INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

IARU Presidents' Meeting 2018

Peking University

4 – 6 May 2018

Contents

IARU Presidents' Meeting – Agenda

Peking University, 4-6 May 2018

Conference Hall, Institute of Humanities and Social Sciences, No. 2 Yard of Jingyuan, Peking University

Friday, 4 May

Formal business attire

09:15	*Meet in Lakeview Hotel lobby for walk to PKU*
09:30	**PKU 120th Anniversary Commemorative Celebration** Khoo Teck Puat Gymnasium, Peking University
12:00	*Transport from PKU to Diaoyutai State Guest House*
13:00	*Buffet Luncheon* Fanghua Hall, Fanghua Garden, Diaoyutai State Guest House
14:30	**Opening Ceremony of the World University Presidents Forum & Beijing Forum 2018** Peony Hall, Fanghua Garden, Diaoyutai State Guest House
16:00	*Break*
16:30	**Keynote Speeches of the World University Presidents Forum & Beijing Forum 2018** Peony Hall, Fanghua Garden, Diaoyutai State Guest House
18:30	**Welcome Banquet of the World University Presidents Forum & Beijing Forum 2018** Fanghua Hall, Fanghua Garden, Diaoyutai State Guest House
20:00	*Transport from Diaoyutai State Guesthouse to Lakeview Hotel*

Saturday, 5 May

08:30	*Meet in Lakeview Hotel lobby for walk to meeting room*
09:00	**Opening and Welcome**
09:10	*Group photo*
09:15	**Session 1: Presidents' Regional Round-up** *Limit 12 minutes per university* A discussion of global, regional and national trends affecting higher education, including focus on internal priorities in the respective partners' institutions and any other matters of interest to IARU.
10:30	*Refreshment Break*
10:45	**Session 1 continued: Presidents' Regional Round-up**

12:00 *Lunch at Shao Yuan Guest House, PKU campus (Presidents dine in a separate room)*

13:15 **Session 2: IARU Cybersecurity Forum & Discussion** (NUS)

14:15 **Session 3: Brief Updates from Select IARU Initiatives**
3.1 Sustainable Campus Initiative (Yale)
3.2 Aging, Longevity and Health & Graduate Student Conference (UCPH & UTokyo)
3.3 Women and Men in Globalizing Universities (ETH Zurich & Oxford)

14:45 **Session 4: 2019 Presidents' Meeting Host & Dates** (IARU Secretariat)

15:00 *Walk to Sunlight Hall, Yingjie Exchange Center, PKU*

15:20 **World University Presidents Forum & Beijing Forum 2018**
—Topic 3: Session 3: University Presidency (IARU Special Panel)
Host: Yuan Ming, Professor of Peking University
Distinguished Guest:
- Peter Salovey, President of Yale University
- Louise Richardson, Vice-Chancellor of University of Oxford
- Gonokami Makoto, President of The University of Tokyo
- Brian Schmidt, Vice-Chancellor of Australian National University
- Lino Guzzella, President of ETH Zurich
- Lin Jianhua, President of Peking University

16:20 **University Presidency (IARU Special Panel)**
Host: Juergen Schriewer, Professor of Humboldt—Universitat zu Berlin, Germany
Distinguished Guest:
- Carol Christ, Chancellor of University of California, Berkeley
- Stephen Toope, Vice-Chancellor of University of Cambridge
- Tan Eng Chye, President of National University of Singapore
- Henrik Wegener, Rector of University of Copenhagen

17:45 **Closing Ceremony of the World University Presidents Forum & Beijing Forum 2018**

18:30 *Transport to Lakeview Hotel*

19:00 **Formal Dinner at Lakeview Hotel**
IARU Presidents' Meeting delegates only (Presidents dine in a separate room)

Sunday, 6 May

08:30 *Meet in Lakeview Hotel lobby for walk to meeting room*

09:00 **Session 5: Topical Session on "China's Rejuvenation and Its Implication for Developing Countries and Economics**
Professor Justin Yifu Lin, Dean of Institute of New Structural Economics, PKU
China had one of the most splendid civilizations in the world before the modern times. The rejuvenation of China was an unthinkable dream until the rapid growth unleashed by the transition from a planned to a market economy in 1978. This speech addresses six related questions: Why was it possible for China to achieve an extraordinary development performance during its transition? Why was China unable to attain a similar development success before its transition started? Why did most other transition economies fail to achieve a similar performance? What costs does China pay for its extraordinary success? Can China maintain dynamic growth in the

coming decades? And what are the implications of China's experience for other developing countries and for economics?

