Medicine” on 24 October 2008.



Contents lists available at ScienceDirect

Mechanisms of Ageing and Development

journal homepage: www.elsevier.com/locate/mechagedev



Workshop Report

Aging—From molecules to populations

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Proteasome
Cognitive decline
Elite aging
Alzheimer's disease

ABSTRACT

The mean age of the human population is steadily increasing in many areas around the globe, a phenomenon with large social, political, economic and biological/medical implications. Inevitably, this phenomenon is stimulating great interest in understanding and potentially modulating the process of human aging. To foster interactions and collaboration between diverse scientists interested in the biochemical, physiological, epidemiological and psychosocial aspects of aging, The University of Copenhagen Faculty of Health Sciences recently organized and co-sponsored a workshop entitled *Aging—From Molecules to Populations*. The following questions about human aging were discussed at the workshop: What is the limit of human life expectancy? What are the key indicators of human aging? What are the key drivers of human aging? Which genes have the greatest impact on human aging? How similar is aging-related cognitive decline to pathological cognitive decline associated with neurological disease? Are human progeroid diseases, characterized by premature aging, good models for “normal” human aging? Is delayed or “elite” aging informative about “normal” human aging? To what extent and by what mechanisms do early life environmental factors influence aging-associated physical and cognitive decline? To what extent and by what mechanism does the social environment influence life course outcomes? What physiological factors underlie the timing and extent of aging-associated physical and cognitive decline? How do cultural stereotypes and perceptions of aging influence the process and experience of aging? One of the primary outcomes of the workshop was a recognition that cross-disciplinary studies and “out-of-the-box” approaches, especially those that adopt an integrated life course perspective on human health status, are needed to expedite advances in aging research. This and other outcomes of the workshop are summarized and discussed in this report.

1. Executive summary

1.1. Overview

The mean age of the human population is steadily increasing in many areas around the globe, a phenomenon with large social, political, economic and biological/medical implications. Inevitably, this phenomenon is stimulating great interest in understanding

and potentially modulating the process of human aging. As a consequence, aging research has become a major focus of a large number of biomedical and social scientists in universities and institutes in countries that are affected by this trend. Aging research spans many different disciplines and is likely to benefit from cross-disciplinary studies as well as “out-of-the-box” approaches, especially those that adopt an integrated life course perspective on health outcomes. To foster interactions and collaboration between diverse scientific groups who are interested in the aging process, The University of Copenhagen Faculty of Health Sciences, in conjunction with the International Alliance of Research Universities (IARU), recently organized and co-sponsored a workshop entitled *Aging—From Molecules to Populations*. The following document summarizes the highlights of this workshop.

1.2. Introduction

Human aging is a complex process influenced by multiple interacting factors including genetics, biology, and behavior as well as physical, social and cultural aspects of the human environment. Symptoms of normal aging can include a state of increased

[☆] The Workshop, *Aging—From Molecules to Populations* 12–14 May, 2008 at Hotel Marienlyst, Elsinore, Denmark, was organized by The Faculty of Health Sciences, University of Copenhagen in conjunction with the International Alliance of Research Universities and was sponsored by University of Copenhagen Faculty of Health Sciences, University of Aarhus and the Danish Aging Research Center. The Workshop Steering Committee included Ulla Wewer, Dean at the Faculty of Health Sciences, University of Copenhagen, Vilhelm Bohr, National Institute on Aging, NIH, USA, Kirsten Avlund, Department of Public Health, University of Copenhagen, Martin Lauritzen, Department of Neuroscience and Pharmacology, University of Copenhagen, Tinna Stevnsner, Department of Molecular Biology, University of Aarhus and Tina Gottlieb, Faculty Secretariat, Faculty of Health Sciences, University of Copenhagen. Kirsten Avlund and Vilhelm Bohr were Co-Chairs of the Workshop. Abbreviations: AD, Alzheimer's disease; SNP, single nucleotide polymorphism.

0047-6374/\$ – see front matter
doi:10.1016/j.mad.2008.08.002

Please cite this article in press as: Sander, M. et al., Aging—From molecules to populations. *Mech. Ageing Dev.* (2008), doi:10.1016/j.mad.2008.08.002

vulnerability to stress and general loss of physiological homeostasis. However, there is large inter-individual variation in the rate and nature of aging-associated disease and dysfunction. Both global and local patterns of human longevity and aging have changed dramatically over the past 400 years, and are likely to continue to change in the immediate future. Thus, patterns and kinetics of aging observed in one population at one period in time may not be observed in a different contemporary population or at another period of time.

The following questions about human aging were discussed at this workshop: What is the limit of human life expectancy? What are the key indicators of human aging? What are the key drivers of human aging? Which genes have the greatest impact on human aging? How similar is aging-related cognitive decline to pathological cognitive decline associated with neurological disease? Are human progeroid diseases, characterized by premature aging, good models for "normal" human aging? Is delayed or "elite" aging informative about "normal" human aging? How do early life environmental factors influence aging-associated physical and cognitive decline? To what extent and by what mechanism does the social environment influence life course outcomes? What physiological factors underlie the timing and extent of aging-associated physical and cognitive decline? How do cultural stereotypes and perceptions of aging influence the process and experience of aging?

These questions, as well as a few answers, were discussed over two days at the Marienlyst, Denmark workshop on *Aging—From Molecules to Populations*. The workshop was unusual, because it brought together diverse scientists with interests in biochemical, physiological, epidemiological and psychosocial aspects of aging, and this led to particularly interesting and stimulating presentations and discussions on the subject of aging.

This workshop was organized as part of a larger IARU initiative on human aging and longevity. IARU is an alliance between ten of the world's leading research universities,² whose goals are to promote "value-added" collaborative international research and to achieve research objectives that could not be achieved by any single member university alone. IARU seeks to promote globally oriented globally responsible international research and a commitment to educating future world leaders to continue a tradition of international cooperation. IARU recently established a research initiative called *Ageing, Longevity and Health* (<http://www.ageing.iaru.ku.dk/>). There are three subtopics within this initiative: Health Policy Challenges of Ageing Populations; Neurodegeneration: The Role of Oxidative Stress, Life Course Issues; and Evolutionary Medicine.

1.3. What are the key drivers of aging in humans?

Speakers at this workshop proposed that protein damage, DNA damage, mitochondrial dysfunction, inflammation and oxidative stress play possible roles in driving age-related disease and dysfunction. These pathways are not mutually exclusive, and different physiological or biological events may drive different age-related processes. Social, economic and behavioral factors at all life stages also influence multiple life course outcomes.

² IARU member universities are Australian National University, ETH Zurich, the National University of Singapore, Peking University, the University of California, Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, the University of Tokyo and Yale University. The IARU Secretariat is at Australian National University in Canberra and IARU is chaired by Vice-Chancellor, Professor Ian Chubb of ANU.

1.4. Proteasome dysfunction and protein spatial quality control

Accumulation of damaged proteins may be a key factor in cellular senescence and cognitive dysfunction associated with aging-related dementia. Mechanisms that lead to an increased load of aberrant and/or damaged proteins include somatic mutation, proteasome dysfunction, pharmacological intervention, and oxidative stress. Barry Halliwell (National University of Singapore) suggested that proteasome overload and/or dysfunction may be a key step in the pathology of neurological diseases characterized by cognitive deficit (*i.e.*, Alzheimer's Disease (AD), Huntington's Disease, Parkinson's Disease). This may reflect increased oxidative stress and/or inflammatory processes; alternatively aberrant expression of normal or mutant proteins may lead to proteasome overload and proteasome stress (Fig. 1). Thomas Nyström (Göteborg University) suggested that accumulation of oxidized proteins may be a key factor in cellular senescence. Nyström described the process of Protein Spatial Quality Control, which is a Sir2- Hsp104-dependent process that sequesters carbonylated proteins in the mother cell during cytokinesis in *Saccharomyces cerevisiae*. When Protein Spatial Quality Control is inactivated, replicative capacity of mother and daughter cells decreases significantly. A similar process may exist in mammalian cells to protect mammalian organisms from high levels of protein damage in somatic tissue.

1.5. Protein aggregation in human neurological disease

Protein aggregates are a common feature in the brains of patients with AD, Huntington's Disease and Parkinson's Disease. However, previous studies have not clearly indicated whether protein aggregates, in the context of these diseases, are a cause or a symptom of the disease pathology, and the kinetics of appearance of protein aggregates in diseased brains has been insufficiently documented. Ole Petter Ottersen (University of Oslo) reported on recent experiments that address this question using the 3x-Tg-AD mouse model of Alzheimer's Disease. Using immunogold electron microscopy and three-dimensional image reconstruction, Ottersen showed that submicroscopic deposits of β -amyloid colocalize with and appear at approximately the same time as dystrophic neurons, and that the deposits are tightly associated with the plasma membrane domain of large caliber dendrites. This result is consistent with the possibility that deposition of β -amyloid is a trigger leading to AD pathology. Ellen Garde (University College of London), also showed that grey matter atrophy and white matter hyperintensity can be detected in pre-symptomatic patients with familial AD as early as 4 years prior to diagnosis of AD. Additional studies are needed to develop effective pre-clinical diagnostic tools for AD.

1.6. DNA damage, mutagenesis and aging

DNA damage may also drive aging-related processes. Jan Vijg (Buck Institute for Age Research) argued that somatic mutational events could at least in part account for the stochastic nature of aging, as evidenced by the high degree of inter-individual variability in aging-associated phenotypes. Importantly, while proteins are subject to turnover, genes are not, and although DNA damage can be repaired, unrepaired DNA damage frequently generates irreversible somatic mutations. In support of the role of mutagenesis in aging, Vijg showed that fruit flies raised at an elevated temperature have a shortened lifespan, and the average lifespan of fruit flies correlates inversely with mutation rate and temperature. In addition, Vijg compared the variance in gene expression at the single cell level in young and old mouse

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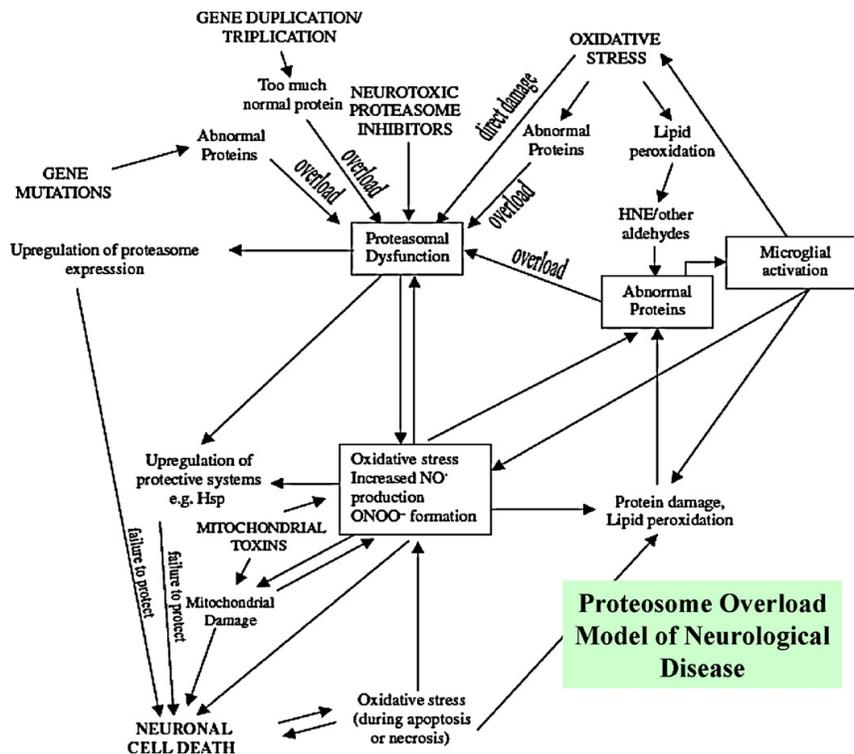


Fig. 1. The proteasome overload model of neurological disease. Reprinted with permission from *Antioxidants & Redox Signaling*.

cardiomyocytes. The results provide evidence that mutations accumulate in a stochastic manner in gene regulatory regions in mammalian cells over time. This phenomenon could lead to aging-related functional decline.

1.7. Genetic determinants of aging: To what extent is your life expectancy in your genes?

In experimental model systems such as *Caenorhabditis elegans*, it has been shown that genotype can confer up to a 10-fold increase in life expectancy. In *C. elegans*, the most potent alleles affecting lifespan are in the insulin-like growth factor 1 signaling pathway. Rudi Westendorp (Leiden University Medical Center) and others at this workshop pointed out that human lifespan has increased more than 2-fold in the last 400 years (Fig. 2A). However, because studies of mono- and dizygotic twins, centenarians, long-lived cohorts and long-lived siblings suggest that genetic factors confer no more than 30 to 40% of the human lifespan potential (i.e., risk of mortality), it appears that environmental influences play a large role in determining human lifespan. Until recently, it was not possible to identify specific genes that regulate human lifespan. At this workshop, Kaare Christensen (Danish Aging Research Center) and David Melzer (Peninsula Medical School, Exeter) described recent studies that identify human genes that may influence longevity or alter risk of aging-related diseases. Christensen reported that a single nucleotide polymorphism (SNP) affecting paraoxonase 1 correlates with longevity in cross-sectional twin studies and the 1905 Danish cohort; and Melzer reported on genome-wide association studies that identify SNPs that regulate cellular senescence

or confer significant risk of type 2 diabetes, myocardial infarction, obesity, age-related macular degeneration, restless leg syndrome and other aging-related diseases. Interestingly, a SNP in the cellular senescence gene INK4a/CDKN2a was significantly associated with aging-related decline in physical mobility. These results suggest that future studies may be able to identify specific genetic determinants of human lifespan and aging-related dysfunction.

Taina Rantanen described a recent study, which showed that muscle cross-sectional area (CSA), strength, power, and walking speed shared a genetic effect which accounted for 7% of the variation in CSA, 51% in strength, 37% in power and 35% in walking speed, all important factors underlying functional independence in old age (Tiainen et al., 2008). Another important study found that shared and individual environmental factors explained most of the variance in maximal walking speed and endurance, while only modest portions of the variations were accounted for by genetic factors (Ortega-Alonso et al., 2006).

1.8. Inflammatory cytokines: Pro- or anti-aging?

Low grade inflammation has been associated with aging-associated chronic diseases including diabetes, obesity, atherosclerosis and cardiovascular disease. These diseases appear to be correlated, leading to the concept of an age-related diseaseome, which may be linked by the process of inflammation (Fig. 3). However, as pointed out by Bente Klarlund Pedersen (University of Copenhagen) and Helle Bruunsgaard (University of Copenhagen) at this workshop, cytokines, the small molecule messengers of the inflammatory system, can play pro-inflammatory or anti-inflam-

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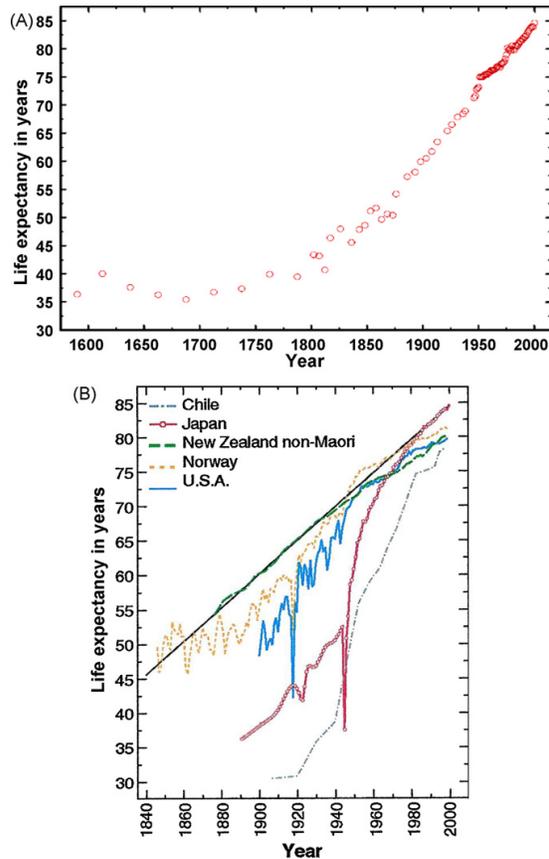


Fig. 2. (A) Average human life expectancy 1600–2000. Reprinted with permission from Dr. James Vaupel (Max Planck Institute for Demographic Research, Rostock, Germany). (B) Country-specific human life expectancy 1840–2000. From “Oeppen, J. and Vaupel, J.W. Broken, Limits to life expectancy, *Science* 296 (2002), 1029–1031.” Reprinted with permission from AAAS.

matory roles (Fig. 4). Furthermore, some cytokines, such as IL-6, appear to have context-specific pro- or anti-inflammatory effects. Bruunsgaard showed that levels of IL-6 and the pro-inflammatory cytokine TNF- α increase 2- to 4-fold with age, and risk of all-cause mortality is almost 2-fold higher in centenarians with the highest tertile of circulating TNF- α . Risk of dementia is higher in centenarians with high levels of TNF- α and performance on tests of cognitive function is lower in >85 years old from the 1914 cohort with the highest tertile of TNF- α or IL-6. Because TNF- α causes insulin resistance, dyslipidemia, and endothelial dysfunction/activation, it is possible that it drives susceptibility to metabolic syndrome, type 2 diabetes and CVD on the molecular level. However, Bruunsgaard emphasized in her presentation that it is not yet clear whether inflammation drives the process of cognitive decline or onset of dementia in older individuals. In contrast, Bente Klarlund Pedersen showed clearly that IL-6 is an exercise-inducible myokine (*i.e.*, cytokine secreted by contracting muscle) that has anti-inflammatory effects and that stimulates release of other anti-inflammatory cytokines including IL-10 (Fig. 4). In addition, IL-6 promotes lipolysis, increased glucose uptake, and protects against TNF- α induced insulin resistance. This suggests that IL-6 is involved in a feedback loop with TNF- α .

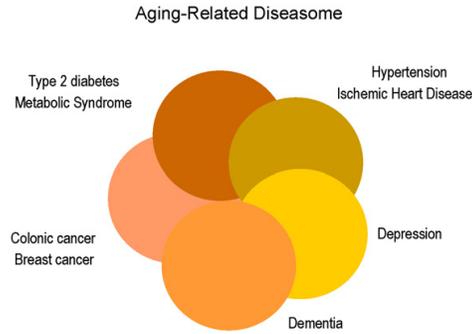


Fig. 3. Aging-related diseaseome.

1.9. Telomere length as indicators of mortality

What are the clinical markers that indicate near-term or future risk of mortality in humans? Kaare Christensen reported that telomere length inversely correlates with risk of mortality in 273 twin pairs aged 73–94. In this study, Christensen used multiple methods to determine telomere length in circulating leukocytes in blood samples collected from twin pairs in 1997, and followed mortality in these individuals over 10 years from 1997 to 2007. The results showed that for matched twin pairs, the twin with the shorter telomere had a significantly higher risk of mortality than the twin with the longer telomere, and the bigger the difference in telomere length, the bigger the difference of age at death. It is not yet known why telomere length correlates with all-cause risk of mortality.

1.10. Lifespan and life course approaches to aging research: Taking the long view of longevity

A lifespan or life course approach to aging and cognitive function was emphasized by several workshop speakers, including Kaarin Anstey (Australian National University), Rebecca Hardy (University College London), Boo Johansson (Göteborg University), Rikke Lund (University of Copenhagen), Merete Osler (University of Copenhagen) and Marcus Richards (University College London). It has been suggested that adverse early environmental conditions can lead to poor growth and development as well as increased risk of adult chronic disease. Anstey suggested that “lifespan” includes a connotation of age-related dysfunction or pathology, while “life course” focuses on normal progression through distinct life phases.