10:15 *Refreshment Break*

10:30 **Session 6: Presentation from Joint-Online Course** (NUS & UTokyo)

11:00 **Session 7: Global Education Initiatives** (IARU Secretariat)
7.1 2018 GSP Outlook and 2017 GSP Overview
7.2 2018 Banco Santander Renewal
7.3 GT-GSP Collaborative Course
7.4 Global Internship Program (GIP)

11:30 **Session 8: Closing Matters** (IARU Secretariat)
8.1 2017 Financial Report and 2018 Outlook
8.2 2018 IARU Calendar
8.3 Next IARU Chair

12:00 *Lunch at Shao Yuan Guest House, PKU campus (Presidents dine in a separate room)*

13:00 *Transport to Lakeview Hotel or optional tour of Forbidden City for intensive visit (which is the part not commonly open to the public)*

Participants

Australian National University
Professor Brian P. SCHMIDT – *Vice-Chancellor*
Professor Shirley LEITCH – *Deputy Vice-Chancellor, Global Engagement*
Dr. Anthony NELLIGAN – *Manager, Regional Partnerships Development, Int'l Strategy and Partnerships*

ETH Zurich
Dr. Lino GUZZELLA – *President*
Dr. Jürg BRUNNSCHWEILER – *Head of ETH Global*

National University of Singapore
Professor TAN Eng Chye – *President*
Professor WEE Andrew – *Vice President, University and Global Relations*
Ms. CHOOI Foong Sin – *Associate Director, Global Relations Office*

Peking University (host)
Professor LIN Jianhua – *President*
Professor TIAN Gang – *Vice President, President's Office*
Professor CHEN Dongmin – *Dean, School of Innovation and Entrepreneurship*
Dr. XIA Hongwei – *Director, Office of International Relations*
Dr. LI Yun – *Chief, Division for Education Abroad Programs, Office of International Relations*

University of California, Berkeley
Dr. Carol CHRIST– *Chancellor and IARU Chair*
Professor Pradeep CHHIBBER – *Director, Institute of International Studies*

University of Cambridge
Professor Stephen TOOPE – *Vice-Chancellor*

University of Copenhagen
Dr. Henrik C. WEGENER – *Rector*
Dr. Lykke FRIIS – *Prorector for Education, Rector's Office*
Mr. Jonas ESPE BAK – *Special Advisor, Rector's Office*

University of Oxford
Professor Louise RICHARDSON – *Vice-Chancellor*

The University of Tokyo
Dr. Makoto GONOKAMI – *President*
Professor Kiichi FUJIWARA – *Special Assistant to the President, Professor, Graduate Schools of Law and Politics, Director, Policy Alternatives Research Institute*
Mr. Hiroyuki FURUYA – *Assistant Manager, Assistant to the President, Office of the President*

Ms. Yuko OHKUMA – *Administrative Staff, Int'l Strategy Group, Management Planning Department*

Yale University

Professor Peter SALOVEY – *President*
Mr. Don FILER – *Executive Director, Office of International Affairs*
Ms. Joy MCGRATH – *Chief of Staff, Office of the President*

IARU Secretariat

Ms. Rexille UY – IARU Secretariat
Ms. Savannah PORTILLO HEAP – IARU Secretariat

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Session 1:
Regional Round-up

Limit 12 minutes per university

A discussion of global, regional and national trends affecting higher education, including focus on international priorities in the respective partners' institutions and any other matters of interest to IARU.

(no paper)

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Session 2:
IARU Cybersecurity Forum & Discussion

2 IARU Cybersecurity Forum & Discussion

Lead	National University of Singapore
Reporting	*Drafted by Ms Caren Chua, Associate Director, NUS IT* *Cleared by Mr Tommy Hor, Chief IT Officer, NUS IT*
Executive summary	Following up with the proposal for an IARU Cybersecurity Forum that arose from the Senior Officers' Meeting last October, NUS IT organised a 2-day inaugural event on 4 – 5 April 2018. The Forum saw an esteemed attendance by CIOs and CISOs from 6 IARU universities - Australian National University, University of Cape Town, University of Copenhagen, ETH Zurich, Peking University and University of Tokyo. NUS President, Prof Tan Eng Chye graced the event with his Opening Address, while NUS' Chief IT Officer Mr Tommy Hor spoke on cybersecurity landscape and governance at NUS in his keynote. Other presenters included Guest Speaker Mr Ho Ka Wei from the Cyber Security Agency (under the Singapore Prime Minister's Office) and A/Prof Chang Ee-Chien from the School of Computing, NUS. All representative institutions also shared on cybersecurity in their respective universities' context and countries. The organising team at NUS IT was greatly encouraged by the positive feedback from all the participants, in areas of its organisation and the richness of contents and knowledge exchanged over the 2 days. It was also unanimously decided that this Forum be organised on an annual basis for about the same duration of 2 days. In closing, the meeting agreed on follow-up actions in several areas of collaboration viz. joint development of KPIs and benchmarks; formation of virtual teams; creation of a shared online platform as well as provision of contact points for specific issues. Pending approval, the University of Cape Town will host the next Forum in 2019. This report contains: 1. 1st IARU Cybersecurity Forum 2. Looking Ahead: Areas of Collaboration 3. Frequency and Host for Next Forum 4. For Approval 5. Annex A – Programme for 1st Cybersecurity Forum 6. Annex B – Delegates List
Items for decision	Approval is sought on the frequency, location and areas of collaboration for next IARU Cybersecurity Forum
Funding request	Contingent on approval of decision items and agenda for next event
Funding to date	USD 8,000 1st Cybersecurity Forum (NUS)

Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** Prof Andrew Wee (NUS) reported that the proposal for an IARU Cybersecurity Forum was prompted by a cybersecurity threat faced by NUS in early 2017. The idea for the forum stemmed from NUS wanting to share knowledge from its experience earlier this year and to learn best practices from its other partners. Based on feedback from IARU members, there was a consensus to establish a cybersecurity forum for member institutions to meet regularly and share security governance, strategies, policies, processes, challenges and practices, and advanced knowledge on cybersecurity management in higher education. The forum would focus on universities and examine different types of entities in the future. NUS proposed a two-day forum for 20-30 participants (approximately two from each IARU university) in 2018. This forum was to include expert speakers, sharing of campus cybersecurity landscape by IARU members, sharing of intelligence for prevention and detection, and cybersecurity KPIs and measurements. Senior Officers suggested that the forum be held in March or April, prior to the 2018 Presidents' Meeting. This way, a report can be delivered to the Presidents at the 2018PM with a further discussion on cybersecurity was to be built into the agenda. Many partners expressed eagerness to participate in the Forum. The Senior Officers approved the USD $8,000 funding request for a 2018 meeting in Singapore.

IARU Cybersecurity Forum 2018

1. 1st IARU Cybersecurity Forum: A fruitful 2-day event

With full support and approval from IARU Senior Officers' Meeting last year, NUS was honoured with hosting the 1st IARU Cybersecurity Forum, which took place on 4-5 April 2018. Putting together a 2-day programme[1], NUS welcomed 11 delegates coming from 6 IARU universities[2] all over the world, and provided for their accommodation at the lush on-campus Kent Vale Residences.

Leadership, best practices, cybersecurity insights, war stories and a melding of the best of minds happened over this event at NUS' University Hall. NUS' President Prof Tan Eng Chye graced the occasion with his Opening Address, sharing cybersecurity initiatives both at the national as well as the university-levels, and underscored the heightened need for collaborating and harnessing the collective wisdom of likeminded experts in this vibrant cybersecurity ecosystem. In a Keynote Address by Mr Tommy Hor, NUS' Chief IT Officer, he shed light on the IT organisation structure, our highly diverse landscape and profile as well as our Information and Cybersecurity Governance Framework.

Offering an added perspective from the Cyber Security Agency of Singapore, which is under the Prime Minister's Office, Mr Ho Ka Wei (Director, National Cyber Threat Analysis Centre) expounded on the global cyber security landscape and the threats that know no borders. Prof Chang Ee-Chien from NUS' School of Computing also spoke on the National Cybersecurity R&D Laboratory which is a national shared platform that provides computing resources and experimentation environments for collaboration amongst researchers in academia, government bodies and the industry.

Throughout the 2 days, representatives[3] from the universities, comprising mostly Chief Information Officers and Chief Information Security Officers were immersed in a lively exchange as they unreservedly shared their organisations' strategies, structure and academic culture. Different and yet not, the participants reaffirmed that while structures and processes may vary, cyber threats indeed transcend boundaries and there is much commonality in the challenges faced by academic institutions around the world. In consensus on how every participant had indeed benefitted from this forum, it was then unanimously agreed that the IARU Cybersecurity Forum continue to be organised on a yearly basis, so this can become a learning and exchange platform to help the alliance keep up with the rapid developments in cybersecurity.

[1] Programme can be found in Annex A
[2] Australian National University, University of Cape Town, University of Copenhagen, ETH Zurich, Peking University and University of Tokyo
[3] Delegates List can be found in Annex B

2. Looking Ahead – Areas of Collaboration

The meeting also discussed the potential areas of collaboration, which were:

Areas of Collaboration	Action by
1. KPIs and Benchmarking • Develop a standard set of KPIs that all members can use for engaging the Board/Senior Management. A starting point could be to establish a methodology to assess the maturity of cybersecurity developments on our campus, and such indices can either be developed by IARU members or through a consulting company • Develop benchmarks that can serve as proxies/measures to identify potential gaps in processes and resource optimisation. E.g. % of investment in cybersecurity	All IARU members
2. Virtual Teams • Form sub-groups and virtual teams/conferences to discuss specific areas and consider mini-projects that are relevant to some universities, with an end goal of sharing the findings with the group.	Domain-relevant IARU members
3. Shared Online Platform • Establish a shared online platform where IARU members can post best practices, challenges, solutions, research information, people matters, outreach models and policies, for knowledge sharing and exchange of views	NUS IT
4. Contact Points for specific issues • Share contact points to help each other achieve greater clarity on specific issues (e.g. in areas of risk classification and technical controls arising from the General Data Protection Regulation in the EU, as raised by University of Copenhagen)	All IARU members

3. Frequency and Host for the Next Forum

It is proposed that the IARU Cybersecurity Forum be held on **an annual basis** and that the next forum will be **hosted by the University of Cape Town**. (As a contingency measure, ETH Zurich will host in the event that the University of Cape Town is unable to do so.)

4. For Approval

Approval is sought from the Presidents on

- Areas of Collaboration in Para 2 and;
- Frequency and host for the next forum in Para 3

Annex A – Programme (Day 1)

DAY 1: 4 APRIL 2018 (WEDNESDAY)		
Timing		**Programme**
8:00am	8.50am	Arrival of Delegates and Breakfast at NEXUS Level 6
8:55am	9:00am	Arrival of Prof Tan Eng Chye, President NUS
9:00am	9:15am	Opening Address by Prof Tan Eng Chye, President, NUS
9:15am	9:35am	Keynote Address by Mr Tommy Hor, Chief Information Technology Officer, NUS IT
9:35am	10:00am	Cybersecurity – A Singapore Perspective by Cyber Security Agency of Singapore (CSA)
10:00am	10:30am	Group Photo Taking and Tea Break
10.30am	10.45am	Introductions
10.45am	12:00nn	Campus Cybersecurity Landscape by NUS IT
12:00nn	1:30pm	Lunch @ NEXUS
1:30pm	2:15pm	Sharing by Australian National University "Balancing Organisational Security with Academic Culture"
2.15pm	3:00pm	Sharing by University of Cape Town "Information and Cyber Security: The beginning, of the beginning"
3.00pm	3.30pm	Tea Break
3.30pm	4.15pm	Sharing by ETH Zurich "Information Security @ ETH Zurich – Governance, Challenges and Strategy"
4.15pm	6.00pm	Tour of the Lee Kong Chian Natural History Museum
7.00pm	9.30pm	Dinner at Halia, Singapore Botanic Gardens (a UNESCO World Heritage Site)

Annex A – Programme (Day 2)

DAY 2: 5 APRIL 2018 (THURSDAY)		
Timing		**Programme**
8:00am	8:30am	Check-out
8:30am	9:25am	Good Morning & Breakfast
9:30am	10:00am	Sharing by Professor Chang Ee-Chien, School of Computing, NUS "National Cybersecurity Lab – An Introduction"
10:00am	10:45am	Sharing by Peking University "Current practices and challenges in University IT and Cybersecurity"
10:45am	11:15am	Tea Break
11:15am	12:00nn	Sharing by University of Tokyo "Introduction of University of Tokyo and Information Technology Center"
12:00nn	1:30pm	Lunch @ NEXUS
1:30pm	2:15pm	Sharing and discussion by University of Copenhagen "International scientific collaboration and the EU General Data Protection Regulation"
2:15pm	3:30pm	Cybersecurity KPIs and Behavioral Analytics Facilitated by NUS IT
3.30pm	4:00pm	Tea Break
4.00pm	4.20pm	Wrap up by Mr Tommy Hor, CITO, NUS IT
4.30pm	4:45pm	Mini bus will bring delegates back to Kent Vale
BON VOYAGE!		

Annex B: Delegates List

IARU Member University	Delegates
Australian National University	1. Ms Karen Hill, Director IT Services 2. Mr David Howse, IT Security Leader
ETH Zurich	3. Mr Rui Brandao, Director of IT Services 4. Ms Anja Harder, Chief IT Security Officer
Peking University	5. Prof Ma Hao, Professor of Engineering and Vice Director Computer Centre 6. Mr Yang Jia, Senior Engineer & Vice Dir, Network Information Group 7. Mr Gao Zhitong, Engineer, Computer Centre
University of Cape Town	8. Mr Andre le Roux, Director, Enterprise Infrastructure Services 9. Ms Jamiela Dawood, Senior Systems Engineer, Information and Cyber Security Services
University of Copenhagen	10. Mr Poul Halkjaer Nielsen, Chief Information Security Officer
University of Tokyo	11. A/Prof Yuji Sekiya, IT Centre, Network Research Division
Absent: University of California Berkeley, University of Cambridge, University of Oxford, and Yale University	

Cyber Security Agency of Singapore (CSA)

- Mr Ho Ka Wei (Director, National Cyber Threat Analysis Centre)
- Mr Khoo Kay Chong (Senior Assistant Director, Incident Response)
- Mr Don Tham (Senior Consultant, Critical Information Infrastructure)

NUS Representation

- Office of Vice President for University & Global Relations
  - Prof Andrew Wee, Vice President
- Global Relations Office
  - Prof Victor Shim, Associate Vice President
- NUS IT
  - Mr Tommy Hor, Chief IT Officer, NUS IT;
  - Mr Ang Leong Boon, Head of IT Security;
  - Mr Ng Tiong Beng, Director (Infrastructure);
  - Ms Tan Shui-Min, Director (Applications); and representatives from NUS IT

- School of Computing (NUS) – A/Prof Chang Ee-Chien

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Session 3: Brief Updates from Select IARU Initiatives

3.1 Sustainable Campus Initiative

Lead	*Yale University*
Reporting	*Melissa Goodall*
Executive summary	The Sustainable Campus Initiative does not have any specific requests at this time, but because this group is particularly active right now, we thought highlights from our programmatic collaboration might be valued. Please note that this document contains only notable highlights, and that the SCI team will prepare a full report for the 2018 Senior Officers Meeting. This report highlights the following SCI activities: 1. Programs 2. Exchanges 3. Visibility 4. Events 5. Global Priorities, Educated Solutions
Items for decision	N/A
Funding request	N/A
Funding to date	*10,000 USD* — *Event on the role of academia in advancing the Sustainable Development Goals in 2018* *3,000 USD* — *Design support for publications in 2018* *3,000 USD* — *Staff exchange program in 2018* *2,000 USD* — *Student fellows to support communication and outreach in 2018* *3,000 USD* — *Design and production of best practice guide (Sustainia via UCPH)* *10,000 USD* — *Sustainability Meeting 2018* *10,000 USD* — *Sustainability Meeting 2019* *10,000 USD* — *Sustainability Meeting 2020* --- 5,000 USD — Energy Management and Behavior Change intern (Oxford) 900 USD — Global University Climate Forum intern (Yale) 1,500 USD — Green Guide Case Studies intern (Yale) 1,503 USD — "Campus as a Living Lab" intern (Yale) 4133.68 USD — Sustainability Meeting 2017 (UC Berkeley) 2,709 USD — Travel for one member of the IARU SCI Steering Committee to present at 2017PM (ANU) 668.00 USD — Contribution to 10th anniversary video (ANU) 2,275 EUR — Sustainability Meeting 2016