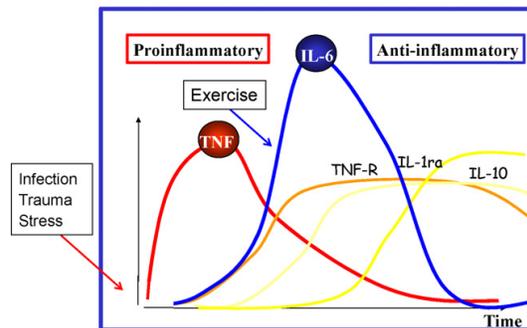


Fig. 4. Cross-talk and interaction between pro- and anti-inflammatory cytokines.

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The Cascade Model of Cognitive Aging

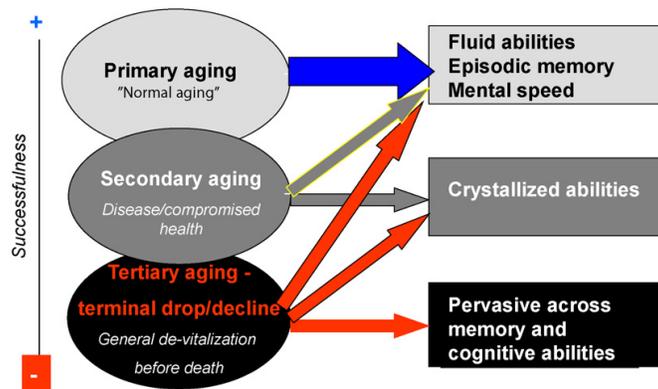


Fig. 5. The cascade model of cognitive aging.

Johansson introduced the Cascade Model of Cognitive Aging (Birren and Cunningham, 1985), which defines primary aging as age-related loss of fluid abilities, episodic memory and mental speed, secondary aging as loss of crystallized cognitive abilities, and tertiary aging as pervasive loss of all types of cognitive function (Fig. 5). Tertiary aging is associated with compromised health and proximity to death. While it is common to evaluate "age" in terms of time from birth, Johansson pointed out that some functional measures may be more informative about time to death than about time from birth.

George Martin presented the Biological Theory of Aging, and argued that decay of biological homeostasis involving multiple complex physiological functions begins in "middle-aged" individuals (i.e., 30-year old). Taina Rantanen (University of Jyväskylä) showed that grip strength declines approximately 1% per year from mid-life and that low grip strength at mid-life is a strong predictor of increased all-cause mortality and functional disability, as long as 25 years post-measurement. The significance of this correlation is not yet understood.

Rikke Lund, Rebecca Hardy and Marcus Richards emphasized the complex interplay of social, biological and environmental factors at all life stages (Fig. 6). Rikke Lund reviewed growing evidence that adult function and age-related chronic diseases have their origins in early life experience and share common risk factors (Kuh, 2007). A life course approach highlights the need to study long-term changes in cognitive, behavioral and social factors. Early life factors may influence both the development of biological strength and the timing and rate of decline. So-called "critical" exposures coincide temporally with critical aspects of biological development. Alternatively, the effect of an exposure can be magnified during a "sensitive" developmental period. Furthermore, the effects of some exposures are cumulative over the entire life course. The sequence or trajectory of multiple exposures may also be important. Rebecca Hardy indicated that physical capability increases rapidly in early life stages, reaches a peak or plateau in adult life, and then declines with age. She also demonstrated that physical capability of an older individual depends both on peak capability and rate of decline (Kuh, 2007).

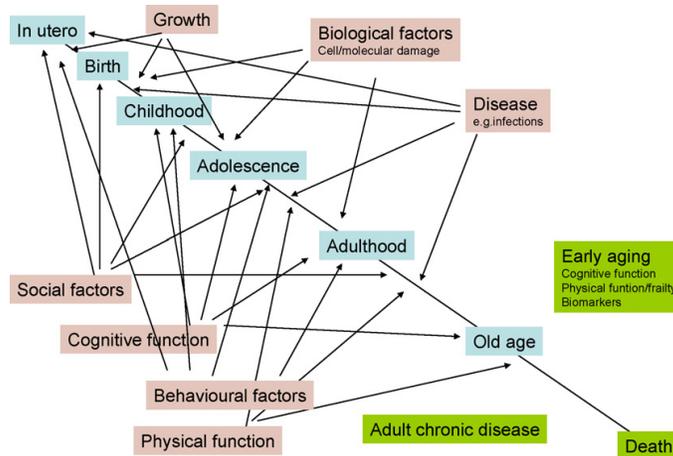


Fig. 6. The life course approach to aging research.

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Merete Osler demonstrated that socioeconomic factors in childhood influence functional limitations and dental status in midlife, while fatigue and poor self-reported health in midlife were more influenced by low adult social class during adulthood.

1.11. Cultural stereotypes of aging: Perception influences outcome

Becca Levy (Yale University) proposed that internalized expectations of aging (i.e., cultural stereotypes of older individuals) influence measurable outcomes in performance tests, as well as the health of older individuals. To test this idea, Levy identified two cultures with very positive stereotypes of aging, the American Deaf culture and the mainland Chinese culture, and compared them with the American non-Deaf culture, which is characterized by a relatively negative stereotype of older individuals. Levy showed significant differences in average memory performance in similarly aged individuals from these cultures. Levy also showed that subliminal messages that convey positive or negative stereotypes of aging can alter memory performance in older individuals (i.e., positive subliminal messaging increased memory performance and negative subliminal messages decreased memory performance). These and other studies suggest that social and cultural factors can strongly influence aging trajectories, and that there is significant culture-to-culture variation in aging stereotypes.

1.12. When and where you live: Cohort effects and period effects

The average human life expectancy has increased more than 2-fold in the last 400 years (Fig. 2A), indicating that environmental factors have a dramatic effect on health and disease on a worldwide level. Furthermore, country-to-country and period-to-period average life expectancy shows very significant variability (Fig. 2B). Rudi Westendorp (Leiden University Medical Center) suggested that social and economic status (SES) is a primary determinant of the risk of mortality, which supports the view that environmental factors have a large impact on human longevity. Nevertheless, David Melzer (Peninsula Medical School) pointed out that even among individuals of high social class in the most affluent societies, the variance in human life span remains large, and a portion of this variance is can be attributed to genetic factors.

1.13. Cohorts and collaborations

One of the goals of IARU, which was specifically promoted by this workshop, is to bring together an international group of researchers with different strengths, areas of expertise and resources, to promote research on human aging and longevity. Importantly, the IARU universities and countries represented at this workshop maintain country-specific databases as well as country- or region-specific cohorts, which are excellent resources for aging research. Collaborations involving more than one of these cohorts have been encouraged. Three such collaborative efforts were described at this workshop.

DARC – Three major health science universities in Denmark have recently joined together to form the Danish Aging Research Center (DARC). Formation of DARC was made possible by the support of the Velux Foundation. The DARC member universities include The Section of Social Medicine, Department of Public Health at the University of Copenhagen, the Danish Centre for Molecular Gerontology at the University of Aarhus, and the Aging Research Center at the University of Southern Denmark. DARC will exploit the distinct strengths of these research programs, which span from molecular biology to epidemiology, demography and social sciences. In particular, Aarhus University has strong expertise in molecular gerontology, University of Copenhagen

has strong expertise in social epidemiology, and Southern Denmark University has strong expertise in genetic epidemiology. DARC will perform studies primarily using five existing Danish cohorts: The Danish Twin Registry, The Danish 1905 Cohort; Danish Centenarian Studies (1985 and 1905), The Metropolit Study 1953, and The 1914 Glostrup Cohort. At this workshop, Kaare Christensen (University of Southern Denmark) reported on recent collaborative research projects carried out by DARC.

CAMB – The Copenhagen Aging and Midlife Biobank (CAMB) is a new initiative, whose goal is to establish a midlife biobank in order to study biological, cognitive and social variables that influence aging over the entire life course. CAMB will establish a biological and cognitive data base for subsamples of the Metropolit Study (born 1953) (Osler et al., 2004), the Copenhagen Perinatal Cohort (born 1959–1961) (Zachau-Christiansen, 1972) and The Danish Longitudinal Study on Work, Unemployment and Health (born 1949, 1959) (Christensen et al., 2004). Each of these cohorts has unique advantages as well as specific limitations. By using all three study groups, CAMB will provide the opportunity to link biological and neuropsychological data with existing data from registers and questionnaires. Data collection for CAMB will take place 2009–2011. Kirsten Avlund (University of Copenhagen) presented a progress report on this project.

The Medical Research Council (MRC) National Survey of Health and Development 1946 Birth Cohort is a database of information on the health and development of 5362 British men and women, all born in one week in March 1946. The individuals in this cohort have been followed-up 21 times since birth. Collection of clinical data on this cohort is now underway. Initial clinical studies will focus on cardiovascular disease and musculoskeletal function. Marcus Richards presented an update on this initiative.

2. Featured presentations

Chronic diseases with focus on inflammation and the role of exercise

Bente Klarlund Pedersen, University of Copenhagen

Bente Klarlund (University of Copenhagen) tested the hypothesis that exercise directly alters energy and fat metabolism. The results of her study provide a possible explanation for the positive health benefits of an active lifestyle and the negative health effects of a sedentary lifestyle. The hypothesis was tested by carrying out a unique intervention, in which a 14-day period of exercise-deprivation was imposed on active young males. During the exercise-deprivation period, the subjects decreased their activity level from 10,000 steps/day to 1500 steps/day, and physiological and metabolic functions were assessed before and after the exercise-deprivation. Klarlund showed that a cluster of physiological abnormalities, similar to metabolic syndrome, was induced by lack of exercise in these subjects. The physiological effects of exercise-deprivation included insulin resistance, impaired glucose uptake and hyperlipidemia. Previous studies also indicated that exercise alters muscle gene expression significantly. Thus, it has been proposed that active muscle might secrete one or more factors that mediate changes in gene expression, as well as downstream effects on physiological functions. One such factor could be IL-6. Klarlund tested this idea, and presented evidence that IL-6 mediates the beneficial effects of exercise on longevity. In particular, muscle contraction directly stimulates release of IL-6, which in turn stimulates sequential release of IL-1ra and IL-10 (Fig. 4), and trained muscle (i.e., muscle with low glycogen content) releases more IL-6 than untrained muscle (Pedersen and Fischer, 2007). In this model, it is clear that IL-6 is an anti-inflammatory signaling molecule, leading to increased lipolysis, increased glucose uptake and decreased inflammatory response (Pedersen,

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2007). In addition, circulating IL-6 stimulates both autocrine and paracrine responses in muscle and other tissues, respectively, and is involved in cross-talk and a possible feedback loop with TNF- α (Fig. 4). Because IL-6 has previously been reported to mediate pro-inflammatory responses and a high resting level of IL-6 has previously been associated with diabetes and inactivity, Klarlund's result is somewhat controversial. One possible explanation for this discrepancy is that sedentary individuals with a high resting level of IL-6 could display IL-6-resistance due to a dysfunction downstream in the IL-6 signaling pathway. Although IL-6 apparently mediates some of the physiological effects of exercise, other factors are likely to play a role in this process. These may include TNF- α , IL-18 and/or brain-derived neurotrophic factor (BDNF).

Recent plasticity of human mortality rates in old age

Rudi Westendorp, Leiden University Medical Center

Rudi Westendorp discussed factors that modulate human birth phenotype, adult phenotype, disease risk and longevity. Genetic factors clearly influence human life history and longevity; however, it appears that genetic determinants may have less dramatic effects on life span in humans than in experimental model systems. For example, in *C. elegans* cultured *in vitro*, mutations in the insulin/IGF1 pathway, such as Daf-2, can alter average life span by 6- to 10-fold. In contrast, studies of long-lived human siblings, and other studies of long-lived human cohorts, suggest that genetic factors have the capacity to extend human life span as much as, but not more than 30–40%. Many studies indicate that the environment in which humans live can have a dramatic effect on life expectancy. In this context, environment is a highly complex variable that includes physical, social, cultural, political and economic components. Thus, very strong period and cohort effects on human life span have been observed. In fact, over the last 400 years, human life expectancy on a global level has more than doubled (Fig. 2A). Furthermore, the local environment, as evidenced by period effects and cohort effects, can dramatically influence the life expectancy for individuals of a specific age in a specific country at a specific point-in-time (Oeppen and Vaupel, 2002) (Fig. 2B). To explain fluctuations in life expectancy associated with rapid economic growth and social change, it has been proposed that economic prosperity (on a population-wide level) is a strong driver of human health, disease risk and life span. When examined on a country-by-country basis, females from the Netherlands had a higher life expectancy at birth in 1980 than females from most other EU countries. However, from 1987 to 1999, females from France had a significantly higher life expectancy than females from the Netherlands or most other EU countries. Strikingly, the pattern of change in life expectancy varies significantly from one country to the next. Although mortality due to myocardial infarction and stroke has decreased over the last 15 years in the Netherlands, all-cause mortality has not decreased. The exact causes for these changes in life expectancy in specific populations are not currently known and remains a matter of debate.

An immodest proposal for a research on mechanisms underlying elite aging

George Martin, University of Washington

Referring to the fact that the performance of elite athletes such as marathon runners begins to decline at approximately age 30, George Martin (University of Washington) emphasized that the process of human aging actually begins in so-called "middle-age". This is consistent with the Biological Theory of Aging, which proposes that the process of aging reflects a time-dependent loss of homeostasis involving multiple integrated physiological systems (Martin, 2002). Martin argued that if aging-related functional decline begins in human middle-age, then it could be advantageous to define indicators of aging in this population, by carrying

out longitudinal studies of middle-aged sib-pairs. This approach has many advantages, including the low expected frequency of comorbidities in this population, a large pool of available subjects, high expected compliance, availability of subjects for long-term follow-up and access to pedigrees with three or four generations. Martin proposed carrying out extensive genome-wide association studies (GWAS) of middle-aged sib-pairs using sensitive, cost-effective, highly specific assays for well-defined phenotypes (*i.e.*, bone mineral density). Ultimately, such assays should also be fast and non-invasive. Such studies are likely to be less successful for more polygenic traits, and more successful for less polygenic traits. Nevertheless, such studies offer the possibility of identifying valuable markers of both normal and accelerated aging in diverse human subpopulations.

Common neurodegenerative diseases have common features

Barry Halliwell, National University of Singapore

Barry Halliwell (National University of Singapore) pointed out that common aging-associated neurodegenerative diseases including AD, Huntington's Disease and Parkinson's Disease share similar features, despite having distinct pathologies. These common features include mitochondrial dysfunction, accumulation of abnormal proteins, increased free radical damage and altered iron deposition. Based on these and other observations, Halliwell proposed that proteasome dysfunction could be a critical causal factor (and/or marker) for neurodegenerative disease (Halliwell, 2006). This is consistent with the observation that defects in the ubiquitin-proteasome system (*i.e.*, parkin and ubiquitin carboxy-terminal hydrolase 1) are linked to familial Parkinson's Disease. Proteasome dysfunction or overload can also be linked to oxidative stress, which has been proposed as a causal factor in aging-related disease and dysfunction. At the cellular level, proteasome inhibitors decreased cell survival and caused oxidative stress *in vitro*, and the toxic effects of proteasome inhibition can be ameliorated by overexpressing protein chaperones such as HSP22. This suggests that pharmacological use of proteasome inhibitors for cancer chemotherapy could have a risk of neurotoxic side-effects. On the other hand, agents that stimulate the proteasome could have neuroprotective effects. Because the genetic component of the common neurodegenerative diseases appears to be relatively small, future approaches to reduce incidence of neurodegenerative disease should focus on identifying potent environmental neurotoxins, developing improved methods for early diagnosis, and identifying neuroprotective approaches involving diet, lifestyle or novel pharmacological agents.

Multilevel imaging in the aged brain

Ole Petter Ottersen, University of Oslo

Ole Petter Ottersen (University of Oslo) demonstrated age and region-specific expression of DNA repair glycosylases in the mouse brain. Total DNA glycosylase activity for the oxidized pyrimidine lesion FAPY increased with age in all tested regions of the mouse brain; however, mOGG1, a glycosylase for 8-oxoguanine, showed a biphasic pattern of expression and expression of mNEIL3 decreased in the brains of older mice. These results suggest that base excision repair may be upregulated in brains of older mice as a neuroprotective mechanism. Deposition of β -amyloid was also examined by immunogold electron microscopy in the brains of 3X-Tg AD mice, a well-established mouse model for AD. Using three-dimensional reconstructions generated from immunogold-labeled brain sections, it was revealed that submicroscopic deposits of β -amyloid colocalize with and appear at approximately the same time as dystrophic neurons. Furthermore, β -amyloid deposits are tightly associated with plasma membrane domains of large caliber dendrites. Similar results were observed in the aged canine model for AD, suggesting that they are not an artifact of the transgenic mouse model. These results suggest that β -amyloid deposits have

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an intimate spatial relationship with large caliber dendrites, and that specific membrane domains of neural dendrites may facilitate amyloid deposition. This study reveals that high resolution immunogold electron microscopic analysis of pathology in transgenic mice can provide important insights into the pathological mechanisms of AD.

Segregation of protein aggregates during cytokinesis—Implications in aging and age-related disorders

Thomas Nyström, Göteborg University

Thomas Nyström (Göteborg University) used the budding yeast *Saccharomyces cerevisiae* as a model system to study cellular senescence and rejuvenation. Nyström described a Sir2- Hsp104-dependent mechanism by which damaged proteins segregate asymmetrically to the mother cell (Erjavec et al., 2007). This allows the daughter cell to have maximal replicative potential, and causes the replicative potential of the mother cell to decrease with each cell cycle. Nyström termed the process of sequestering damaged proteins in the mother cell “spatial protein quality control.” During cytokinesis, carbonylated proteins form aggregates that interact tightly with the actin cytoskeleton. Spatial protein quality control is defective in mutants lacking Sir2 or the protein chaperone, Hsp104. This suggests that Hsp104 binds and facilitates aggregation and association of oxidized proteins with the cytoskeleton. As expected, when spatial protein quality control is inhibited, the replicative potential of the mother cell decreases significantly (accelerated aging). Genetic screens for synthetic lethals with Sir2 identified protein components of the cytoskeleton and the polarisome. The process of spatial quality control is not unique to yeast, since similar observations were made in fission yeast *Schizosaccharomyces pombe* and in rat and *Drosophila* neural cells. Important future research questions include whether higher organisms utilize spatial protein quality control to dispose of damaged proteins in designated cellular “waste bins”; whether spatial protein quality control decreases with age in mammals; whether loss of spatial protein quality control plays a role in human neurodegenerative disease; and whether it is possible to promote spatial protein quality control in mammalian cells for therapeutic purposes by calorie restriction or with pharmacological agents.

Stochastic aspects of aging

Jan Vijg, Buck Institute for Age Research

Jan Vijg (Buck Institute for Aging Research) argued that aging has a large stochastic component, and that random spontaneous somatic mutation and epimutation are likely to play a role in aging and aging-related functional decline. Somatic mutation can be induced by DNA damage, a possible driver of aging, or it can accumulate spontaneously. Although DNA damage is reversible, mutations that are fixed at sites of DNA lesions are irreversible. Vijg showed tissue and age-dependent variation in spontaneous mutation frequencies in a reporter gene in the mouse. The mutation frequency increases significantly with age in small intestine, liver and heart, but remains fairly constant with age in spleen, testis and brain. In addition, the life span of fruit flies correlates inversely with spontaneous mutation rate, which varies as a function of ambient temperature in fly cages. Because a large proportion of the mouse genome is non-coding DNA, it was predicted that older mice would accumulate a significant load of mutations in gene regulatory regions. This prediction was tested by measuring the variance in expression of specific genes at the single cell level in young and old cardiomyocytes. The results indicate a significant increase in the variance of gene expression level in cells from older mice ($p \leq 0.01$) (Bahar et al., 2006).