	5,000 USD	10th anniversary videos (1,000 each partner: NUS, ETH, UCPH, UTokyo, Berkeley)
	2,000 USD	IARU 10th anniversary collective video production (UC Berkeley)
	16,585 USD	IARU Global University Climate Forum (Dec. 2015)
	3,240 (January 2015)	Green Guide for Universities
	3,983 (January 2015)	Sustainability Meeting
	15,000 (October 2014)	Publication IARU Green Paper
	25,000 (October 2014)	Making Univ's Sustainable Conference
	15,000 (October 2014)	Sustainability Science Congress
	6,060 (March 2014)	Sustainability Meeting
	8,449 (March 2013)	Sustainability Meeting
	9,146 (March 2012)	Sustainability Meeting
	10,000 (2011–2012)	Consultancy Fees
	7,207 (March 2011)	Sustainability Meeting
	4,055 (February 2010)	Sustainability Meeting
	16,500 (March 2009)	Copenhagen related activities
	14,000 (October 2008)	Sustainability Meeting
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	up to 10,000 (PM 12)	Benchmarking study (unspent)
	up to 15,000 (PM 11)	Website write-up (unspent)
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** Melissa Goodall, Associate Director of the Yale Office of Sustainability and Chair of the Sustainable Campus Initiative, reported that SCI is comprised of three faculty members and the rest staff. She reviewed historic and current SCI activities: • SCI representatives worked for 18 months to create the Green Guide for Universities, which has been downloaded over 1000 times. It has recently been translated to Chinese by PKU. • SCI student exchanges allow for students to travel, work, and learn about best sustainable practices at IARU universities. • SCI helped organize the Global University Climate Forum in Paris in 2015. 130 students from around the world participated. • In Summer 2017, SCI saw staff exchange occur for the first time. UCPH traveled to Yale to share best practices of efficient use of space, and Yale traveled to Cambridge and Oxford to discuss energy management. • SCI supports and tests sustainable concepts: ETH Zurich led an online conference in the last week of October 2017 on digital conferencing with the objective of reducing air miles for universities while also expanding exchange and interaction.	

	SCI is developing a 2-3 year plan for future activities. The Working Draft will be a topic of discussion at the June 2018 meeting in Oxford. This document will include details of shared programmatic activities, plans for future communication, social media strategy, and strategy for distribution of shared documents. After the June 2018 meeting at Oxford, the SCI members will attend the UK Environmental Association for Universities and Colleges (EAUC). SCI is also working with the Global Summer Program and Global Transformation to discuss future collaborative projects. Some areas of focus will be campus management, student engagement, systemic change, and information exchange. SCI plans on holding a half-day workshop in June 2018 during the International Sustainable Campus Network meeting in Stockholm attended by 180 staff members and faculty members on Global Priorities, Educated Solutions: the role of academia in advancing the Sustainable Development Goals. SCI hopes that the outcomes of this workshop will result in a set of concrete next steps that will inform a multi-year strategy for IARU to continue sustainability work. Senior Officers approved the SCI funding request of USD $38,000: $10,000 per year for 2019 and 2020 meetings; $3,000 towards design support for publications; $3,000 towards staff exchange program; $2,000 for student fellows to support communication and outreach; $10,000 for event on the role of academia in advancing the Sustainable Development Goals. **Presidents' Meeting, March 2017** **Presenters:** Dr. Melissa Goodall, Associate Director, Yale Office of Sustainability Mr. John Sullivan, Manager, ANU Sustainability Office John Sullivan opened the presentation with a review of the Statement of the Presidents regarding sustainability: *"IARU as an alliance is committed to leadership academically and operationally. We will ensure that our universities prosper and thrive in a way that is not just sustainable, but also promises to enhance the resilience of our communities and the world."* He said that this statement and the initiative are woven into activities happening throughout campuses. He mentioned that in 2016, the United Nations passed the Paris Climate Accord and 17 Sustainable Development Goals. Melissa Goodall reviewed the Sustainable Campus Initiative's successes to date, emphasizing that it is a very functional and active group. The group co-authored the *Green Guide for Universities* with over 4,000 downloads to date. A *Global Challenges: Achieving Sustainability* conference held at UCPH in 2014 brought together more than 700 researchers from over 50 countries, bringing visibility to IARU. Twenty-seven teams and over 130 students from more than 30 countries participated in the Global University Climate Forum in 2015. Students were invited to submit ideas for local-scale projects that would have a measurable impact over the course of one year. A report is in progress and will be published on the IARU website. John then reviewed the group's current activities (Appendix 2), including the Energy Management Comparisons led by ETH, Dashboard Comparisons led by Oxford, Smarter Meetings led by ETH, the Fellowship Program led by Cambridge, and Case Studies and "Campus as a Living Lab" both led by Yale. After this review of the group's current and past activities, Melissa outlined the next steps for the Sustainable Campus Initiative. She introduced the idea of a