The importance of lifespan, contextual approaches to cognitive epidemiology and dementia

Kaarin Anstey, Australian National University

Kaarin Anstey (Australian National University) emphasized a lifespan approach to understanding cognition and dementia, in which the entire life course is considered in a multigenerational and multi-faceted context. This approach recognizes that cognitive development over the life course is influenced by genetics, environment, culture, education, injury and disease, and that a normal life course includes both periods of cognitive growth and cognitive decline. Anstey reviewed common perceptions and misperceptions about three environmental factors that may influence cognitive function: smoking, alcohol and cholesterol. For smoking, laboratory and case-control studies document a short-term positive impact of smoking on cognitive function and potential protection from dementia. While these results were controversial, until recently, the long-term effects of smoking on cognitive function were not clearly documented. To address this question, Anstey and colleagues performed a meta-analysis of data from multiple prospective cohort studies on the impact on smoking on risk of vascular dementia and AD. The results showed that smoking correlates with increased risk of vascular dementia and AD (Relative risk = 1.78 and 1.79, respectively) (Anstey et al., 2007) While a number of studies document an “inverse U-” or “J”-shaped relationship between alcohol consumption and performance on short-term tests of cognitive function, the long-term effects of alcohol on cognitive function are not yet well-documented. Furthermore, although alcohol abstainers generally score lower on short-term measures of cognitive function than moderate drinkers, it is not clear whether this is due to a selection effect. Lastly, a systematic review was carried out of 18 prospective cohort studies on the influence of cholesterol on risk of dementia and AD. The results suggest no correlation between late-life total cholesterol and any dementia or cognitive decline; however, total cholesterol at mid-life increased risk of AD but not of vascular dementia or cognitive decline. Thus, total cholesterol may have a non-linear relationship with age and dementia risk and may differentially influence progression of different types of dementia (Anstey et al., 2008).

The Danish Aging Research Center

Kaare Christensen, University of Southern Denmark

Kaare Christensen (University of Southern Denmark) reported on recent studies carried out by the newly formed Danish Aging Research Center (DARC). One study examined the potential of leukocyte telomere length as a biomarker for risk of mortality. Previous studies reported that leukocyte telomere length decreases with age, is shorter in men than in women of a similar age, and is inversely correlated with risk of aging-associated disease. However, the relationship between telomere length and mortality was not well characterized. Here, leukocyte telomere length was measured in 273 twin pairs aged 73–94. Blood samples were collected in 1997, and mortality was studied through 2007. Deaths were reported in 204 twin pairs. The mean age at death was 78 for males and 79 for females. The study showed that the twin with the shorter telomere had a significantly higher risk of mortality than the twin with the longer telomere. Furthermore, the bigger the difference in telomere length, the bigger the difference of age at death. It is not yet known why telomere length correlates with mortality risk.

What matters for cognitive outcomes in later life: Time-related changes and pathology?

Boo Johansson, Göteborg University

Boo Johansson (Göteborg University) examined late-life memory and cognitive function within the framework of the Cascade Model of Cognitive Aging. This model suggests that aging can be subdivided into primary, secondary and tertiary aging subtypes (Birren and Cunningham, 1985). Primary aging is “normal” aging; secondary aging is associated with compromised health; and

Please cite this article in press as: Sander, M. et al., Aging—From molecules to populations. Mech. Ageing Dev. (2008), doi:10.1016/j.mad.2008.08.002

tertiary aging is associated with proximity to death. In normal aging, cognitive decline is limited to loss of fluid abilities, episodic memory and mental speed. Secondary aging involves loss of crystallized cognitive abilities, while tertiary aging involves pervasive loss of all cognitive functions (Fig. 5). There is substantial inter-individual variability in cognitive decline over the lifespan, where certain individuals remain high-functioning very late in life. Studies of non-demented mono- and di-zygotic twin pairs at ≥ 80 years old suggest that retention of cognitive function in late-life has a significant genetic component, possibly as high as 60%. Nevertheless, clinically diagnosed dementia occurs in approximately 50% of all individuals over the age of 95. Recent studies show that longitudinal analysis of performance on cognitive tests identify so-called “change points,” where the rate of decline in a specific function increases. These change points are predictive of future dementia from 6 to 15 years before onset of clinical disease. On the other hand, time from death is a better predictor of the overall trajectory of cognitive decline than time from birth. Neuroprotective factors that increase cognitive reserve and therefore counter-balance the risk of cognitive decline have been identified; these include education, mental-stimulating leisure activity, physical activity and social networks. Additional longitudinal studies of patterns of cognitive decline are needed to distinguish the effects of normal (primary aging) and pathological processes (secondary and tertiary aging) that impact cognitive decline in late-life and to identify possible neuroprotective factors and their mechanisms of action.

Life course influences on biomarkers in midlife? The Copenhagen Aging and Midlife Biobank

Kirsten Avlund, University of Copenhagen

Kirsten Avlund (University of Copenhagen) described progress on establishing and collecting data for the Copenhagen Aging and Midlife Biobank (CAMB), whose goal is to understand the impact of biological, cognitive and social variables on aging over the entire life course. This study will include subjects from subsets of the Metropolit Study (born 1953), the Copenhagen Perinatal Cohort (born 1959–1961) and The Danish Longitudinal Study on Work, Unemployment and Health (born 1949, 1959). Existing data on these cohorts is considered to be of high quality (*i.e.*, valid, accurate, reproducible) and the value of CAMB will be increased by selecting participants from all three cohorts. To expand the existing data on these cohort subsets, CAMB seeks to enroll at least 10,000 participants, from whom blood and DNA samples will be obtained, and who will be evaluated clinically. Clinical tests will include physical exam (*i.e.*, height, weight, waist size, blood pressure, grip strength, physical performance), cognitive testing and a questionnaire on health, health behavior, depression and social factors. An oral examination (number of teeth, caries, saliva, periodontitis) will be conducted on at least 3000 participants. Inflammatory and genetic markers will be evaluated in blood and DNA samples. Data collection will take place in 2009–2011. Particular emphasis has been placed on using standardized measurements of factors that are relevant to early signs of aging in middle-aged individuals. CAMB provides an outstanding opportunity to analyze the early life factors that influence aging in midlife. Further, the data set will support future studies on the importance of biological, cognitive and environmental factors on the rate and progression of aging-related functional and/or cognitive decline.

Impact of the death of spouse on the lives of Japanese men and women: Findings from a 20-year panel survey

Hiroko Akiyama, University of Tokyo

The marital relationship is one of the most influential and intricate dyadic relationships over the life course. The loss of spouse at old age after being married for many years affects every aspect of older persons' lives. To understand the impact of spousal

loss latent class analysis was performed on a 20-year panel survey from a national probability sample of 4869 Japanese aged 60+. This analysis identified long-term trajectories in four major domains of QOL (health, economic status, social relations and subjective well-being) before and after the death of spouse. Major findings were: (1) There were plural trajectories indicating differential impacts and adaptation among individuals; (2) the dominant pattern showed little impact of the loss; (3) most of the individuals who were affected by the loss, recovered to the pre-loss level within 3–5 years; (4) men, those who lost their spouses at late old age, and those who lived alone after the death of spouse, were more likely to experience negative impact; and (5) for men, negative impact was observed in subjective indicators (satisfaction with health, difficulty making ends meet, and life satisfaction) rather than objective indicators of QOL.

A life course approach to biological function

Rebecca Hardy, University College London

Epidemiological studies of aging increasingly include measures of function as well as disease status. Continuous and normally distributed measures of biological function, repeated over time, provide dynamic tools for studying the biological imprint of physical and social exposures. They allow comparative study of low- to high-functioning states, instead of exclusive study of diseased and/or disease-free states. Partial loss of function may be a sign of an underlying disease process, developmental defect, or premature aging. “Physical capability” is increasingly used to describe an individual's ability to perform the physical tasks of everyday living. Functional measures (such as grip strength and standing balance) that assess these capabilities often involve several body systems. Physical capability increases rapidly in early life stages, reach a peak or plateau in adult life, and then declines with age. The physical capability of an older individual depends both his/her peak capability and his/her rate of decline. Developmental factors influence the growth phase, while both developmental and late-life risk factors influence the rate of decline. Cardiovascular function (as indicated by such measures as blood pressure and carotid intima media thickness) strongly influences physical function, and is a marker of development, aging and disease processes. There is increasing evidence that arterial function reaches a peak around puberty and that clinically relevant atherosclerosis begins to appear after puberty.

The impact of childhood and adult socioeconomic position on indicators of incipient ageing in middle-aged men

Merete Osler, University of Copenhagen

Merete Osler (University of Copenhagen) analyzed the effect of social class in early and adult life on health and physical function in adult life. In particular, the influence of adult social class was examined using data from the Metropolit cohort (males born in Copenhagen in 1953) and a random sample of middle-aged Danish twins. In both cohorts, childhood and adult social class were associated with adult physical characteristics, including physical fitness (100 m run), dental health, self-rated health and fatigue. Although marital status, BMI and smoking also co-related with these outcomes, controlling for these variable did not eliminate the effect of social class. In male twin pairs, the twin with the lower social class had significantly poorer self-rated health and a higher level of fatigue. Interestingly, social class was the only statistically significant factor that appeared to influence ageing-related health outcomes in twin pairs concordant or discordant with respect to adult social class.

3. List of senior participants

Kaarin Anstey, Hiroko Akiyama, Kirsten Avlund, Vilhelm Bohr, Helle Bruunsgaard, Kirsten Caesar, Kåre Christensen, Ellen Garde,

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Tina Gottlieb, Barry Halliwell, Rebecca Hardy, Boo Johansson, Michael Kjær, Bente Klarlund, Hans Krokan, Martin Lauritzen, Becca Levy, Rikke Lund, George M. Martin, David Melzer, Erik Lykke Mortensen, Thomas Nyström, Merete Osler, Ole Petter Ottersen, Taina Rantanen, Marcus Richards, Miriam Sander, Tinna Stevnsner, Jan Vijg, Rudi Westendorp, Ulla Wewer.

of maximal walking speed and skeletal muscle characteristics in older women. *Twin Res. Hum. Genet.* 11, 321–334.
Zachau-Christiansen, B., 1972. *Development During the First Year of Life*. Poul Andersen Publishing House, Elsinore.

References

- Anstey, K.J., Lipnicki, D.M., Low, L.F., 2008. Cholesterol as a risk factor for dementia and cognitive decline: a systematic review of prospective studies with meta-analysis. *Am. J. Geriatr. Psychiatry* 16, 343–354.
- Anstey, K.J., von Sanden, C., Salim, A., O'Kearney, R., 2007. Smoking as a risk factor for dementia and cognitive decline: a meta-analysis of prospective studies. *Am. J. Epidemiol.* 166, 367–378.
- Bahar, R., Hartmann, C.H., Rodriguez, K.A., Denny, A.D., Busuttill, R.A., Dollé, M.E., Calder, R.B., Chisholm, G.B., Pollock, B.H., Klein, C.A., Vijg, J., 2006. Increased cell-to-cell variation in gene expression in ageing mouse heart. *Nature* 441, 1011–1014.
- Birren, J.E., Cunningham, W.R., 1985. Research on the psychology of aging: principles, concepts, and theory. In: Birren, J.E., Schaie, K.W. (Eds.), *Handbook of the Psychology of Aging*. van Nostrand Reinhold Company, New York.
- Christensen, U., Lund, R., Damsgaard, M.T., 2004. Cynical hostility, socioeconomic position, health behaviours and symptom load: a cross-sectional analysis in a Danish population-based study. *Psychosom. Med.* 66, 572–577.
- Erjavec, N., Larsson, L., Grantham, J., Nyström, T., 2007. Accelerated aging and failure to segregate damaged proteins in Sir2 mutants can be suppressed by over-producing the protein aggregation-remodeling factor Hsp104p. *Genes Dev.* 21, 2410–2421.
- Halliwell, B., 2006. Proteasomal dysfunction: a common feature of neurodegenerative diseases? Implications for the environmental origins of neurodegeneration. *Antioxid. Redox Signal.* 8, 2007–2019.
- Kuh, D., 2007. The New Dynamics of Ageing (NDA) Preparatory Network. A life course approach to healthy aging, frailty and capability. *J. Gerontol. Med. Sci.* 62A, 717–721.
- Martin, G.M., 2002. Help wanted: physiologists for research on aging. *Sci. Aging Knowl. Environ.* 9, vp2.
- Oeppen, J., Vaupel, J.W., 2002. Broken limits to life expectancy. *Science* 296, 1029–1031.
- Ortega-Alonso, A., Pedersen, N.L., Kujala, U.M., Sipilä, S., Törmäkangas, T., Kaprio, J., Koskenvuo, M., Rantanen, T., 2006. A twin study of the heritability of walking ability among older women. *J. Gerontol. Med. Sci.* 61, 1082–1085.
- Osler, M., Andersen, A.M., Lund, R., Batty, G.D., Hougaard, C.Ø., Damsgaard, M.T., Due, P., Holstein, B.E., 2004. Revitalising the Metropolit 1953 Danish male birth cohort: background, aims and design. *Paediatr. Perinat. Epidemiol.* 18, 385–394.
- Pedersen, B.K., 2007. IL-6 signalling in exercise and disease. *Biochem. Soc. Trans.* 35, 1295–1297.
- Pedersen, B.K., Fischer, C.P., 2007. Physiological roles of muscle-derived interleukin-6 in response to exercise. *Curr. Opin. Clin. Nutr. Metab. Care* 10, 265–271.
- Tiainen, K.M., Perola, M., Kovanen, V.M., Sipilä, S., Tuononen, K.A., Rikalainen, K., Kauppinen, M.A., Widen, E.L., Kaprio, J., Rantanen, T., Kujala, U.M., 2008. Genetics

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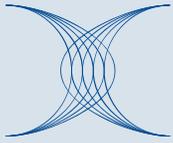
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4.1.7.1 Ageing, Longevity, and Health

Short update on Health Policy development

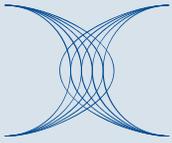
Prepared by Professor Sarah Harper (Oxford)

Universities involved: Copenhagen, Oxford, Tokyo, Peking, NUS, ANU

The collaboration is going well. We held a workshop in Oxford in January and another meeting in Singapore in June. Using Oxford funding, we have a research fellow (50% of time) working on a scoping study on Policy Challenges for Ageing Populations. This will take the 6 IARU countries we are working with – Denmark, UK, Japan, China, Singapore and Australia -- and examine the impact of different welfare regimes and different demographic projections on policy development for their ageing populations.

We will be reporting back early in 2009. We will be using the IARU funding as seed money for a far larger application to do a 6-country study. (For a variety of administrative reasons, we haven't been able to access IARU funding with ease, but we are working on it.) In addition, we have taken the methodology developed and have submitted a Wellcome Trust application in progress looking at policy challenges in two African countries.

Note from IARU Secretariat, the Presidents' committed funding up to USD 38 000 for an Oxford Project Management salary.



4.1.8 Energy, Resources and Environment Towards Sustainable Cities: Comparative International Study (update)

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the hosting of this workshop.

IARU ERE Demonstration Project

Project leads

Professor Kazuhiko Takeuchi	The University of Tokyo
Professor Keisuke Hanaki	The University of Tokyo
Professor John Porter	University of Copenhagen
Professor Anette Reenberg	University of Copenhagen
Professor Will Steffen	Australian National University
Dr. Rob Dyball	Australian National University
Dr. David Dumaresq	Australian National University

The University of Tokyo (Tokyo) Australian National University (ANU) and the University of Copenhagen (Copenhagen) have been developing an interdisciplinary partnership and research proposal as a demonstration pilot for a larger and broader IARU collaborative project within the Energy, Resources and Environment (ERE) theme.

The project is to develop operational frameworks for future IARU collaboration, as well as generate important research findings on the IARU priority topic entitled *Towards Sustainable Cities: A Comparative International Study*.

The research proposes three interlinked collaborative studies; *Low Carbon Cities* (lead by Tokyo), *Food Flows* (lead jointly by ANU and Copenhagen) and *Land Use and Ecosystem Function* (to be developed by Copenhagen and ANU).

Each university is responsible for their own research methodology, data analysis and reporting of the study that they are leading. Each university will also provide data on its home city as requested by the leads of each study.

At the Presidents' meeting in April 2008, the proposal was presented by Tokyo under agenda item 4.2.2.1 and presidents endorsed the continuation of the project and requested that a report be presented to the next Presidents' meeting in 2009.

It was also agreed that each IARU university would advise Tokyo of work that was taking place in this field of study. At this stage, no information has been provided to Tokyo other than that from Copenhagen and ANU, however, the three universities involved would welcome participation from other IARU members.

Funding has been made available by the Presidents for universities hosting workshops (USD 15 000). It is proposed that the USD 15 000 will be used collectively by Tokyo, ANU and Copenhagen for respective workshops on each sub-theme.

Progress update since the Presidents meeting

Low Carbon Cities Sub-Project

Tokyo drafted a format for data collection and sent it to Copenhagen and ANU on 17 September, taking into account results of the discussion at a Workshop held in Roskilde, Denmark. Data such as greenhouse gases emissions, energy and basic features of Copenhagen and Canberra regions are to be received by 15 October. Tokyo will analyse and collect further information by visiting Copenhagen and/or ANU and will prepare a report that compares the three cities. This report will be discussed at a Workshop in Tokyo, scheduled for **19-23 January 2009**.

Food Flows Sub-Project

ANU has scheduled its workshop for **15- 19 June, 2009**. This workshop will discuss any additional direction or activity beyond the first phase of the Food Flows project, including publications. It will also bring both the other sub-projects to a final draft stage (a preliminary revised plan for the Senior Officers' meeting will be generated at this stage)

Land Use and Ecosystem Function Sub-Project

The Copenhagen led “*Land Use*” sub-project is, as was always planned, further behind the other two – essentially only having a first scoping at the last workshop in Denmark. Copenhagen has asked that all delegates planning to attend the IARU Scientific Congress on Climate Change reserve two additional days to make further advances on the “Land Use” sub-project.

Project conclusion

A final Tokyo-led workshop will be required to finalise the overall report. This will be scheduled for either December 2009 or January 2010. There has been some discussion that this final workshop will be held in Singapore, hosted by Tokyo and NUS.

The project is planned to conclude with the 2010 Presidents’ meeting, although residual activity in writing and publishing the final report is expected to continue further into the year. It is, of course, anticipated that the project will have been a success, in which case a range of externally funded new projects will also have been scheduled.

Timeline of ERE Demonstration Project

Month	Activity
April 2008	Demonstration project proposal to Presidents’ meeting and its endorsement
Sep 2008	ERE Demonstration Project Workshop - hosted by Copenhagen
Oct 2008	Progress report to Senior Officers meeting
Jan 2009	Workshop on Low Carbon Cities Sub-Project, hosted by Tokyo
Mar 2009	World Congress on Climate Change (presentations in Sessions related) Workshop on ERE Demonstration Project
Apr 2009	Progress report to Presidents’ meeting
Jun 2009	Workshop on Food Flows Sub-Project, hosted by ANU
Sep 2009	Progress report to Senior Officers meeting
Dec-Jan 2010	ERE Demonstration Project Workshop hosted by Tokyo (and NUS) All threesub-projects completed. Preparation of a synthesis report “Roadmap for future collaboration”
Mar 2010	Workshop on ERE Demonstration Project in relation to biodiversity in Yokohama, Japan
Apr 2010	Report and proposals for future collaboration to Presidents’ meeting
2010-2014	Implementation of ERE across all IARU universities

Attachment 1

Draft Plan of the ERE Demonstration Project Workshop

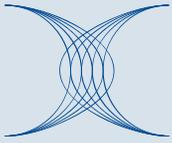
19 - 23 January 2009

The University of Tokyo (Tokyo, Japan)

Programme (draft)

- 19 Jan: Discussion on food flows and land use and ecosystem function of cities in relation to Low Carbon City DP
- 20 Jan Discussion on Low Carbon City DP
- 21 Jan Discussion on Low Carbon City DP
- 22 Jan Morning session: General Discussion, Conclusion
Afternoon session: Excursion (urban agricultural sites in suburban Tokyo)
- 23 Jan Excursion (Tsukiji fish market in Tokyo)

Note: Detailed programme and itinerary to be confirmed



4.1.9 IARU Security Project (progress report)

Note from IARU Secretariat, the Presidents' committed funding up to USD 15 000 for the further development of this project.