	possible conference on *Global Priorities, Educated Solutions: the role of academia in advancing the Sustainable Development Goals*. The SCI will form a committee with representation from all or most IARU universities to come up with possible events and deliverables for this conference. Some potential deliverables include a toolkit for universities on how universities can engage in the Sustainable Development Goals, publication of papers, online distribution of event discussions, goal-specific action plans, student activities and awards, and opportunities for collaboration. Benefits of such a conference to IARU include building relationships between members, showcasing cutting-edge research and operations, creating opportunities for students to connect, and visibility for the IARU brand. **Comments from the Presidents:** - There were concerns that a conference addressing all 17 SDGs may be unrealistic. A suggested solution was to break up the conference into several smaller events to address five goals at a time. The SCI will prepare a report for the Senior Officers at the 2017 Senior Officers Meeting with a conference proposal. - The Presidents suggested that the SCI consider short-term staff exchanges between partner universities. - The Presidents suggested the examination of divestment of fossil fuels. The SCI might think of producing a document outlining case studies from each university in how each institution is managing divestment.

Sustainable Campus Initiative

1. Programs

Smarter Meetings

ETH (lead), Cambridge, Copenhagen, Oxford, Yale

In October/November 2017, IARU members participated in a virtual conference focused on the impacts of air travel and the viability of online gatherings. The set of virtual sessions offered excellent opportunities for knowledge exchange about greenhouse gas accounting and best practices for travel, as well as the value of advanced technological solutions.

Shared Projects in the Pipeline

At the annual meeting in June, the group will develop a strategic plan to chart the course for multi-year collaborative projects. Topics will include:

- Sustainable Development Goals
- Disaster preparedness and recovery
- Airline travel accounting and sustainable travel guidelines
- Water management and drought preparedness
- Greening of on-campus residential spaces
- Integrating sustainability into master planning
- Sustainable laboratory design and use (in progress)

2. Exchanges

Staff Exchanges

In July 2017 Copenhagen sent a staff member to Yale for one week to share ideas on improving efficiency of space use. In August 2017, Yale sent a staff member to Cambridge and Oxford exchange knowledge about best practices for energy management. These visits proved remarkably fruitful, and resulted in the development and implementation of several projects. A report will be developed so that the outcomes of the exchanges can be leveraged by all. Proposed future topics for exchange include: sustainable lab building design (Copenhagen), cultural heritage and sustainability (ANU), integrating sustainability into master planning (ANU), and biodiversity (Yale).

Student Exchanges

Due to scheduling, travel, and language challenges, interest in student exchanges has dwindled. The group is considering an alternative wherein students from IARU member groups convene as a cohort at the annual International Sustainable Campus Network conference in Stockholm. The students would be assigned tasks for the three days of the conference, including rapporteuring for the IARU portion of the program, interviewing participants on specific topics, and attending and reporting on key sessions. The outcomes will include a report on the IARU program and interview responses to be used in additional reports.

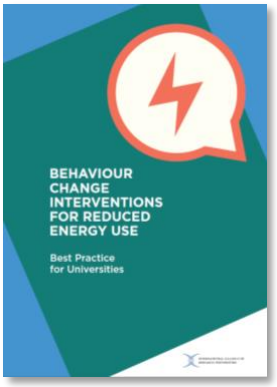
3. Visibility

Oxford, NUS, Peking, Yale – with input from all

Publications

The team is building a set of publications to build on the success of the *Green Guide.*

- Peking University is translating the Green Guide to Mandarin, with the aim of having it complete for the 120th anniversary celebration. (Tokyo translated the Guide to Japanese in 2015.)
- Oxford has developed a comprehensive report on best practices for changing behavior related to energy use.
- Yale and NUS are developing a set of comparative case studies, each of which compares common practices and standards between three to ten members. Topics to-date include campus as a living lab, effective communications, and sustainable food. Subjects in the pipelines include air travel and biodiversity.



4. Events

International Sustainable Campus Network Conference, Stockholm, June 11 – 13

Yale (lead), Berkeley, Cape Town, Copenhagen, ETH, Oxford, NUS

Green Guide: IARU SCI is in the running for an ISCN Innovative Collaboration Award based on the Green Guide and its related outcomes. The group will also be presenting on these outputs during a poster session on the first day of the conference.

SDG Program: IARU has been allocated a half day of the three-day conference to host "Global Priorities, Educated Solutions: the role of academia in advancing the Sustainable Development Goals." See notes below for highlights on this event.

Case Study Rapid Round: The Oxford-led IARU-funded report, *Behaviour Change Interventions for Reduced Energy Use,* has been accepted for presentation during the conference.