On 22 April 2008, the IARU Presidents Meeting endorsed a Regional Perspectives on Global Security Project as an IARU Global Change research project. In the six months since that endorsement, the Security Project has advanced its agendas in capacity-building, outreach and dissemination.

Capacity-Building

Security Project Managers have moved quickly to forge links with leading security think tanks.

Professor William Tow has been a Visiting Professor at Singapore's leading security studies centre, the S. Rajaratnam School of International Studies (July-October 2008) and while there has lectured to the Lee Kuan Yew School of Public Policy; the International Institute for Strategic Studies, Asia; and the Institute for Southeast Asian Studies (ISEAS). He lectured to the National University of Singapore's international relations Honours seminar and hosted a workshop on asymmetrical security with NUS Associate Professor Bilveer Singh at the NUS on 1 October (involving academic and government analysts from both Singapore and Australia).

Professor Rikki Kersten has intensified existing networks with Japanese university research centres and think tanks. Kersten and Tow have also worked with ANU's China Centre to strengthen links with the China Institutes for Contemporary International Relations (CICIR), Peking University's School of International Studies and other Chinese institutions. Both were involved in the Trilateral Strategic Dialogue (TSD) workshop funded by Australia's Department of Foreign Affairs and Trade (DFAT) that attracted U.S. Deputy Assistant Secretary of State Thomas Christensen as a keynote speaker.

DFAT has just awarded the Security Project \$A80000.00 to undertake further work on Australia-Japan security relations. Grant proposals have also been submitted to the Sasakawa Peace Foundation and (by invitation) to the MacArthur Foundation's Asia Security Initiative. ANU expects to host Professor T.J. Pempel from UC Berkeley during July-August 2009 as a Visiting Fellow.

The Security Project will convene a major workshop in Tokyo (April 2009) on human security and co-convene another workshop with the University of Copenhagen's Centre for Advanced Security Theory (CAST) in early May 2009. A full-time Project administrator was hired in the last week of June 2008.

Outreach

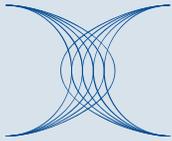
The IARU Security Project has intensified ties with both government and non-governmental organizations.

The asymmetrical security stream has interacted with the Australian Federal Police and its Singapore counterpart to explore transnational security problems in Southeast Asia. The Order-Building and Rising Powers stream has interacted with the Stockholm International Peace Research Institute (SIPRI) on a major project dealing with cross-comparing multilateralism in Europe and Asia. SIPRI is a designated major partner (along with the University of Tokyo) in the Sasakawa Peace Foundation grant proposal.

The human security stream is working with the University of Tokyo's human security studies centre and has applied for funding from the Japan Foundation. Network building also included a meeting with between Professor Kersten and Professor Akihiko Tanaka in September to explore how institutional linkages between ANU and Tokyo University could be broadened and deepened in the area of security studies. Project Manager Tow recently completed a Strategy Paper for the Australian Strategic Policy Institute (ASPI) that was reviewed by the DFAT and the Australian Department of Defence before it was released publicly.

Dissemination

The Security Project has established a separate website in conjunction with ANU/Griffith University's Centre of Excellence for Policing and Security (CEPS). Its first publication will be six papers emanating from the TSD workshop, appearing in the National Bureau of Asian Research's Asia Policy journal (January 2009). The IARU website on Global Security was also updated. Articles on the Asymmetrical Security workshop held in Singapore have been submitted for the CEPS Newsletter and the On Campus Newsletter of the ANU. Tow is co-editing a volume with ISEAS Singapore on India-ASEAN-Australia relations emanating from an IARU co-sponsored workshop in February 2009. China scholars from the ANU affiliated with CEPS recently testified before the U.S. House of Representatives.

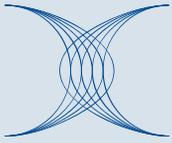


4.2 IARU financial status: IARU Financial Statement as at 30 September 2008

	USD
INCOME	
Members Contributions 2005	\$100,000.00
Members Contributions 2006	\$200,000.00
Members Contributions 2007	\$200,000.00
Members Contributions 2008	\$200,000.00
Total Income	\$700,000.00
EXPENDITURE	
Reimbursement to ETH Zurich for IARU Website	\$18,377.47
Printing and Publishing Costs	\$14,091.68
Stationery	\$18,000.00
Trademark registration	\$5,205.98
Bank Charges	\$60.18
Other	\$6,813.77
<u>Secretariat costs</u>	\$230,000.00
<i>2005 Secretariat salary contribution (USD 25, 000)</i>	
<i>2005 Secretariat travel (accommodation & airfares) (USD 5,000)</i>	
<i>2006 Secretariat salary contribution (USD 45, 000)</i>	
<i>2006 Secretariat travel (accommodation & airfares) (USD 15, 000)</i>	
<i>2007 Secretariat salary contribution (USD 45, 000)</i>	
<i>2007 Secretariat travel (accommodation & airfares) (USD 15, 000)</i>	
<i>2008 Secretariat salary contribution (USD 60, 000)</i>	
<i>2008 Secretariat travel (accommodation & airfares) (USD 20, 000)</i>	
<u>Meetings</u>	
Reimbursement to Yale for 2005 Senior Officer meeting	\$5,943.00
Reimbursement to NUS for 2006 IARU Presidents' meeting	\$23,750.74
Reimbursement to ETH Zurich for 2006 Senior Officer meeting	\$8,760.03
Reimbursement to ANU for 2007 IARU Presidents' meeting	\$32,579.05
Reimbursement to Todai for 2007 Senior Officer meeting	\$15,666.72
Reimbursement to ANU for 2008 GSP Workshop (Antwerp)	\$3,500.00
<u>Projects</u>	
Reimbursement to Cambridge for 2006 IARU Understanding women project	\$8,508.35
Reimbursement to Todai for ERE research proposal	\$3,629.41
Reimbursement to Cambridge for Security research proposal	\$1,925.25
Reimbursement to ANU for Security research proposal development (post 2008 President meeting)	\$15,000.00
Total Expenditure	\$411,811.62
Balance as at 30/09/2008	\$288,188.38

Please see next page for reimbursement commitments and additional funding committed by the Presidents' for 2008.

<i>Reimbursement Commitments 2008</i>	\$123,000.00
Copenhagen, ALH project lead attendance Snr Officer meeting (September 2007)	\$4,000.00
Cambridge, GSP Workshop (February 2008)	\$2,500.00
Yale, 2008 Presidents' meeting (April 2008)	\$42,000.00
NUS, Careers Professionals workshop (July 2008)	\$3,000.00
Berkeley, 2008 Senior Officer meeting (October 2008)	\$15,000.00
Berkeley, Sustainable Campus workshop (October 2008)	\$8,500.00
Berkeley, Women and Men in a Globalising University printed publication/online publication (development costs)	\$10,000.00
Oxford, Health Policy data collection/analysis (project management salary)	\$38,000.00
<i>Additional funding committed by the Presidents' for 2008 workshops</i>	\$75,000.00
Cambridge hosted Industrial Innovation workshop (April 2009)	up to \$15,000
Cambridge Research - led teaching workshop (February 2009)	up to \$15,000
Today Sustainable Cities workshop (TBA)	up to \$15,000
Copenhagen Global Citizenship workshop (TBA)	up to \$15,000
Women and Men in the Globalising University workshop (TBA)	up to \$15,000
Total Commitments	\$198,000.00
Available funds	\$90,188.38



4.3.1 Improving the participation and success of underrepresented student equity groups in higher education (proposal)

Proposed by Professor Marie Carroll

Direct, Student Equity, Educational Enhancement & Quality Assurance, ANU

Email: marie.carroll@anu.edu.au

A proposal for benchmarking in the student equity area - with particular focus on access to university by socially disadvantaged groups – if there is interest from IARU partners.

Background

The Australian Government's "Education Revolution" was a central platform of its election, and is central to its program of social inclusion. While the focus is on the school system, the higher education sector is now engaged more fully in how to improve the participation and success of underrepresented groups of the population in higher education, particularly students from economically and socially disadvantaged backgrounds. All of the elite research intensive universities in Australia have below average rates of participation by this equity group, a phenomenon common to research-intensive universities in the USA and the UK. The Australian National University has the lowest rate of participation by this equity group among the Group of Eight research intensive universities, partly due to the affluence of the catchment from which it draws its students.

In 2009 ANU will seek to build a more social inclusive student community by means of a major strategic shift in its focus. It will seek to build a partnership with two disadvantaged communities, to raise both awareness and aspirations about what higher education and the ANU can offer.

Confronting student inequalities in higher education requires confronting student inequalities in other education sectors. Thus, the long-term partnership will work with high schools and through them, the communities, and will have the following elements:

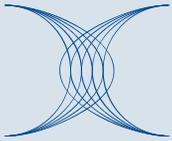
- Work with local schools at Years 9 & 10 or earlier
- Focus groups about expectations and aspirations with teachers, careers people, parents, and community leaders

- Training for teachers, current student volunteers, and careers people
- Engage current students as tutors for one semester (as volunteers). These students address academic and aspirational aspects, such as what are the obstacles and how to overcome
- Engage community organisations to offer scholarships and funding for transport to campus (e.g. Rotary)
- Local mentors using any local alumni
- Ensure all ANU College and DRSS equity initiatives are aligned
- Interactive websites
- Local school students undertake research projects (e.g homework room)
- Participation in hands-on on-campus activities
- Commonwealth Learning Scholarships- allocation to some from the intervention program
- “ring-fence” some places for these students
- Re-direct all Government equity funding (which is distributed as Student Equity Grants) to the project

Next steps

1. Share experiences The experience and advice of IARU universities is important to the ANU. Professor Carroll would be grateful if any IARU universities were willing to share their experiences in the student equity area (with particular focus on access to university by socially disadvantaged groups).
2. Establish a IARU Student Equity network If there were interest there is a unique opportunity for student equity professionals in IARU universities to form network (similar to the Career Professionals Network) to share ideas and knowledge.
3. Benchmark Student Equity Would IARU partners consider a benchmarking project in the student equity area? Benchmarking would raise the following and other questions:
 - Is this a common issue for IARU partners?
 - If so, what strategies do IARU partners use to attract disadvantaged groups?
 - Do partners have in place effective strategies for access to higher education (e.g. educational access schemes, accommodation and support scholarships, indigenous access programs)?

Possible Outcomes: How is the effectiveness of these schemes and programs measured?



4.3.2 ANU Alumni activities with IARU partner alumni (*information sharing*)

ANU-Yale Alumni Visit 4 – 12 August 2008

Objectives

1. To learn from the Association of Yale Alumni [AYA] with the staff at ANU who have particular Alumni Relations responsibilities for their area
2. To learn with a targeted select group of ANU Alumni who have understanding and knowledge of Alumni Relations and a demonstrated passion for ANU, in particular through a series of workshops addressing topics on Alumni Engagement.
3. To cement an understanding of Australia and Australia-US relations with a prominent group from America, and celebrate and cement the IARU connection further between Yale and ANU.

The Program

The AYA party comprised 64 people, 31 being graduates, the rest partners and families. All were hosted by ANU Alumni, the majority [38] staying in the homes of ANU Alumni and the rest who stayed in University House were hosted by ANU Alumni who met them, dined them, and ‘partnered’ them at events.

1. **The ANU Experience in Canberra [4 – 8 August]**

Three workshops on Alumni Engagement, a ‘Business Lunch’ on Yale case studies for local business/ community development organizations, two academic seminars, two receptions, a private tour of Parliament hosted by a Senator, an art exhibition and a Dinner, provided a showcase for ANU and for Canberra’s national institutions which provided venues.

2. **‘An Australian Bush Experience’ at the ANU Coastal Campus in Kioloa. [8 – 10 August]**

A ‘Welcome to Country’ with Smoking Ceremony by the Murramarang-Yuin clan, preceded 4 walking seminar tours

- local indigenous people around aboriginal middens
- an ANU academic on climate change, taken in a sand dune natural amphitheatre on the beach
- an ANU academic on ‘Food, fibre and medicine’, in the bush and on the beach
- the campus managers who talked about the Foundation.

In the evening an Aussie BBQ, Campfire and Bush Dance entertained the Yale and ANU visitors.

3. The grand finale in the Sydney Opera House [11 August]

Nearly 300 people including Yale and ANU graduates who live in Sydney joined their host the Vice-Chancellor, with the Chancellor and the US Ambassador, for a final celebration and farewell.

4. Follow up lunch on 23 October 2008

In addition to the above activity, the ANU Alumni Director will host a lunch with the Yale Alumni who visited ANU to:

- accept further feedback from AYA participants who came to ANU
- assess outcomes
- plan further activities using outcomes as a guide.

Outcomes

1. All objectives were at least partially met. Objective 1. ANU staff participation was disappointing especially at the workshop sessions. Against Objective 2. we had strong engagement with our alumni reference group [and to a lesser extent with our alumni home-stay hosts] which will form a good basis for further activity. Objective 3 was met beyond expectation. The seminars led by the Go8 CEO and ANU academics in Canberra and Kioloa were outstanding in terms of interest and response shown.
2. Student Activity: Initially the Yale Class of '49 has proposed to fund an ANU student to Yale University for 6 weeks to 3 months (suggested linking with IARU theme e.g. sustainability. The ANU Vice-Chancellor and President has agreed to match the gift for a Yale student to visit ANU. It is intended that the number of students will grow.
3. Gifts from the Association of Yale Alumni include:
 - the Friendship Cup, a symbol with a tradition-based script engraved on it, dated 6 August 2008
 - an Alumni Resource Book on volunteerism, based on case studies from the AYA participants.
4. Offer from Yale staff to include ANU Alumni in targeted US cities for future joint events and activities
5. A collaborative dialogue between the Capital Region Development Board and ANU on an alumni mentoring scheme and a Community Service scheme, inspired by the case studies given by Yale at the Business Luncheon section of the ANU-Yale Alumni Visit Program.
6. An eminent Professor at ANU [both an ANU and a Yale graduate], architect of the Australian HECS student loan scheme, has offered to convene a conference with a round table of expert economists to look at the controversial US student loan scheme which is not income-contingent like HECS.

Further Alumni Exchanges

The Following events are proposed inspired by the success of ANU – Yale Alumni event:

1. ANU-Berkeley Alumni Reception in San Francisco, 19 October 2008 at the St Francis Yacht Club, 5 – 7 pm.

(This is not in the same category as an intentional exchange, but it gives Alumni from both universities the opportunity to network and plan future activities.)

Objectives:

- To continue the Alumni Development of ANU in the Bay Area
- To promote cross-cultural understanding between Australia and the US through joint ANU-Berkeley activities

Program:

Within a two hour timeframe, meet Berkeley Alumni leaders, both professional and voluntary

- Meet with ANU Alumni who live in the US and seek to appoint an ongoing local voluntary coordinator
- Plot and plan future activities in the Bay Area, for joint ANU-Berkeley ongoing activities. These may include:
 - i. Networking for business, professional and social purposes
 - ii. Information sharing for newcomers [e.g. finding a job, a place to live, best restaurant options, etc.] via social networking [Web Community] or events or both
 - iii. Mentoring
 - iv. Support for Student Exchange between both universities

NB: Yale Alumni has expressed interest in joining ANU Alumni activities in the Bay Area as well.

2. ANU-Cambridge Visit 26 July – 1 August 2009 at Cambridge University

Proposal:

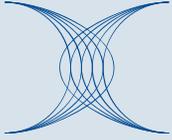
That ANU Alumni visit Cambridge University during its 800th Anniversary for a ‘Cambridge College Experience.’

- 70 ANU Alumni have signed ready for next stage of paying deposit
- Alumni Director will visit Cambridge from 27 – 30 October to explore:
 - i. The possible Program including tuition, excursions within and outside Cambridge, dinners and social occasions
 - ii. The extent of possible Cambridge Alumni involvement as hosts to the ANU Alumni

3. ANU-Oxford Alumni Weekend in Sydney or Melbourne, November 2009

Current proposal for the weekend is in abeyance pending further cultivation.

4. A return visit to Yale (hosted by the Association of Yale Alumni) by ANU Alumni in 2010 or 2011.



4.3.3 Capacity building case studies

This item is in follow up to last years Senior Officer discussions about Capacity Building where it was recommended interested IARU partners share experiences and case studies at the 2008 Senior Officer Meeting. The following case studies are tabled for your reference.

Capacity-building Programme Case study from NUS Education Train-the-Trainers Programme (ETTP)

1. Background

As a member of the ASEAN community, one of the ways to build up goodwill among the ASEAN countries and to reach out to a large constituency is through opinion-multipliers such as teachers and trainers, particularly to assist the newer and less developed members to integrate with the rest of the ASEAN community.

Between 2001 and 2006, the National University of Singapore (NUS) participated in the Education Train-the-Trainers Programme (ETTP), sponsored by the Singapore Ministry of Foreign Affairs (MFA) and operated through the Singapore Ministry of Education (MOE). Through this programme, university lecturers or trainers from the ASEAN member countries were attached to NUS to work with one of our teaching staff to understudy course development as well as observe our teaching practices.

This programme aimed to accelerate teacher and trainer development, with a view to contributing ultimately to economic and social development in the CLMV countries, namely Cambodia, Lao PDR, Myanmar and Vietnam. The ETTP can be seen as part of Singapore's overall efforts to help develop human resources in the neighbouring countries and to lay strong foundations for their economic and social development.

The programme also allowed our NUS lecturers/trainers to have a greater insight into the respective countries and systems, building further understanding and goodwill among the member states of ASEAN.

2. Implementation

The ETTP was administered as a G-G arrangement and was fully funded by Singapore MFA. Singapore MOE and the educational institutions, including NUS, worked in consultation with Singapore MFA's Technical Cooperation Directorate and Missions to shortlist the broad areas where Singapore could offer assistance in capability development.

Our Singapore overseas missions in the relevant countries also acted as focal points to disseminate information about the programme, handled queries and received applications, while serving as the sole point of contact with the foreign MFA in the CLMV countries.

Singapore MFA would forward the applications received to MOE and through MOE, the applications were sent to the respective tertiary institutions in Singapore for assessment.

Once approved, Singapore MFA would inform their overseas counterparts on the application status. Upon commencement of the attachment, the actual coordination of the attachment would be carried out by the institutions involved.

At the National University of Singapore (NUS), the International Relations Office (IRO) was the focal point and main driver of the programme. IRO worked with MFA and MOE for coordination and with the NUS faculties for the attachment programmes and logistics.

The trainers were attached to NUS for a period of a week to a month and would generally come to NUS between August to March the following year.

10 NUS faculties/ schools participated in this programme, namely Arts and Social Sciences, Business, Computing, Dentistry, Design and Environment, Engineering, Law, Lee Kuan School of Public Policy, Medicine and Science. The programme also attracted the participation of 1 research institute, Tropical Marine Science Institute (TMSI).

Some of the popular areas of attachment were:

- i. Social Science and Humanities (Political Science, International Relations, English/ Chinese Linguistics, Geography)
- ii. Design and Environment (Urban Planning)
- iii. Law (Civil, Intellectual Property, Taxation Law)
- iv. Computing
- v. Medicine and Dentistry

Between 2001 and 2006, a total of 86 trainers from the CLMV countries participated in the programme at NUS.