The Environmental Association for Universities and Colleges

Since the annual meeting of the IARU SCI group will coincide with the annual conference of the EAUC, the group will travel to Keele, England, to participate in part of that event. This will add value to the IARU meeting and offer an additional opportunity to present on the IARU SCI outputs. Oxford, NUS, and Yale will present on the *Green Guide* and its spin-off products, and Oxford and Copenhagen will present on the energy behavior report.

5. Global Priorities, Educated Solutions: the role of academia in advancing the Sustainable Development Goals

This program will be arranged around four main themes:

- *Scholarship for solutions:* teaching and research in the context of the SDGs.
- *Walking the talk:* how campuses can lead by example in terms of operational excellence and using the campus as a test bed for innovation.
- *Next generation innovation:* the role of students in advancing world-changing ideas.
- *Service for society:* universities as thought-leaders and collaborative partners in addressing global challenges.

While this event will be led and organized by IARU professionals and faculty members, it will offer leadership and presentation opportunities for representatives from other universities. Listed below are the presenters identified to-date. IARU funding will be used to support participation of members of the AURA network in Africa. Decisions on applications for that funding will be issued the week of April 9.

Plenary Welcome and Goals for the Session (Melissa Goodall, Yale)
TED-style Presentations:

- Katherine Richardson, Copenhagen, SDG education program (to be confirmed)
- Harro Von Blottnitz, Cape Town, UCT 2015 Research Report
- Khatarya Um, Berkeley, Universities in society (depending on funding)

Breakout Sessions There will be a breakout sessions for each for the themes above. IARU staff members will moderate. Rapporteurs will document the discussion and prepare the moderators for reporting.

- *Scholarship for Solutions,* Moderator: (TBC)
  Presenter: Dario Cottafava, University of Turin
- *Walking the Talk*, Moderator: Tomas Refslund Poulsen, Copenhagen
  Presenter: Leanne Denby, Macquarie University
- *Next Generation*, Moderator: Amy Ho, NUS
  Presenter 1: Erin Schutte Wadzinski, Yale
  Presenter 2: Dimitris Tsaltas, Cyprus University of Technology
- *Service for Society*, Moderator: (TBC)
  Presenter: Wendy Purcell, Harvard University

Plenary Reporting key conclusions from breakouts (~8 minutes each)
Closing remarks: Jeff Sachs, Columbia University and UN Sustainable Development Solutions Network (to be confirmed)

Planned deliverables from this event include:

- Online distribution of videos of the plenary sessions
- A paper to highlight the unique role of academia in advancing approaches to the SDGs
- A report to reflect the content of each break-out session
- An outline of a possible plan of action for future collaborative projects and programming.

Representatives

ANU	John Sullivan (steering committee)
Berkeley	Kira Stoll
Cambridge	Joanna Chamberlain, Kevin Couling
Cape Town	Harro Von Blottnitz, Brett Roden
Copenhagen	Tomas Refslund Poulsen (steering committee)
ETH Zurich	Dominik Brem
Oxford	Harriet Waters (steering committee), Tom Heel
NUS	Amy Ho, Kwet-Yew Yong
Peking	Xue Ling
Tokyo	Yuji Suzuki
Yale	Melissa Goodall (steering committee chair), Ginger Chapman

3.2 Aging, Longevity and Health & Graduate Student Conference

Lead	The University of Tokyo
Reporting	*Tina Gottlieb (UCPH)* *Akiko Tanaka (UTokyo)*
Executive summary	In 2017, Oxford hosted the 4th GSC, the *Emerging Researchers Conference: Demography, Aging and Health*. The conference provided an opportunity for graduate students/postdoctoral researchers to network and present research to an international research community within the ALH area. It was a joint conference on the twentieth anniversary of the establishment of the Oxford Institute of Population Aging. The programme combined international keynote speakers with themed sessions, paper presentations, multi-disciplinary group work and poster presentations. Oxford is now preparing to publish a special issue of Journal of Population Aging based on this IARU meeting. At the same occasion, the ALH Steering Committee held its 5th meeting, discussing strategies for joint activities. Oxford was elected to chair the Committee for the next period (mid to 2018-mid 2020); Cambridge are considering to candidate for 2020-2022. Cape Town has entered the Committee in 2018. Teleconference in 2018 Following up, Prof. Sarah Harper, Oxford, arranged a teleconference in February (participants: Cape Town, UTokyo, PKU, ANU, Cambridge, UCPH and Oxford). A tentative plan for upcoming meetings and events is: • **2018:** NUS will host a GSC and ALH events, 17-19 October. • **2019:** Cape Town plan to host a GSC and ALH events. • **2020:** TBD. The Steering Committee will contact Berkeley to explore interest and possibilities. The network's four defined ALH research areas will be revisited and discussed at the Singapore meetings in 2018. **Aging Symposium at UCPH and a new ALH collaboration** On 22-23 March 2018, IARU colleagues from Oxford and Cambridge participated in an aging symposium arranged by the Center for Healthy Aging, UCPH. Professor Sarah Harper gave the keynote speech and Dr. Louise Lafortune (Cambridge) and Prof. George Leeson (Oxford) gave presentations, http://healthyaging.ku.dk/documents/events/SAB-CEHA_symposium_CEHA_staff.pdf/ . During the Symposium, Dr. Louise Lafortune (UCambridge) and Assoc. Prof. Maria Kristiansen (UCPH) met bilaterally discussing a joint initiative to develop cross-national comparative study into healthy aging.