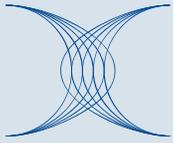
3. Conclusion

Through this programme, the CLMV trainers had a first-hand opportunity to witness Singapore's and NUS' growth and development, particularly in curriculum and academic development. The programme provided a platform for the CLMV countries to learn new techniques and knowledge to meet contemporary global educational standards.

It was also an excellent platform for NUS trainers to interact with fellow trainers from the CLMV countries, assisting them in their educational development and at the same time, enhancing Singapore's contribution to the ASEAN community.

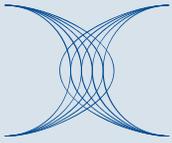
The programme was discontinued in 2006 when funding ceased.

Prepared by: Lee Puay York, International Relations Office
Revised: 25 June 2008

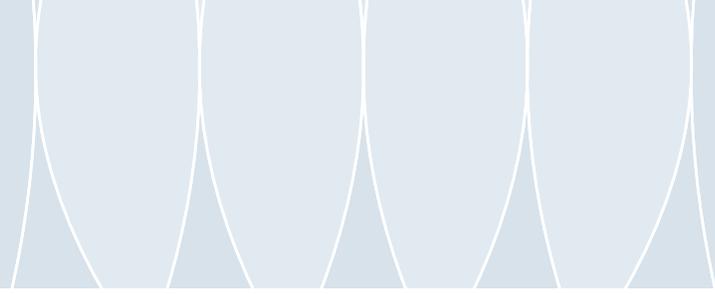


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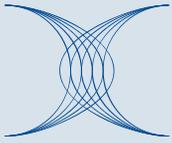
5. The value of IARU



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6. Campus Sustainability



6.1 Campus Sustainability

Workshop Objectives

The main aims of the workshop are:

- Identify a GHG emissions reduction target for energy emissions, based on regional issues and projected growth of the University. The target will be based on reductions to be achieved by 2020 against emission levels that would otherwise be reached if the University did nothing.
- Develop an agreed methodology for measuring and reporting progress against the established targets
- Examine options for measuring GHG emissions from other sources, in particular air miles, fleet miles, food miles and commute miles.
- Begin the development of a campus sustainability “tool kit” (eg. “building a carbon inventory”; establishing an environmental management program etc) that would be made available to all Universities via the IARU website.
- Identify opportunities to work together or exchange information on campus sustainability initiatives

Workshop Program

19 October 2008

Venue: Monterey Room, Claremont Resort and Spa

From 2.00pm – 5.00pm – Meetings to be held to discuss various issues various issues, with particular emphasis on 2009/2010 IARU Campus Sustainability Intern/Fellowship Program. Participation is optional (though delegates should confirm if they will be attending). The meetings will be useful for Universities who wish to participate in Program from 2009. Venue will be the Claremont Resort and Spa. The details of the meeting room will be provided in a package available when the delegates check in.

20 October 2008

Venue: Slusser Room, International House, UC Berkeley, (<http://ihouse.berkeley.edu/s/index.html>)

- 8.50am Guests to meet in the foyer, Claremont Resort and Spa
- 9.15am – 9.30am Welcome and Introductions by Professor Ian Chubb Chair, IARU. (Briefing on the expectations of Presidents)
- 9.30am – 12.30pm Case studies (What everyone is currently doing/Regional - Institutional priorities) / Discussion (Chair: Bart Meehan, ANU)
- Session objectives:** Build an understanding of the campus sustainability programs currently in place at IARU institutions, with specific emphasis on current GHG reduction goals and metrics in use.
- 12.30pm – 1.30pm (venue: Ida Sproul Room, International House, UC Berkeley (<http://ihouse.berkeley.edu/s/index.html>))
- 1.30pm – 3.00pm Establishing the targets, including review of targets currently agreed at IARU institutions. (Discussion on the individual targets being set by each University/ Development of a “joint” IARU approach) (Chair: TBA)
- Session objective:** Build a consensus on the targets that could be established by the IARU to reduce institutional impact. GHG reductions may vary across members, depending on past programs, current circumstances and growth predictions.
- 3.00pm – 4.00pm Developing the metrics and reporting (metrics for energy emissions) (Chair: TBA)
- Session objectives:** Build a consensus view on the type of metrics that will be used to measure GHG reductions as well as other environmental targets agreed by the group. Develop a reporting format for annual reports to IARU Presidents.
- 4.00pm – 5.00pm Expanding the targets to include other emissions sources in 2010 and beyond (eg. air travel, food miles, commuter miles etc) (Chair: Dr. Dominik Brem, ETH)
- Session objective:** Discussion on challenges in identifying and measuring the additional emissions sources and agreement on a timetable for inclusion (Target questions for the group: Who currently measures other emissions sources? Capacity to measure these emissions? What strategies are available for reducing/ offsetting these emissions?)
- 5.00pm – 5.30pm Summary of the day’s outcomes
- 5.30pm Guests to walk to dinner venue (20 minutes gentle downhill walk. There will be an option to be driven)

6.00pm – 8.00pm Dinner with Senior Officer's (venue: Great China Restaurant, 2115 Kittredge St, Berkeley)

8.00pm Guests returned to Claremont Resort and Spa

21 October 2008

Venue: Slusser Room, International House, UC Berkeley, (<http://ihouse.berkeley.edu/s/index.html>)

8.50am Guests to meet in the foyer, Claremont Resort and Spa

9.00am – 10.00am Expanding the targets to include other emissions sources in 2010 and beyond (eg. air travel, food miles, commuter miles etc) - Continuation of discussions from the previous day's session if needed (Chair: Dr. Dominik Brem, ETH)

Session objective : Discussion on challenges in identifying and measuring the additional emissions sources and agreement on a timetable for inclusion (Target questions for the group: Who currently measures other emissions sources? Capacity to measure these emissions? What strategies are available for reducing/offsetting emissions?)

10.00am – 11.00am Opportunities for academic assessment of the IARU approach to campus sustainability (Chair: UC Berkeley- Linda Neuhauser)

11.00am – 12.30am Developing a tool kit for campus sustainability eg. building a carbon inventory, developing low carbon campuses etc (Chair: Professor Tomonari Yashiro, Todai [UTokyo])

Session objectives: Discussion on the development of a campus sustainability tool kit to be available via the IARU website, for other institutions to use. Specific discussion on the format and process for developing carbon inventories. Identify individual sustainability programs/initiatives that would be suitable for application at other (non IARU) institutions.

12.30 pm – 1.30 pm Lunch (Venue: Bancroft Hotel)

1.30pm – 2.30pm Networking and collaboration opportunities (Chair: Dr Julie Newman, Yale University)

Session objectives: Identify opportunities for various member institutions to collaborate/information exchange on campus sustainability initiatives, including opportunities for regional programs and developing strategies for dealing with broader environmental issues such as water conservation, biodiversity management, environmental risk/pollution control etc? (Chair: Dr Julie Newman, Yale University)

- 2.30pm - 3.00pm Summary of workshop outcomes and next steps
- 3.15pm Guests returned to the Claremont Resort and Spa
- 5.20pm Guests to meet in the foyer, Claremont Resort and Spa
- 6.00pm – 8.00pm Dinner (Scott’s Restaurant, Jack London Square, Oakland)
- 8.00pm Guests returned to Claremont Resort and Spa
- (Transport to and from the hotel to the workshop venue will be arranged and advice provided with your delegate information on check in.)

Workshop Delegate List

Australian National University	Bart Meehan John Sullivan
ETH Zurich	Dominik Brem
National University of Singapore	Joe Mullinix Lina Goh
Peking University	Bin Lu Xia Xudong
University of California, Berkeley	Lisa McNeilly Linda Neuhauser Ed Denton Nathan Brostrom Judy Chess
University of Cambridge	Martin Whiteland Michael Bienias
University of Copenhagen	Hans Halvorsen
The University of Tokyo	Tomonari Yashiro
Yale University	Julie Newman

To: IARU Campus Sustainability workshop delegates

From: Bart Meehan

Sent: Saturday, 11 October 2008 6:07 PM

Subject: Discussion Paper - IARU Toolkit

Dear colleagues,

One of the objectives set by the Presidents at the Yale meet was for us to develop an IARU toolkit for use by other Universities. The intent was to document our progress as we collectively established our own programs - and to record best practice approaches to environmental efficiency as “tools’ within the toolkit.

Our colleagues at the University of Copenhagen were asked to put together a discuss paper that would further this goal. I have attached a version of this paper, which includes feedback from ANU and Yale.

It is important to stress that this is merely a mechanism to start our discussions at the Berkeley workshop. The final format of the IARU toolkit may be very different from the one outlined here - though I believe that we need to have a structure that establishes a familiar governance arrangement and promotes a holistic (broad ranging) campus environmental program

Our discussion should look at tools that are truly innovative and methodologies for measuring and reporting (within our own campus communities and to the broad global community) that can be translated across regional boundaries. Certainly this is no small task and consequently, I believe that our time allocated to this goal at Berkeley should be focused on agreeing on the format of a toolkit (including an appropriate web presence) and then a more detailed discussion of the development of a greenhouse emissions tool.

We should be able to use the discussions from sessions (including the “case studies” and academic assessment sessions) to inform this discussion. Hence, as we progress through the workshop, we should keep this objective in mind.

The chair for this session is Professor Tomonari Yashiro, University of Tokyo. Tomonari has asked that delegates introduce and/or propose other “tool kits” that we might be able to share, either in by email prior to the workshop or, as we are running out of time, when you get to Berkeley.

I look forward to catching up with you all in few days time.

Cheers, Bart

Bart Meehan

Associate Director (Business and Site Services)

Facilities and Services

The Australian National University

Ph 6125 4148

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Creating a Green University – IARU Campus Sustainability Toolkit Discussion Paper

Introduction

At the Presidents' meeting of the International Alliance of Research Universities (IARU), held at Yale University in April 2008, it was agreed:

- Development of a greenhouse emissions reduction strategy for IARU, which includes targets that are consistent with individual institutional growth projections and environmental goals.
- Development of an appropriate reporting regime for recording environmental impact and performance against targets.
- **Development of a “tool kit” on campus sustainability that can be used by other Universities.**
- Exchange information on current initiatives and identify opportunities for networking/exchange.

This paper was originally developed by the University of Copenhagen and includes feedback provided by Yale University and ANU. The paper is designed to facilitate discussion amongst IARU representatives at the Campus Sustainability Workshop being held at UC Berkeley in October 2008. It suggests an approach for developing an IARU Campus Sustainability Tool Kit which, once finalised, would be made available for use by other Universities.

IARU Toolkit – Foundation Principles

The underlying foundation of the tool kit is the joint experiences of IARU members in establishing their own campus sustainability programs. It is not meant to be prescriptive, or indeed, comprehensive. Rather the tool kit is a first step for any University wanting to undertake the sustainability journey. It provides a template that has worked for the IARU and helps users to set a direction that suits their own organisation.

The intent of the tool kit is to develop a campus sustainability program that fosters institutional and community changes. It is based on principles that include:

- Mainstreaming of environmental issues into the normal University decision making process.
- Developing programs that are holistic – that is, consider the environmental impacts are all levels of the institution.
- Developing comprehensive data records so that the environmental impacts can be better understood, measured and improved.

- Integrating environmental projects between the operational and the academic, wherever possible.
- Building a community that is responsive to the changes necessary to be sustainable
- Establishing an organisational culture that values environmental improvements in the same way as they value financial and social goals.

Format of the IARU toolkit

This section outlines a possible format for the IARU toolkit. The ideas presented are for discussion with delegates at the Campus Sustainability Workshop and the intent is for that discussion to form a joint agreement on the form of a toolkit which will be made available via the web and will be published at www.iaru.org.

No two Universities are exactly alike and the development of campus sustainability programs will inevitably reflect institutional and regional issues/priorities. Therefore, an effective toolkit must be broadly designed and promote discussion that encourages organisations to reflect on its total environmental impact. It then needs to present examples of governance structures and programs that have been successful in influencing institutional and individual behaviour.

As a point for discussion, this paper proposes that the IARU toolkit be built from 7 components. These steps represent the synthesis of what the IARU universities have been doing.

In this form, the approach necessarily simple. The complexity that we know underlies sustainability, will be reflected in the next levels, where more detailed governance structures, reporting formats and metrics formulas will be provided, both as input from IARU members and within the case studies provided by members.

The components are:

1. Mapping current situation

A key component in developing an effective campus sustainability program is to assess the current environmental arrangement on campus. This includes identifying current resources and funding being invested in campus environmental management as well as , finding any programs that may have been established at local levels. These may present opportunities to integrate existing activities into a corporate program and build on the early success of departments and students.

2. Measuring environmental impacts

It is necessary to identify all key activities that impact on the University environmental footprint and establish measures to determine the level of that impact. These data will be critical in identifying the critical areas and building strategies to improve environmental performance.

3. Integrating campus activities

There are significant benefits in integrating campus activities – effectively taking an holistic approach to campus sustainability. Examples of this would include: building a relationship with contract staff to ensure that they assist in achieving environmental goals (cleaners turning off lights; maintenance contractors identifying poor environmental practices on campus etc); establishing environmental projects that allow campus operational staff to collaborate with academics working in the sustainability areas (using technology developed by the University in University operations; operational staff participating in teaching activities); working with student bodies on campus sustainability projects (establishing fellowships/internships; supporting specific student programs)

4. Determining goals and a strategy for the process

There needs to be an underlying policy framework that articulates the University's overall commitment to environmental improvement and leadership. This policy should then be extended into a plan or plans that identify goals/targets to be met by the University as well as providing direction on how these goals will be achieved (eg. a series of projects that are directly linked to achieving the environmental targets)

5. Promoting the concept of “going green” to the management, employees and students

Campus sustainability needs mechanisms for developing a change management culture that drives organisational and behavioural change. The policy and planning framework mentioned in step 4, provides a foundation for this change. However, the University needs to identify those issues that may actually be blocking any meaningful changes. For example, environmental infrastructure (recycling bins, air conditioning controls; reporting procedures of environmental problems) must be easy to use and procedures well understood by the community. The community also needs to understand the environmental impact of individual and corporate decisions and how alternative decisions would substantially improve that performance. Various mechanisms can be established for promoting campus sustainability and building this awareness amongst the community. These include hardcopy and electronic media (posters; websites; published papers etc) and locally managed programs that involve staff and/or students in improving their areas' environmental performance (eg. Green Office Program, Green Labs; Residential Hall Environmental Committee etc)

6. Creating an organization to undertake the process

There needs to be an appropriate management and governance structure is established to oversee the implementation of the campus environmental management strategy. Models can vary depending on the organisational structure.

7. Education and Awareness

An informed and ecologically literate campus community will drive institutional change. The intent here is to build from making community members aware of environmental issues to educating them about how they can influence environmental performance through behavioural change. A literate community also understands the holistic nature of environmental issues and therefore,

the variety impacts that come from simple decisions related to purchase, travel, technology and personal comfort. The strategies for developing an aware and ultimately educated community might include:

- Staging of community activities (eg. sustainability fairs, swap meets, celebrate sustainability days; ride or bus to work days etc)
- Including sustainability briefings in induction programs
- Formal education programs for staff (ranging from function specific workshops for groups such as purchasing officers, finance officers and fleet/travel managers to post graduate studies in campus sustainability)
- Student learning communities
- Public reporting on University environmental performance and achievement against goals

In developing the web site, each component in the tool kit agreed by the delegates would be accompanied by relevant case studies and/or documentation from the IARU member institutions.

The web site would also include a contact email address – allowing other Universities to liaise with IARU (and ultimately specific members) on campus sustainability issues.

Greenhouse Emissions Tool

In addition to agreeing on the form of an IARU Toolkit, delegates will also be asked to consider the specific form of a tool to assist Universities in developing a greenhouse emissions reduction program.

This paper proposes that the two key elements of this tool are:

- Templates for developing a greenhouse emissions inventory
- Options for standardising greenhouse emissions calculators

Our colleagues from Cambridge University have provided a survey template which could be used as a first step in the preparation of an inventory. A copy of this is attached as Attachment 1.

Attachment 2 is a discussion paper prepared by Jennifer Zhu, an ANU student and IARU Fellowship winner who worked with Yale University in 2007. The paper discusses issues associated with standardising greenhouse calculators and is a good basis for discussion on this topic.

Separate examples of greenhouse inventories from IARU members will also be made available at the workshop, for discussion. As part of the final development of this tool, examples of inventories (without institutional details) may be made available to assist others.

Next steps

The IARU Presidents agreed that toolkit for Campus Sustainability would be developed by January 2009 and would be launched online at the IARU Climate Change Congress being held at the University of Copenhagen in March 2009, as part of the concurrent **Creating Green Universities** stream. (See following section for additional information on this event)

To achieve this goal, a session on developing a toolkit has been included in the IARU Campus Sustainability Workshop being held at UC Berkeley in October 2008. This paper will be used to stimulate discussion and the final format of the toolkit and the greenhouse emissions tool, will be developed based on that feed back.

The University of Copenhagen and ANU will coordinate the drafting of the final paper and the development of the website, with final sign off from IARU members by 10 February 2009.

IARU Climate Change Congress

University of Copenhagen, March 2009

IARU is hosting the International Scientific Congress on Climate Change, Global Risks, Challenges & Decisions, to be held in Copenhagen 10-12 March 2009. A stream called "Creating Green Universities" is planned as a concurrent workshop at the congress. This congress is open to all Universities (not only IARU members) and session will be open to participants from all Universities attending the congress

Content of workshop at Congress in March 2009

A 3 hour workshop 12 March in Bella Centre, Copenhagen. The draft programme follows (and will be developed further in coming months):

Part 1: Creating Green Universities

- Introductory presentations : University of British Colombia and Costa Rica Earth University
- Creating Green Universities: Presentation and Participatory Discussion Panel: Australian National University (Bart Meehan), Yale University (Julie Newman) and University of Copenhagen (Claus Ravn)
- Launching of IARU internet based Tool Kit.

Part 2: Parallel activities at the event

- Debate: The value of "going green"
- Tryout and evaluation of the IARU Toolkit
- Tasting CO2 neutral meal/food, e.g. molecular gastronomy
- Presentation of the prototype of an electric racing car.

It is currently planned that the workshop will take place at a promotion stand in Bella Centre e.g. 50 X 50 meters. The participants are mainly expected to be green officers from universities as well as scientists in the Climate Change Congress, press/media people and greening companies. Approximately 100 participants.

In addition to the workshop, a number of side events are planned. These include:

- Visits to companies in the "greening" industry and associated networking sessions.
- Presentation about and visit to Green Light House (CO2 neutral building at the University of Copenhagen under construction)
- Presentation by University of Copenhagen on sustainable physical planning of campus areas
- Presentations from the City of Copenhagen on environmental issues related to the conversions of Copenhagen North Harbour and Carlsbergs "Our Town" to sustainable cities. Possible field visits to these locations.

IARU Global Sustainability Index – Emissions Baseline Data Collection Form

Institution	
Reporting Period	
Person Completing Form	
Address	
E-mail	
Tel	
Fax	

Table 1: Institutional Data

ESTATE DETAILS ⁽¹⁾	Units	Residential	Non-residential	Total	Comment
Number of Staff ⁽²⁾					
Total number of Staff					
Number of Students ⁽³⁾					
Number of undergraduate students					
Number of graduate students					
Total number of students					
Size of the University Estate					
Gross Internal Floor Area ⁽⁴⁾					
Net Internal Floor Area ⁽⁵⁾					
Other measurement ⁽⁶⁾					

Table 2: Emission Sources

EMISSION SOURCES (BUILDINGS) ⁽⁷⁾	Units	Residential	Non-residential	Total	Comment
Energy ⁽⁸⁾					
Electricity from National Network ⁽⁹⁾					
Natural Gas					
LPG					
Gas Oil					
Heavy Fuel Oil					
Coal					
Energy from Third Parties ⁽¹⁰⁾					
Renewable Energy generated on site ⁽¹¹⁾					
Other (please specify)					
Total Energy usage ⁽¹²⁾					
Water ⁽¹³⁾					
Metered fresh water					
Other (please specify)					

EMISSION SOURCES ^(OTHER)	Units	Residential	Non-residential	Total	Comment
Transport ⁽¹⁴⁾					
Site Vehicles / Pool cars					
Private cars					
Hire cars					
Motorcycles					
Vans / Minibuses					
Local Buses					
Long Distance Coaches					
Air Travel - Short Haul					
Air Travel - Long Haul					

EMISSION SOURCES ^(OTHER)	Units	Residential	Non-residential	Total	Comment
Trains					
Boats					
Delivery vehicles					
Other (please specify)					
Waste (15)					
Waste to landfill					
Waste incinerated					
Waste incinerated with energy recovery					
Waste recycled					
Other (please specify)					
Miscellaneous					
Farm Animals (16)					
Other (please specify) (17)					

Table 3: Conversion Factors

CONVERSION FACTORS ⁽¹⁸⁾	Unit	Conversion Factor	Comment
Energy			
Electricity from National Network ⁽¹⁹⁾			
Natural Gas			
LPG			
Gas Oil			
Heavy Fuel Oil			
Coal			
Energy from Third Parties ⁽²⁰⁾			
Renewable Energy generated on site ⁽²¹⁾			
Other (please specify)			
Water ⁽²²⁾			
Metered fresh water			
Other (please specify)			
Transport ⁽²³⁾			
Site Vehicles / Pool cars			
Private cars			
Hire cars			
Motorcycles			
Vans / Minibuses			
Local Buses			
Long Distance Coaches			
Air Travel - Short Haul			
Air Travel - Long Haul			
Trains			
Boats			
Delivery vehicles			

CONVERSION FACTORS ⁽¹⁸⁾	Unit	Conversion Factor	Comment
Other (please specify)			
Waste ⁽²⁴⁾			
Waste to landfill			
Waste incinerated			
Waste incinerated with energy recovery			
Waste recycled			
Other (please specify)			
Miscellaneous			
Farm Animals ⁽²⁵⁾			
Other (please specify) ⁽²⁶⁾			

Table 4: Emissions

CO2 EMISSIONS	Units	Residential	Non-residential	Total	Comment
Buildings					
CO2 emissions from Buildings ^(Total)					
CO2 emissions from Buildings (per m2)					
CO2 emissions from Buildings (per student)					
Other Sources					
CO2 emissions from Other Sources (Total)					
CO2 emissions from Other Sources (per m2)					
CO2 emissions from Other Sources (per student)					

Table 5: Notes

1	Where possible, data should be sub-divided to reflect the residential and non-residential estate. The figure for the whole estate should equal the sum for the residential and non-residential parts of the estate. Collegiate Universities may not have access to suitable figures relating to student accommodation in colleges and should include only figures relating to the non-residential estate (i.e. academic & administration).
2	Where possible, please show Full Time Equivalent (FTE) staff. Non-residential staff should include all academic, research, support, administrative and technical staff. Residential staff should include any staff whose primary function is associated with student residences and who are not otherwise included in the figure supplied for the non-residential staff. If an alternative measure to FTE is used please indicate units.
3	Where possible, please show the number of full-time equivalent (FTE) students. The data should be sub-divided to show the number of under-graduate and post graduate. The total should equal the sum of the under-graduate and post graduate students. Include figures for further education students but exclude figures for distance learning and franchise. If an alternative measure to FTE please indicate units.
4	Where possible, floor area should be shown as Gross Internal Floor Area (GIA) converted to square metres (m ²). If an alternative measure to m ² is used please indicate units. GIA includes the total area of buildings owned or occupied or maintained by the institution measured to the internal face of the perimeter walls at each floor level (i.e. the footprint of the building excluding the width of the outside walls). It includes areas occupied by internal areas and partitions. If floor area data is not available to this definition then please provide a figure which matches this as closely as possible and provide an explanation of what has been included in the floor area figure.
5	If GIA figures are not available please indicated Nett Internal Floor Area (NIA) converted to square metres (m ²). If an alternative measure to m ² is used please indicate units. Net Internal Area is the usable area within a building measured to the internal face of the perimeter walls at each floor level. NIA covers all areas which are used for a specific purpose. It does not include those parts of buildings which enable them to function, i.e. 'balance areas.
6	Where neither GIA nor NIA estimates are available please indicate other metric relating to the size of the University Estate, indicating units used.
7	Please indicate any data on CO ₂ emission sources associated with buildings that your institution collects. Please provide accurate data or reliable estimates where accurate data is unavailable. For any emission sources where accurate data or reliable estimates do not exist please indicate N/A (not available).
8	Where possible, energy consumption data (oil, gas, electricity, coal, steam/hot water, etc) should be converted to kilowatt-hours (kWh). If an alternative measure to kWh is used please indicate units.
9	This is the amount of electricity provided to the University by electricity suppliers. It should exclude <u>any</u> electricity generated on site.

10	This is to account for any energy which is generated locally but not under the direct control of the university and therefore the fuel input has not been accounted for elsewhere in this submission. For example, a university may benefit from energy supplied by a Combined Heat & Power unit which is owned/operated by an independent contractor or shared with a neighbouring organisation, such as a college or a teaching hospital, etc.
11	Please indicate the amount of low carbon energy generated locally from Renewable Energy sources, most likely to include; Wind, Solar PV/Thermal or Biomass, but may include other technologies (please specify):
12	The total energy usage is the sum of all the operational energy associated with buildings. It does not include any assessment of embodied energy associated with construction materials.
13	Metered fresh water consumption data should be converted to cubic metres (m ³). If an alternative measure to m ³ is used please indicate units.
14	Where available, please indicate any accurate data or reliable estimates related to travel and transport at work converted to kilometres. If an alternative measure to kilometres is used please indicate units. For any travel or transport mode for which accurate data or reliable estimates do not exist please indicate N/A (not available). Alternatively, data relating to the amount of fuel used in connection with transport can be accepted.
15	Where available, please indicate any accurate data or reliable estimates related to waste disposal and recycling converted to metric tonnes. If an alternative measure to metric tonnes is used please indicate units. For any waste streams for which accurate data or reliable estimates do not exist please indicate N/A (not available)
16	Please indicate any emission sources from farm animals on University agricultural facilities, for example dairy / beef herds or sheep shown as head. . If an alternative measure to head is used please indicate units.
17	Please indicate any other emission sources not mentioned elsewhere and state measurement units used.
18	Please indicate any nationally or regionally accepted conversion factors to convert emission sources into carbon dioxide (CO ₂). Please specify the source of the conversion factor. Where there is no known appropriate factor please use the conversion factors listed in Annex A.
19	The conversion factor used to estimate CO ₂ emissions associated with electricity supplied from the national network is based on the generating mix relevant to that university/country (i.e. proportion of coal, oil, gas, nuclear, hydro, renewables, etc). The UK value issued by the DEFRA is 0.43 kg/kWh, which is applicable to the UK only. The figure will vary significantly internationally depending on the fuel mix in individual countries. To enable comparison between international universities please indicate the appropriate conversion factor based on your national / regional situation. If there are no national or regional conversion factors, please use the UK factors shown in Annex A

20	To avoid double counting, the emissions factor for energy from third parties type of energy should only relate to energy used by the university and generated from sources not accounted for elsewhere in this submission.
21	It is recognised that all forms of energy generation have some carbon emissions associated with them over their life cycle, mainly due to their manufacturing process, or fuel transportation in the case of biomass. However, such emissions from renewable energy are considered to be outside the scope of this survey.
22	Please indicate any nationally or regionally accepted conversion factors to convert water treatment and distribution emissions (e.g. pumping, filtration, disinfection) emission sources into carbon dioxide (CO ₂) equivalent. Please specify the source of the conversion factor.
23	Please indicate any nationally or regionally accepted conversion factors to convert travel and transport (e.g. car, train, bus, air travel) emission sources into carbon dioxide (CO ₂) equivalent. Please specify the source of the conversion factor.
24	Please indicate any nationally or regionally accepted conversion factors to convert waste management emissions sources (e.g. methane emissions from landfill) into carbon dioxide (CO ₂) equivalent. Please specify the source of the conversion factor.
25	Please indicate any nationally or regionally accepted conversion factors to convert farm animal emissions sources (e.g. beef / dairy cattle, sheep) into carbon dioxide (CO ₂) equivalent. Please specify the source of the conversion factor.
26	Please indicate any nationally or regionally accepted conversion factors to convert any other identified emission sources not mentioned earlier into carbon dioxide (CO ₂) equivalent. Please specify the source of the conversion factor.

Annex A: UK Carbon Dioxide Conversion factors

Fuel Type	Units	kg CO2 per unit	Source
Grid Electricity ¹	kWh	x 0.43	DEFRA (UK)
Natural Gas	kWh therms	x 0.19 x 5.43	DEFRA (UK)
Gas Oil	tonnes kWh litres	3190 0.25 2.69	DEFRA (UK)
Diesel	tonnes kWh litre	3164 0.25 2.63	DEFRA (UK)
Petrol	tonnes kWh litres	3135 0.24 2.30	DEFRA (UK)
Fuel Oil	tonnes kWh	3223 0.27	DEFRA (UK)

Fuel Type	Units	kg CO2 per unit	Source
Coal ²	tonnes	2548	DEFRA (UK)
	kWh	0.32	
LPG	tonnes	0.214	DEFRA (UK)
	kWh	6.27	
	litres	1.49	
Renewables ³	kWh	0.0	DEFRA (UK)
Transport			
Small petrol car >1.4 litres	miles	0.26	DEFRA (UK)
	kilometers	0.16	
Medium petrol car 1.4 - 2.1 litres	miles	0.30	DEFRA (UK)
	kilometers	0.19	
Large petrol car > 2.1 litres	miles	0.35	DEFRA (UK)
	kilometers	0.22	
Average petrol car	miles	0.29	DEFRA (UK)
	kilometers	0.18	
Small diesel car >2.0 litres	miles	0.26	DEFRA (UK)
	kilometers	0.16	
Large diesel car <2.0 litres	miles	0.31	DEFRA (UK)
	kilometers	0.19	
Average diesel car	miles	0.27	DEFRA (UK)
	kilometers	0.17	
Rail	person / kms	0.04	DEFRA (UK)
Air - Long Haul	person / kms	0.11	DEFRA (UK)
Air - Short Haul	person / kms	0.15	DEFRA (UK)
Other			
Water	m ³	0.21	
Dairy cattle	head / year	2100	IPCC
Non-dairy cattle	head / year	1008	IPCC
Sheep	head / year	168	IPCC
Horses	head / year	378	IPCC
Goats	head / year	105	IPCC

Source: Based on the National Atmospheric Emissions Inventory for 2003 and the UK Greenhouse Gas Inventory for 2003 developed by Netcen (2005), Digest of UK Energy Statistics DTI 2004

- 1 The factor for electricity has been changed slightly from the previous guidelines to come into line with calculations for the Climate Change Levy Agreements and future requirements for Emissions Trading. It was calculated on the projected fuel mix for the grid 1998-2000. Actual figures may differ from the projections, but to help with year on year comparisons we plan to use a constant value for the purposes of these Guidelines until the year 2010.
- 2 Average emission factor for coal used in sources other than power stations and domestic, i.e. industry sources including collieries, Iron & Steel, Autogeneration, Cement production, Lime production, Other industry, Miscellaneous, Public Sector, Stationary combustion - railways and Agriculture. Users who wish to use coal factors for types of coal used in specific industry applications should use the factors given in the UKETS.

References

DEFRA: Guidelines for Company Reporting on Greenhouse Gas Emissions, UK Department of Environment, Food and Rural: July 2005:

<http://www.defra.gov.uk/environment/business/envrp/gas/envrpgas-annexes.pdf>

IPCC: Intergovernmental Panel on Climate Change, Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories Workbook (Volume 2) Agriculture:

<http://www.ipcc-nggip.iges.or.jp/public/gl/invs5c.htm>

Standardising Greenhouse Calculators

Jennifer Zhu, ANU Green/Yale Office of Sustainability

For the institutions in the International Alliance of Research Universities (IARU), the key goal is to become leaders in addressing global challenges. The issue of long term campus sustainability is at the heart of the challenge, and an essential aspect towards achieving this is the compilation of data that quantifies the amounts and sources of emissions of greenhouse gases attributable to the existence and operations of the institutions. Conducting a greenhouse gas (GHG) emissions inventory is the first and crucial step for effective management and mitigation options.

The Need for an Inventory Standard

The quickest and most efficient way of calculating a GHG inventory is using one of the many online emissions calculators. However, when comparing results for institutions around the world, the computation method for deriving the emissions is primarily dependent upon the characteristics of the country's, and sometimes the local region's, energy supply. The output metrics of weight of emitted carbon dioxide equivalent (eCO₂) can also vary from country to country. When it comes down to comparing between universities in the IARU, two factors need to be accounted for

- *The unit in which the metric for the emissions is stated:* setting a standard for SI units of kilograms eCO₂ will enable valid cross campus comparisons, and this can be achieved by a simple numerical conversion.
- *The way the metric for the emissions is calculated:* this is later analysed in detail for a few greenhouse calculators. Some points to note
 - there are many calculators available on the internet, however only those that detailed the conversion factors and their sources were examined
 - the emitted carbon coefficients are usually obtained from a nationally standard value, sometimes region-specific, and are constantly being updated
 - the calculators are predominantly for the counties of US, UK and Australia, calculators in other countries were very hard to find, and only the most relevant one from each country was investigated

Principles and Scope of GHG Emissions Reporting

The World Business Council for Sustainable Development and the World Resource Institute (WBCSD/WRI) jointly established a set of accounting standards. GHG accounting and reporting should be based upon the principles

- *Relevance*: define boundaries that reflect decision making needs of all stakeholders
- *Completeness*: account for all sources within chosen organizational and operational boundaries
- *Consistency*: allow meaningful comparison of performance over time and within other contexts
- *Transparency*: disclosure of assumptions and clear references to computational methodology
- *Accuracy*: address all relevant issues with precision to ensure validity and reliability

The scope of the reporting for an institutional context is comprised of three categories

- Direct sources of GHG owned and/or controlled by the institution
- Indirect GHG emissions associated with generation of imported sources of energy
- All other indirect sources of GHG emissions resulting from institution activities and community members

These categories can be further subdivided to cover the entire scope for data collection and entry. Clean Air – Cool Planet utilises the following sections designed specifically for a campus inventory

- Energy
 - Purchased electricity
 - Purchased steam/hot water
 - On campus cogeneration
 - On campus stationary energy use
- Transportation
 - University Fleet
 - Air travel
 - Student, faculty and staff commuting
- Agriculture
 - Fertiliser
 - Animals
- Solid Waste
 - Incineration
 - Landfill
- Refrigeration and other Chemicals
 - All other GHGs
- Offsets
 - Actions taken to offset emissions

In addition to emission source data, institution data including demography, budget and physical size, is also important to include in the analysis for distributions of emissions among the various sources. This allows scaling for a meaningful global comparison. Data needs to be collected on a yearly basis to examine trends and projections, and to provide a context for the effects and impacts over time.

Global Standards: Greenhouse Gases (GHGs), Carbon Dioxide Equivalents (eCO₂) and Global Warming Potential (GWP)

The gases that should be included in a GHG emissions inventory are those that are GHGs and these have been specified by the Kyoto Protocol to the UN Framework Convention on Climate Change

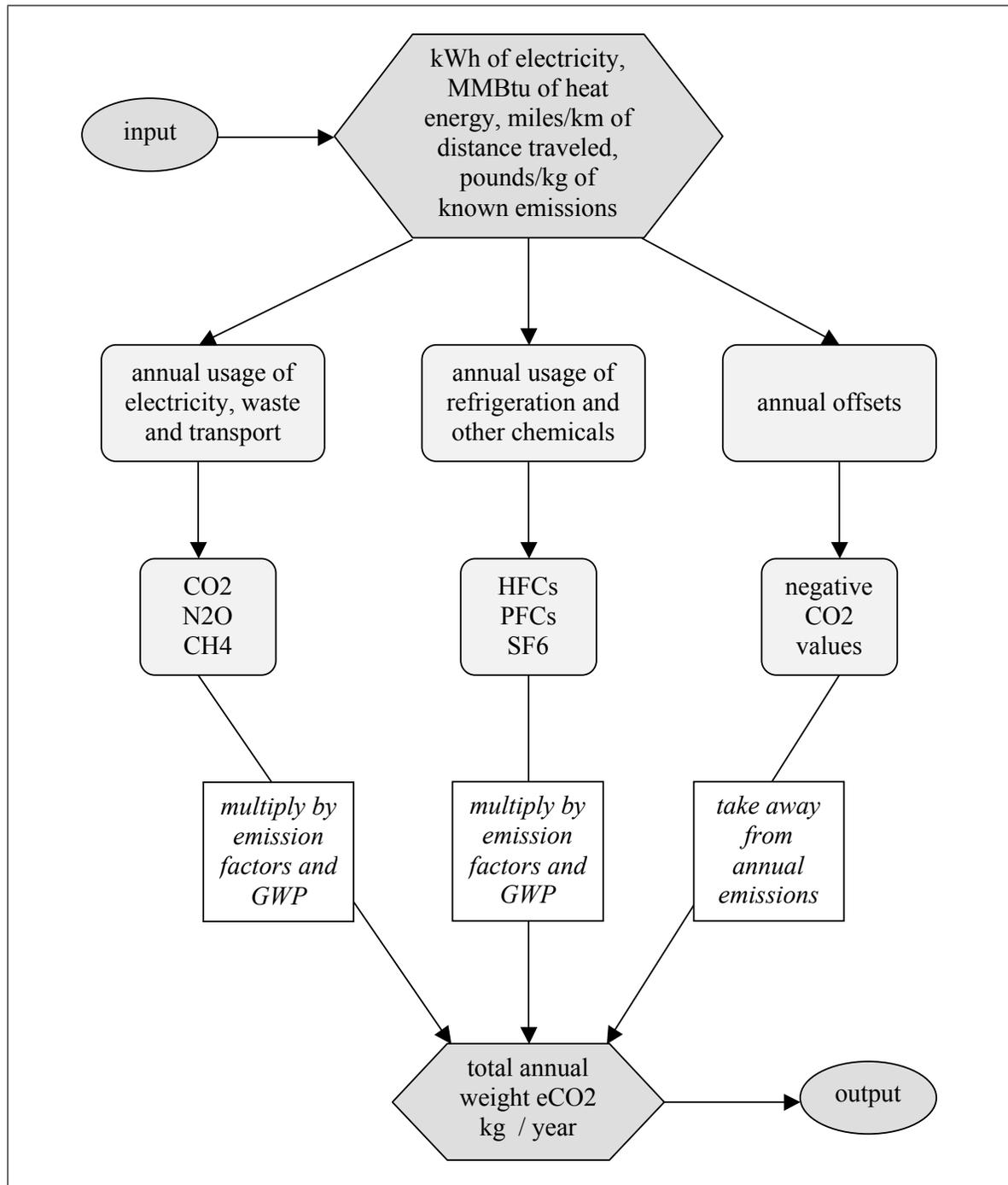
- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆)

The International Emissions Trading Association (IETA) has provided a universal standard of measurement against which the impact of releasing different GHGs can be evaluated. The units are yearly carbon dioxide equivalents (eCO₂), and the figure is given in terms of weight which can be standardised to the SI unit of kg per annum.

Every GHG has a Global Warming Potential (GWP) specified by the Intergovernmental Panel on Climate Change (IPCC) which describes the effect of the particular gas on climate change relative to an equivalent amount of CO₂ calculated over a specific time interval.

Variations in Computation Methodology

The eCO₂ is found through applying a standard series of calculations to generate a value that represents the annual weight of eCO₂ released into the atmosphere. There are many online calculators, and the variations in emission factors are examined.



US: Clean Air – Cool Planet

This carbon calculator is specifically designed for the constitution of an inventory of greenhouse gases emitted by a university campus, and hence is very relevant to the institutions in the IARU. Its main objective is to provide a very useful, if not vital, foundation for a discussion on the issue of climate change and methods of management and mitigation.

The calculator is a Microsoft Excel spreadsheet that consists of three steps: collection of data, calculating GHG emissions and analysing/summarising the results. It includes the GHG specified by the Kyoto Protocol and covers a range of time from 1990-2020, producing charts and graphs for presentation. The spreadsheets are based on workbooks provided by the Intergovernmental Panel on Climate Change (IPCC) with a few modifications for campus specific analysis.

This calculator can seem quite complex, with multiple worksheets, formulae and cell references. However, all that is required of the user is to enter in collected data, with the rigorous maths and science behind the calculations being already set up. Conversion factors and relevant formulae are built into the calculator so the output is automatically calculated. In addition to the resulting numerical values, it will generate graphs and charts to create an emissions profile.

The emissions factors used in this calculator were obtained from the US Environmental Protection Agency, the US Department of Energy and the US Department of Transportation, with the published data ranging from 2002 through to 2006. This can be adjusted in the data entry worksheet for different states in the country.

Australia: Australian Greenhouse Office

There does not seem to be a GHG emissions calculator specifically designed for a university campus, many focus on household and personal emissions. Upon request from the Australian Greenhouse Office (AGO), an emissions calculator was supplied from the “Greenhouse Challenge Plus” members section.

The input information includes energy fuels and processes, petroleum products transport, waste synthetic gases, fugitive emissions and offsets. This covers the main aspects of a university campus. The input format is straightforward, data entry is in consumption units which are converted to basic units and multiplied by the emission factor to obtain eCO₂ per annum. Compared to the Clean Air – Cool Planet calculator, this one is simpler to use, however it is not as detailed, does not produce charts and has no temporal component.

The emission factors are updated in line with the AGO publication “Factors and Methods Workbook: for use in Australian greenhouse emissions reporting”, with the latest edition published in 2005. The emission factors can be adjusted for each state in the country.

There are also many other technical tools available from the AGO for members which may be useful in terms of evaluating campus sustainability, however this is not available world wide.

UK: Carbon Calculator

There do not seem to be many online GHG emissions calculators for the UK, and none were designed specifically for university campuses. A personal emissions calculator was found at Warwick University's Carbon Footprint Group website.

The four main categories of input information were travel, heating, electricity and shopping, which is perhaps not an ideal spread of variables for a university campus. The site explains in detail how the emissions are calculated, but does not specify where the conversion factors are obtained from or the date of publication for those factors.

On-Campus Electricity Generation: Yale University

Yale collects yearly metrics regarding campus energy usage, and calculates the GHG emissions in metric tons carbon equivalent (MTCE). This includes emissions from the two Yale cogeneration powerplants and purchased electricity, which make up the majority of the emissions, and does not include transportation, carbon sinks and other emissions.

The coefficients used in the calculation of emissions from the powerplants are values calibrated with the boilers by the facilities systems engineers at Yale. The coefficient for calculating the emissions from the purchased electricity is the accepted value for the Yale local region.

The powerplant emissions coefficients are particular for Yale, and provide an example of factors calculated specifically for the relevant university. Other universities with generators on campus should be following a similar methodology for their inventories, ideally also including the coefficients associated with transportation, carbon sinks and other emissions.

Other Countries: World Resources Institute SafeClimate Carbon Footprint Calculator

An effort was made to find GHG emissions calculators for other countries, however this proved to be a difficult task. Online calculators were few and far between, and language was sometimes a problem.

One calculator that was applicable to emissions from various countries was from the World Resources Institute, which determines eCO₂ emissions from energy consumption and transport by car and plane. Because the focus is on household emissions, the scope is not one that encompasses all aspects of a university campus's emissions, but does cover the two major GHG sources. The data input is straightforward and easy to enter online, though not always applicable.

The coefficients used in the computation were from the World Business Council for Sustainable Development GHG protocol initiative calculation tools. For the US and Canada regions, the province or state could be chosen, while the factors for other countries worldwide are from the International Energy Agency, the latest figures from 2004.

The advantages for this calculator are its simplicity and global application, but there are issues with the

relevance and accuracy of international coefficient data. The value in this particular calculator would be to gain an overall estimate in GHG emissions for energy and transport for each campus, however the details of each university's inventory cannot be taken into account.

Unfamiliarity with the governmental or other organisations meant emissions factors for each of the countries was hard to find. It is recommended that each of the universities in the IARU supply their respective GHG emissions calculators and/or emissions coefficients. In particular, campuses with onsite power generators will need to specify the calibrated coefficients for those energy sources.

For complete international consistency, it may be possible to modify an existing calculator for calculations of different countries. Clean Air – Cool Planet appears to be the most effective calculator that strikes a balance between data scope, user-friendliness and computation complexity. It will also allow an experienced and proficient user to change certain aspects of the spreadsheet, and with coefficients for the countries supplied by each university, a global calculator that encompasses all the relevant countries could be constructed.

Implications for the IARU

The establishment of a global standard to compare GHG emissions will enable the universities in the IARU to meaningfully compare their individual impacts on the environment. While data collection and calculation can be time consuming, the results of an absolute as well as comparative analysis can be very interesting. With the inventory metrics, each institution can evaluate the effectiveness of current practices and facilitate the management and implementation of policies to improve campus sustainability.

In order for comparison across universities in the IARU that differ in size, population and other factors, the resulting metric for kg of eCO₂ emitted per annum for each campus needs to be normalized to eliminate certain unavoidable trends. This can be achieved by identification of an appropriate relative ratio (%) or denominator (per square m, per capita). It may also be the case that universities are missing data, and this will need to be specified clearly and efforts made to gather the relevant data for future inventories.

The analysis between universities with emissions inventory metrics is not necessarily just a summed figure for kg of eCO₂ per annum. Breaking down the eCO₂ emissions for different sections mentioned above and comparing campuses within those categories is also important in identifying where the most and least emissions are coming from and factoring the relative amounts into campus planning and development.

The GHG inventory is also a key indicator of an institution's environmental/sustainability performance. The raw numerical values as well as the scaled figures obtained from the inventory can be used for the calculation of a Global Campus Sustainability Standard (GCSS) index, which aims to assess the institution's capacity and potential for improvement.

Furthermore, the information gathered from the GHG inventory is not just solely confined to the universities themselves. Relative assessments for GHG emissions can also be made for the particular

institution with other infrastructure within its region. Emissions coefficients vary across the globe, and examination of this conversion factor data can lead to conclusions being made about the nature of the country's electricity industry, environmental consequences of citizen habits and the cultural attitude towards sustainable behaviour. A multitude of information from global inventory analyses is the result.

References

World Business Council for Sustainable Development (2001). "The Greenhouse Gas Protocol: a corporate accounting and reporting standard".

United Nations (1998). "Kyoto Protocol to the United Nations Framework Convention on Climate Change"

International Emissions Trading Association (2007). "What are Carbon Dioxide Equivalents (CO₂ eq)?" <<http://www.ieta.org/ieta/www/pages/index.php?IdSitePage=123>>

Intergovernmental Panel on Climate Change (1996). "Climate Change 1995: The Science of Climate Change"

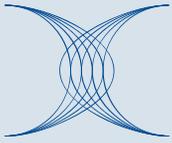
Clean Air – Cool Planet (2006). "Campus Carbon Calculator v5.0" [Microsoft Excel Spreadsheet] Downloaded from <<http://www.cleanair-coolplanet.org/toolkit/content/view/43/124/>> and "Campus Carbon Calculator: User's Guide".

Australian Greenhouse Office. (2006). "Emissions Calculator" [Microsoft Excel Spreadsheet] Downloaded from <<http://www.greenhouse.gov.au/challenge/members/emissions.html>> and "AGO Factors and Methods Workbook: For use in Australian greenhouse emissions reporting".

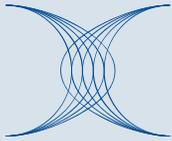
Warwick University Carbon Footprint Project Group (2005). "Carbon Calculator" [on-line] <<http://www.carboncalculator.co.uk/index.php>>

World Resources Institute (2001). "Calculator" [on-line] <<http://www.safeclimate.net/calculator/>> and World Business Council for Sustainable Development. (2007). "GHG Protocol Initiative: Calculator Tools" from <<http://www.ghgprotocol.org/templates/GHG5/layout.asp?type=p&MenuId=OTAx>>

Yale Facilities Systems Engineering Group and various emails between staff from the universities in the IARU



7. General discussions about IARU Chair (and IARU Secretariat) after 2009



7. IARU Chair (and IARU Secretariat) post 2009

Professor Ian Chubb has agreed to continue as IARU Chair until the end of 2009. It is anticipated the IARU Chair will hold informal discussions with the Senior Officers about possible IARU Chairs – to allow for further informed discussions with the Presidents group.

For your reference the following information is tabled:

University of Oxford

Current	Professor Hood	September 2009
Incoming	Professor Hamilton	5 year term (September 2014)

National University of Singapore

Current	Professor Shih	1 December 2008
Incoming	Professor Tan	1 December 2013

University of Tokyo

Current	Professor Komiyama	March 2009
Incoming		6 year term (April 2015)

The Australian National University

Current	Professor Chubb	31 December 2012
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ETH Zurich

Current	Professor Dr Eichler	September 2011
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University of California (Berkeley)

Current	Chancellor Birgeneau	Ongoing appointment
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Yale University

Current	President Levin	Ongoing appointment
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University of Copenhagen

Current	Professor Dr Hemmingsen	November 2010
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To be advised

University of Cambridge	Professor Richard	
Peking University	President Xu	

IARU Secretariat post 2009

Since the signing of the IARU memorandum in January 2006, both the IARU Chair and the IARU Secretariat have been based at the ANU. This arrangement has continued inline with the consensus that secretariat services should be provided by the university whose President holds the Chair.

In 2008, USD 80 000 was allocated from the IARU annual budget of USD 200 000 to cover travel, salary and associated costs for IARU secretariat staff. It is estimated that this is approximately half the cost of running the secretariat. (In 2006 and 2007 USD 60 000 was allocated.)

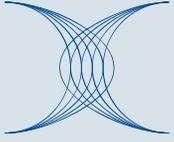
At the end of 2009, Professor Ian Chubb AC, President of ANU, will finish his current term as IARU Chair. Presidents considering nomination as IARU Chair may wish to also consider how they wish to approach secretariat services.

Although it is anticipated the incoming IARU Chair will determine how they wish to approach secretariat services. Does consensus remain secretariat services should be provided by the university whose President holds the Chair?

- If the secretariat services are to be provided by staff from the Chair's university, what arrangements should be put in place to facilitate this transfer? Is there benefit in arranging for one of the existing secretariat staff to spend time with the new secretariat?
- Is there benefit in arranging for one of the existing secretariat staff to be seconded to the Chair's university?

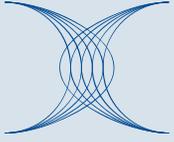
Now IARU's activities are clearer an alternative approach for IARU could be the establishment of a permanent secretariat either at the ANU or at a new partner university separate to the incoming Chair.

Do the Senior Officers' have any preference for the secretariat model?



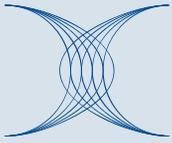
INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

8. 2009 IARU Meetings



INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

9. Other business



9.1 Modified IARU MOU

The IARU Chair asked the Secretariat to revise the IARU MOU and principles, originally signed by IARU Presidents in 2006. The following document has been revised for Senior Officer discussion/comment in preparation for the 2009 Presidents' Meeting.

The original MOU has been modified in two places:

- Point 2 - Membership has been modified reflecting the Presidents' decision to review IARU membership annually but no new members will be added before 2010.
- Principle vi) - Aims to reflect the agreed focus on institutional research.

International Alliance of Research Universities

Memorandum of Understanding

Among

Australian National University (ANU)

And

Swiss Federal Institute of Technology Zurich (ETH Zurich)

And

National University of Singapore (NUS)

And

Peking University (PKU)

And

University of California, Berkeley (Berkeley)

And

University of Cambridge (Cambridge)

And

University of Copenhagen (Copenhagen)

And

University of Oxford (Oxford)

And

The University of Tokyo (UT)

And

Yale University (Yale)

International Alliance of Research Universities

This Memorandum of Understanding sets out the Member Universities' conception of the Alliance.

1. Alliance

The Members agree to form an Alliance that will bring a new dimension to international cooperation by universities wherein Members engage one another in multiple ways in research and educational endeavours. In order to promote the work of the Alliance, each Member will develop mechanisms to inform and support their own staff and students to engage in Alliance activities, as well as to support those visiting from partner institutions. The nature of the Alliance is elucidated in the statement of Principles that underpin the Alliance at Attachment A.

2. Membership

Membership of the Alliance does not preclude Membership of other international networks, but this Alliance will be specifically characterised by a deep level of cooperation among Members that is intended to establish a benchmark for international alliances in the new millennia. Members will participate in the various activities of the Alliance where such participation fits with their particular objectives – it is not expected that any Member will participate in all activities. Membership will be reviewed from time to time but no new member will be added before 1 January 2010.

3. Framework and Issues

Members are to develop a framework that creates and defines the substantive structure of the Alliance and the operational protocols to guide its activities.

Issues which are to be addressed by the Members include, inter-alia:

Membership and Governance; Supporting Infrastructure; Research Collaboration; Intellectual Property; Dual and Joint Degree Programs; Student and Faculty Exchanges; Finance and Sponsorship; Public Policy; Summer Leadership Programs; and Benchmarking.

4. Independence of Members

The independence of Members is acknowledged and respected and neither the Alliance nor any Member shall have the power or right to bind, commit or pledge the credit of the other Members without their consent.

Attachment A

Principles that underpin the Alliance

(i) The Alliance will be strategic, drawing together a select group of research-intensive universities that share similar values, a global vision and a commitment to educating future world leaders. Central to these values is the importance of academic diversity and international collaboration.

(ii) The Alliance should add value by providing opportunities to students and staff that would not arise otherwise, allowing Members to achieve things they would be unable to achieve on their own.

(iii) The Alliance will offer the opportunity for substantially deeper and more wide-ranging associations than usual international university consortia or groupings.

(iv) The Alliance will bring a new dimension to Members' international activities, including new opportunities for international research, teaching and learning.

(v) The Alliance will not be representative in nature (i.e. it is not meant to include "representatives" from every region of the world).

(vi) The Alliance initially invited participants to utilise the complementary research capability of Members to address issues of central importance; these include global security, movement of people, ageing and health, and development and environmental sustainability. In future, IARU will not centrally fund such research activities but rather call on individual institutions to support their researchers' participation in projects across IARU partners and encourage funding applications through traditional funding sources and processes such as foundations with peer-reviewed applications.

(vii) The Alliance will provide a framework within which a range of protocols and templates can be developed to promote collaboration and allow cooperative activities to be undertaken more easily.

(viii) Each Member will determine the extent of its involvement in each of the activities of the Alliance to suit its particular objectives and constraints – it is not expected that any Member will participate in all activities.

(ix) Alliance activities will build on and strengthen existing relationships.

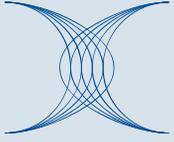
(x) Members will give prominence to the Alliance in order to allow and encourage multilateral and bilateral cooperation between Members.

(xi) Membership of the Alliance will in no way preclude or limit activities with partners outside the Alliance.

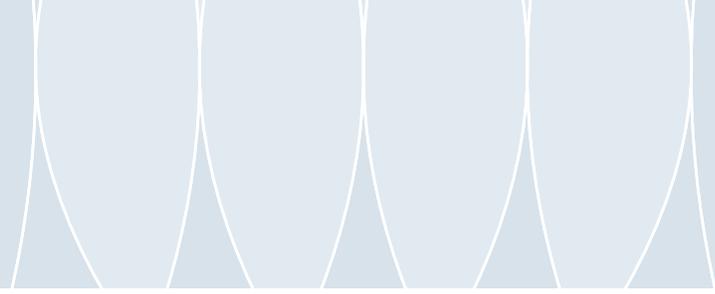
(xii) Decisions will be made through collaborative approaches – there will be no formal requirement for unanimity.

(xiii) Structures and processes will be as uncomplicated and non-prescriptive as possible.

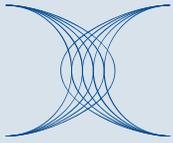
(xiv) Those cooperative activities that can be undertaken immediately should be given effect as soon as possible. Difficulties in resolving more complicated issues should not be allowed to delay activity in more straightforward areas.



INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES



Past IARU meetings



Outcomes of the Third IARU Presidents' meeting

New Haven, 22 – 23 April 2008

Agenda item 2: Sustainable campus initiatives

2.1 IARU Campus Sustainability Plan

It was agreed that setting targets on greenhouse gas emissions was desirable. Therefore each university should – by 31 January 2009 – have a declared greenhouse gas emission target in time for announcement at the Copenhagen International Scientific Congress on Climate Change in March 2009. Presidentsí were asked to note that the Congress will be held before the next Presidentsí meeting in Cambridge (28-30 April 2009).

It was also suggested that in addition to the announcement that a press kit/tool kit be developed and information posted to the IARU website.

The common sentiment was that a single target would not be appropriate, local differences would need to be explained in some detail. It was agreed that the purpose of the metrics was not to create a league table.

There was a view that campus energy use was easier to capture than air and fleet usage.

Presidents agreed on a workshop to be held concurrent with senior officers meeting, involving relevant senior staff from Universities to finalise the metrics and targets. Presidents were asked to commit to sending 1-2 senior staff to this meeting.

2.2 Sustainability Fellowship/Internship

The Fellowship/Internship was proceeding with ANU, Yale and Oxford having selected its candidates. Others were encouraged to join in 2009.

2.3 IARU International Scientific Congress on Climate Change in Copenhagen March 2009

Yale and Tokyo offered to assist Copenhagen with getting IPCC buy-in. Post meeting Yale secured RK Pachauri's commitment to attend the Copenhagen Conference.

IARU members will disseminate information about the Copenhagen congress to relevant parties (a flyer was provided by Copenhagen) to encourage participation and student engagement.

2.3.1 Discussions around branding and association

It was agreed that where a conference or activity related to a core IARU project, IARU badging was appropriate (as in the case of the Copenhagen climate change congress). Where it was ambiguous, the Chair would circulate the proposal to members seeking agreement/endorsement for the branding to be used.

Agenda item 3: Report on conference 'Women and Men in the Globalizing University'

The conference focused on data collection and the report back confirmed the lack of good research in this area.

It was agreed each institution will appoint a key contact (names to be provided to the IARU Secretariat) to act as the liaison point for the project. It was also proposed that a virtual meeting be scheduled as soon as possible.

Members were also asked to identify their internal and external funding sources for gender study issues.

Berkeley expressed interest in publishing a journal of case studies of IARU members' experience in this area (on-line and hard-copy). The case studies would focus on the interventions taking place at their member schools attempting to improve the representation and advancement of women. Before any final commitment on a publication is made, a budget and work plan is required. A tentative commitment of \$10,000 was made to this project.

It was suggested (by Cambridge) that this item could be considered for the research agenda in a year's time (at the Cambridge Presidents' meeting).

Agenda item 4: Research Directions

Funding strategies and protocols related to approaching external stakeholders

As noted under Agenda Item 6, the Presidents agreed to focus support for research projects on topics related to the institutions themselves such as “Sustainability” and “Women and Men in the Globalizing University.”

Therefore, the draft assessment template for reviewing proposed research topics is not necessary at this juncture.

4.2 Global Change Projects

4.2.1 Ageing, Longevity and Health

After 18 monthsí work researchers have developed a more defined proposal from last year. It was agreed the Chair will write a letter providing in-principle support from IARU for the project. A developed cross-institutional proposal from the participating universities (rather than IARU) will be submitted to relevant funding agencies. Relevant due-diligence processes would be applied at each institution.

Significant progress will be expected by the next Presidentsí meeting.

4.2.2 Energy, Resources and Environment

4.2.2.1 Proposal for a Demonstrative Project on Sustainable Cities

The project is still in its preliminary stages but endorsement was given to continue the project and to report to the Presidentís meeting next year. Cambridge noted there was other work going on in this field and it was agreed that each university would advise Tokyo of work that they were aware was taking place in this area.

4.2.2.2 International Symposium on Sustainable Science

ETH Zurich reported there had been no change from the letter sent to the group advising difficulties in attracting funding so it was agreed to remove the proposal from IARUís work agenda.

4.2.3 Security

The concept was agreed. It was proposed that the 2009 funding commitment be deferred until next year.

4.2.4 Mobility of People

This project will be left postponed and it was agreed it could come back if it developed its own momentum.

4.3 Building new projects

4.3.1 Global culture and citizenship

The IARU could add value by bringing a multi-disciplinary view to this issue. It was agreed to badge the proposed workshop as an IARU activity. IARU members were requested to provide contacts of people working in this area and suggestions of possible invitees. It was also agreed that the Secretariat should advise IARU key contacts who was being approached from participating universities.

ANU will set a date for the workshop and distribute information about the workshop (workshop flyer).

4.3.2 Engaging younger staff in IARU Research Collaboration

Senior officers were asked to work up a proposal. It was suggested that sending more junior people to workshops was perhaps a better approach given that researchers would go where they were best suited.

4.4 New initiatives and directions

4.4.1 Industrial innovation proposal

Discussion, led by NUS, suggested broadening the topic to 'innovation' and dropping the 'industrial'. It was agreed to retain the current title but that a broadening might occur as the topic was further explored.

Each institution was asked to send a contact from their institution to Kate Pretty (Cambridge) so Mike Gregory, who will take responsibility for driving this item forward, can select others with whom to work.

Optional session - Emerging digital technologies

Google Presentation

Google is developing programmes in on-line content focusing on education and on-line courses and translation of content into 40 key languages.

IARU member universities were asked to provide contact details for those people responsible for digital content in their institutions.

IP issues were discussed but there was value in translating content and particular interest in expanding the coverage of Google's work to research and not just course content.

Agenda 5: Education initiatives

5.1 Global Summer Program

Presidentsí commended the GSP efforts to date. The GSP working group was asked to prepare a report to the Presidents upon the completion of the 2008 GSP. It was suggested that the GSP working group meet in September before the senior officers' meeting.

The Presidents agreed:

- GSP courses should be promoted to both home students and partner students.
- Course offerings may need to be negotiated to avoid competing topics. Institutions could consider inviting faculty across institutions to teach into a program.
- The GSP should try to develop to a stage where each institution offers 2 courses.

The Chair asked institutions to consider (locally) how they will support GSP activity in 2009.

5.2 Research-led Teaching

Participants agreed the points raised in the paper should be further explored. There was discussion about whether Research-led Teaching was the correct term for the project. 'Education in a research intensive institution' or 'How to make better use of research assets when teaching' was floated as more appropriate alternatives.

The proposers Richard Baker (ANU) and Elizabeth Fallaize (Oxford) were encouraged to refine the proposal, arrange a workshop and extend invitations to relevant people at IARU institutions.

Agenda 6: Evaluation of success of IARU and next steps

Institutional research was identified as a priority. The IARU Chair will circulate a revised MOU (reflecting IARU's modified focus).

It was recognized that IARU's successes had been rooted in projects where the institutions themselves would benefit from the initiative and the work aligns with the institutions' missions. The two prime examples are the Women and Men in the Globalizing University and Campus Sustainability. It was agreed that it is difficult to use IARU to advance research on topics of that ordinarily would be pursued by compliments of scholars whose work aligns with other experts who may or may not be resident at IARU institutions. Funding for these projects is best pursued through traditional funding sources and processes such as foundations with peer-reviewed applications.

The Presidents discussed the funding arrangements for future workshops. It was agreed the following guidelines would apply:

- Participants continue to pay their own costs of travel and accommodation.
- Host universities will receive funding up to USD 15 000 for hospitality, venue, additional staffing resources, post conference costs etc

Funding was agreed to for the following workshops:

- Careers Professionals workshop
- Industrial Innovation workshop
- Global Citizenship workshop
- Research - led Teaching workshop
- ERE - Sustainable Cities workshop
- Sustainable Campus Officers meeting
- Global Summer Program working group meeting
- Women and Men in the Globalizing University (targeting Fall 2009)

It was also agreed that existing research projects (Security and Ageing, Longevity and Health) should continue with limited funding from the IARU for one year and should identify external funding for activities beyond that time.

Funding was agreed to for the following:

- Health Policy data collection/analysis
- Security proposal development 2008

Agenda 7: IARU membership

Agreed to keep the membership as it is for the next two years with the issue under review and included on the annual Presidents' agenda.

Presidents' agreed, in the future, a process would need to be developed to choose new partners if the IARU wished to change its position. Universities from Africa, Latin America and India could be considered.

Agenda 8: Business Matters

8.1 Student Exchange

PKU invited those interested in its China Scholarship Council scholarship program to contact Ms Manli Zhou (PKU IARU key contact).

8.2 Location of Presidents' Meeting 2010

It was agreed that Peking University would host the 2010 meeting (dates to be confirmed).

The 2008 senior officer meeting will be held October 20 ñ 22, 2008 in Berkeley with the IARU Chair in attendance. It was also recommended that the following groups consider concurrently holding their own meetings around the senior officer meeting: Sustainability Officers (IARU Campus Sustainability Plan), the undergraduate deans and their equivalent (Research-led Teaching workshop) and possibly the Global Summer Program working committee.

8.3 Other items raised:

- The IARU Chair acknowledged that this was President Shih and President Komiyama's last meeting and thanked them both for their contribution to the development of IARU
- Yale circulated a Center for Business and Environment flyer for interest (and circulation where appropriate).
- Copenhagen drew attention to their IARU Newsletter published by the Faculty of Health Science
- Cambridge sought feedback about extending an invitation to other leading institutions (outside the IARU group) at the next Presidents' meeting. It was proposed this Cambridge event could be an optional one day discussion around Capacity Building.
- ETH Zurich consulted the group regarding Open Access Publishing with particular interest in the balance between protecting IP and making material available to students at a reasonable cost.

The senior officers were asked to discuss open access at the October meeting, to identify the position of each institution on digital technology and report back to Presidents' at the 2009 meeting.



Outcomes of the 2007 Meeting of IARU Senior Officers

Senior Officers

2.1 Security

The meeting agreed that work on this project should proceed as per the paper, with a view to preparing a revised, more refined proposal to be prepared immediately following the workshops planned for March/April 2008. A letter would be sent to the IARU Chair advising the outcomes of the workshop and seeking a small amount of funding to maintain momentum. This would be considered by Presidents at Yale in late April and contributions sought from interested members.

The meeting agreed that Tokyo should apply for JSPS funding in the upcoming round and that a second workshop should be scheduled for Tokyo in 2009.

2.2 Ageing, Longevity and Health

The meeting congratulated the authors on a very well prepared proposal and agreed that work should proceed. Copenhagen will now take the lead on preparing tailored bids for funding which will be sent to the IARU chair, who will circulate to colleagues for advice and then authorise where appropriate. These tailored bids should be provided with a covering note detailing recommendations on how funding agencies should be approached and by whom.

2.3 Energy, Resources and Environment

The meeting agreed that this project should proceed. Once more work had been done on refining the financial details, the same process as for the Ageing, Longevity and Health project should be followed.

2.4 Approaches to funding agencies

It was agreed that while there may arise conflicts between IARU bids for funding and bids prepared by individual members in other contexts, these could be managed in the same way similar conflicts are managed on a regular basis.

It was agreed that Presidents would need advice from their senior research deputies on quality of research proposals before they would be prepared to put their names to bids for external funding. Lawrence Cram undertook to prepare a template and circulate to DVC (Research) colleagues for comment. This might include:

- The extent to which the IARU adds value to the research proposed
- The quality of the research program
- The education agenda (if any)
- Management and leadership of the program
- Finances

3 ISSS

The meeting noted the progress report from ETH Zurich and the planned first event in Singapore in 2009.

4 2009 United Nations Climate Summit, Copenhagen

The meeting noted the update provided on the day by University of Copenhagen and planned date of 10-12 March 2009. Copenhagen's note sought names of candidates for the Scientific Congress Committee by 1 October with a view to convening a meeting on 12 November. Steering Committee nominations were also sought by 1 October.

5 Movement of People

It was agreed that the sub-project on Human Security fitted well with Cluster five of the Security proposal and could be taken forward in that context.

Professor Sato and Dr Lie will discuss how a narrower and more focussed proposal might be prepared.

6 Women in Universities Project

The meeting noted Yale's report on progress on this project.

Part 1 – Engendering Self Knowledge

Members are asked to identify a coordinator from their Office of Institutional Research, or equivalent, to participate in two meetings: one (perhaps a “virtual” meeting) to exchange information and determine actions and a timetable, followed by a second to exchange experiences, address problems and identify solutions

Part 2 – Interventions to improve the advancement of women faculty

Part 3 – Equality and the Gender of the Globalizing University

Don Filer will check what has happened to the “Gender Gap” issue and advise Oxford.

Judy Resnak and colleagues will be in contact with all IARU members to invite participation.

Tokyo informed participants that the Tokyo Office for Gender Equality would hold a symposium in February 2008 and invited participation from IARU members.

7 Possible Capacity Building Role for IARU

The meeting noted the paper and supported the idea in principle. It was agreed that this sort of capacity building might best be done by individual universities and it was not clear what value might be added by IARU involvement. The difficulty of doing this at a level other than at a single university in a particular discipline was noted. It was agreed that interested members would prepare case studies for the 2008 **Senior Officers Meeting as a way of sharing information and learning from each other.**

8 IARU and Careers

The meeting agreed that this activity should be encouraged and supported, including the symposium planned for July/August 2008 at NUS. ANU, NUS, Oxford and Copenhagen were positive about the opportunities this might bring, especially in terms of assisting students returning from IARU members to their own countries where other IARU members might be able to provide assistance.

9 IARU Membership

The general consensus was that in this early stage of the development of the IARU it would be best to keep it small and manageable. The benefits of working with “like” institutions are considerable. Yale and Berkeley were more inclined to the view that adding members to give a more “global” dimension to the IARU was desirable.

It was noted that Presidents had agreed that no new members should be added before 2009. Given that the only meeting of Presidents before then would be at Yale in 2008, this matter should be discussed at that meeting.

It was agreed that Don Filer would convene a small group to prepare a paper on the issues around increasing IARU membership for consideration by Presidents at Yale in April 2008. Other members of this group will be Kiichi Fujiwara, Barry Halliwell, Heather Bell and Iain Watt. Issues to be addressed will include:

- The threshold issue of whether IARU should have more members;
- How would such members be selected and invited?
- What factors should be considered (starting with the five outlined in the agenda paper)?
- What regions should be considered?
- Would some sort of mentoring approach or incorporating universities from developing countries into IARU projects be a more suitable solution?

There will be political sensitivities that must be taken into account.

10 Agenda for meeting of Presidents at Yale in April 2008

The following items were flagged for discussion at the meeting in April 2008:

- Sustainable Campuses
- IARU Research Projects
- Women in Universities Project
- Global Summer Program
- Research-led Teaching
- IARU Membership
- IARU Going Forward – an analysis of the success or otherwise of IARU's first 28 months.
- IARU Program on Industrial Innovation
- Engaging Younger Staff in IARU Research Collaboration.

The secretariat will circulate a draft agenda for comment by end-2007. Members are invited to suggest items for inclusion.

11 Senior Officers meeting in 2008

It was agreed that University of California, Berkeley would host the meeting of IARU senior officers in 2008. The secretariat will liaise with Dr Lie to settle on some possible dates in late September or early October and circulate to participants to determine the most suitable date by end-October.

12.1 Making the Most of Ideas! Outline proposal for an IARU Program on Industrial Innovation.

The meeting approved the development of a more detailed proposal for consideration by Presidents at Yale in April 2008. ANU, NUS and Copenhagen expressed strong interest in working with Cambridge on this proposal. Mike Gregory will develop a more “fleshed-out” proposal in consultation with colleagues at ANU, NUS and Copenhagen, which will be circulated to members by end-December inviting comments and nomination of participants.

12.2 Meeting of Presidents at Cambridge in April 2009

Cambridge has advised that there are two possible windows – April 22-24 or April 28-30. Participants agreed to check the diaries of their presidents and get back to the secretariat. Secretariat will follow up with a view to settling on dates by end-October.

12.3 Possible funding for young researchers to get together to build “bottom-up” research proposals

Cambridge proposed a mechanism to engage younger staff in the IARU through low cost (maybe between \$5000 and \$20000 per project) bids to support conferences and/or workshops to develop collaborative research proposals across IARU members. It was agreed that this should be developed and brought to the meeting of Presidents at Yale in April 2008. Mike Gregory will prepare a brief proposal which the secretariat will circulate for comment and revision as a paper for the April meeting.

12.4 Financial Report and Secretariat Funding

The meeting noted the financial report and agreed to increase the annual allocation of funding support to the secretariat to USD80,000 pa. ANU will continue to provide the balance of funding support required by the secretariat.

12.5 Redesign of Yale MBA

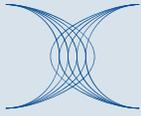
Participants noted the information provided on Yale’s new MBA structure and the planned seminar on the new curriculum in early 2008. Don Filer will provide information to the secretariat, who will then circulate invitations to members to each send two representatives.

12.6 Research Admissions

It was agreed that members would establish an informal network to assist each other in evaluating the academic qualifications of students from countries where this can be difficult. In the longer term some sort of “practical resource” of information might be developed.

12.7 What is a PhD?

ANU, NUS and Oxford agreed to work together on an informal basis to share information on the content, structure and aims of PhD programs. Lawrence Cram will circulate a note to initiate the conversation.



Outcomes of the 2007 Meeting of IARU Senior Officers

Education Collaboration

2 Global Summer Program

The meeting noted the paper and that it was substantially based on the US, undergraduate for-credit model. It was agreed that more flexibility should be built in to allow members liberate themselves from existing constraints, expand opportunities for students, allow staff to work together and simplify management processes. The GSP could be seen as an umbrella structure under which a varied range of courses could be made available to students.

The GSP would be badged/branded as distinctively IARU and therefore needs to be unique and of top quality.

Some issues that need to be addressed:

- Some members are not permitted to charge tuition fees, others are required to – perhaps need to look to some form of bartering or in-kind transfers
- For-credit – agreed that this requirement be relaxed, with the understanding that GSP courses be at least as academically rigorous as regular courses
- English language test requirements – it was agreed that members would rely on IARU partners to select students with appropriate English language skills.
- A central website will be needed – the IARU secretariat will be responsible for this.

The meeting agreed that Bill Whobrey should convene a meeting at Mattingley Hall, Cambridge in early 2008, primarily to discuss the longer term future of the GSP, but also progress with the 2008 offering. The preferred date is in the period February 11-13 or January 23-25 with further options of 7-11 January or 17-20 March. Members will advise Bill of their nominee and preferred date by end-October.

3.1 IARU educational initiatives around sustainability

The meeting agreed that the best way to demonstrate the possibilities in this area would be to undertake a pilot project (ANU, NUS and maybe Tokyo). Each member will also identify people who might be interested and put them in contact with Richard Baker.

3.2 Educational opportunities arising from IARU projects

The meeting agreed that the link between teaching and research and the benefits and consequences of “research led teaching” should be a focus of activity for IARU.

Richard Baker and Elizabeth Fallaize will develop a paper for consideration by Presidents in April that is based on the existing paper and includes proposals for action. Actions might include a workshop at Berkeley around the time of the 2008 senior officers meeting. NUS and Copenhagen also expressed interest in being involved.

3.3 Open Yale

The meeting noted Don Filer's presentation and his invitation to IARU members to make use of the material.

4 Regional perspectives on leadership roles

The meeting agreed that, at this stage, IARU should not be developing a course on leadership. It was agreed that leadership, particularly the negotiation of cultural differences, should be included as an implicit objective in GSP courses.

A watching brief will be maintained and the issue revisited if necessary.

5 Student Exchange

The meeting agreed that the document should be reworked as a set of guiding principles for student exchanges (by the secretariat).



Outcomes of the 2007 Meeting of IARU Senior Officers

Campus Sustainability

2 Identifying appropriate sustainability measures (metrics)

The meeting agreed that IARU should develop a sustainability index based around models developed by Yale and Cambridge. This will recognise that member universities are at different stages in the development of campus sustainability measures and that it is not to be seen as a commitment to doing everything right now. We will be looking for an approach that incorporates flexibility and allows universities to do things differently. ANU and Yale will circulate a survey for completion by 31 January 2008.

3 Comparing Ecologically Sustainable Design (ESD) building standards in IARU member countries to identify common elements

The meeting agreed that IARU members should use national best practice ESD standards, where they exist, in the construction of all University buildings or major refurbishments. Where standards do not exist, for example in the construction of laboratory buildings, IARU should establish a process for exchanging information that would lead to best practice design.

4 Developing a (global) standard – integrating metrics, building guidelines, and sustainability principles, for IARU

It was agreed that IARU should develop environmental targets particularly in the areas of greenhouse emissions reduction, water conservation and waste management. These targets, while having a genuine impact on reducing our environmental footprint, would also take into account the various stages of development of each University, what environmental initiatives have already been undertaken and any projected growth.

The issue of baselines was discussed, particularly in the context of several universities not having historical data to construct 1990 or even 2005 baselines. It was agreed that IARU targets might best be based on a 2008 baseline, while member universities could, at the same time, have their own targets based on earlier baselines.

The mix of priorities at each university will be different – eg water conservation is not an issue at some universities. It was agreed that each member would establish a hierarchy of environmental impacts and focus on those most important to it.

It was agreed that while considerable research had been completed on the current environmental management arrangements in place at our respective universities, it was clear that further work would be needed to finalise a set of meaningful targets for consideration. A draft paper will be prepared by ANU and Yale and circulated by 31 January 2008.

5 Integrating education and campus management in the context of campus sustainability

The meeting noted the paper prepared by ANU and agreed that linking campus sustainability initiatives to members' education curricula would add an extra dimension to the campus sustainability agenda.

6 Interns for sustainable campuses – proposed exchange program

The meeting agreed that an exchange program between sustainability offices at IARU institutions should be established. This would be for both staff and students. A paper detailing the proposal which would include information on the financial implications will be distributed before the April 2008 meeting.

7 General discussion on the process leading up to the meeting of IARU Presidents at Yale in April 2008

The meeting placed great emphasis on the importance of each member having a clearly identified person, with the weight and authority to make things happen, to act as the liaison point for the development of these proposals. The issue of the need to shift some resources to make these initiatives work was noted as being very important. IARU Presidents will consider the papers at their meeting in April. A statement on the IARU's initiatives around campus sustainability should be prepared as an outcome of the April meeting.