	The aim is to explore factors underpinning healthy aging in different contexts through the lens of an ecological framework, which encompasses individual-, social-, community- and policy level processes. The idea is to bring interested partners in the IARU under a shared umbrella. A draft framework will be discussed with interested partners during the fall, 2018. **Erasmus+ visit to Oxford** Secretary Hanne Kracht, Center for Healthy Aging, UCPH, visited the Oxford Institute of Population Aging, Oxford, within the EU funded Erasmus+ Mobility Program. The purpose was to network and explore new ways of working with administrative functions and processes at another IARU university. **Summer schools for IARU students within the ALH area in 2018** Again in 2018, the Center for Healthy Aging, UCPH, runs two summer schools open for IARU students (June and August; master level). IARU students have priority to both summer courses. 1. IARU GSP: *Interdisciplinary Aspects of Healthy Aging* 2. *Innovating Solutions for Aging Populations* Generous scholarships from the NNITP are available for talented IARU students. In 2017, ten IARU students were awarded this scholarship for CEHA's summer schools. Scholarships amount to approximately € 1,200 a month. Depending on the costs and length of studies at the UCPH, scholarships may increase up to € 26,000 in total. **ALH 2018 Graduate Student and Scientific Conference** with a focus on healthy aging, cognition, the environment and community care to be held in Singapore on 17-19 October 2018. The conference will be hosted by the Centre for Aging Research and Education, Duke NUS Medical School. This report contains: 1. 2017 ALH Graduate Student Conference and Steering Committee Meeting and next ALH Chair 2. Teleconference in February 2018 3. 2018 Aging Symposium and new ALH collaboration to develop cross-national comparative study on healthy aging 4. Erasmus+ 5. ALH Summer Schools 6. Novo Nordisk International Talent Program (NNITP) 7. 2018 ALH Graduate Student Conference and Steering Committee Meeting (proposed agenda and funding request submitted by NUS)
Items for decision	Budget for 2018 ALH Graduate Student and Scientific Conference
Funding request	Up to USD 15,000 for ALH GSC event at NUS, autumn 2018.

Funding to date	USD 13,003.20 (2017)	ALH Graduate Student Conference, Oxford
	USD 14,600 (2016)	ALH Graduate Student Conference, UTokyo
	USD 15,000 (2014)	ALH Graduate Student Conference, Copenhagen
	USD 38,000 (2009)	for project management salary, Oxford
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** Tina Bergløv Kjær (UCPH) reported that in 2017, UCPH offered two ALH summer courses. The first course, Interdisciplinary Aspects of Healthy Aging, which has been running since 2011, is a GSP course. In 2017, the cohort included 19 students from IARU universities. The second ALH summer course, Innovating Solutions for Aging Populations, contributes to the education and training of professional health innovators and entrepreneurs at an international level. While not part of the GSP, this course is open for IARU students. It includes an on-line component (a MOOC under COURSERA) and an on-campus component. This year, five IARU students participated. In 2017, a total of 10 IARU students attending ALH courses were awarded Novo Nordisk scholarships. Senior Officers request clarification on what type of faculty or staff ought to participate in ALH. Tina will check with the group's leadership on this question. There are no requests for funding at this time. ALH will likely request funding at the 2018 Presidents' Meeting to support its next Graduate Student Conference. **Presidents' Meeting, March 2017** Kiichi Fujiwara (UTokyo) reported that ALH is the only remaining research-based collaboration within IARU and continues to be successful. A Graduate Student Conference at UTokyo was held in November 2016 along with the ALH Steering Committee meeting. There are two ALH summer courses: (1) *Alive and KICking –innovative solutions to aging-related challenges* is not affiliated with GSP but is open to all IARU students and (2) *Interdisciplinary Aspects of Healthy Aging* is a GSP course offered at UCPH. Another GSC and steering committee meeting will be held at Oxford in 2017, with a 2018 meeting planned either at UC Berkeley or Cambridge. He introduced a new project titled *Walkability,* focused on mobility and social relations among the elderly, for which funding options are being pursued.	

Aging, Longevity and Health

1. 2017 ALH Graduate Student Conference and Steering Committee Meeting

In September 2017, Oxford hosted the 4th Graduate Student Conference, the Emerging Researchers Conference: Demography, aging and Health. The conference provided an opportunity for graduate students and postdoctoral researchers from IARU universities and beyond to network and present research to an international research community within the ALH area. It provided an opportunity to disseminate among a growing international research community drawn from Europe, Africa, Asia, North America and Australia.

The Conference was a joint conference on the twentieth anniversary of the establishment of the Oxford Institute of Population aging. The programme combined international keynote speakers with themed sessions, paper presentations, multi-disciplinary group work and poster presentations.

Oxford is now preparing to publish a special issue of Journal of Population aging based on the IARU 2017 meeting in Oxford.

The 5th ALH Steering Committee Meeting

At the same occasion, the ALH Steering Committee held its 5th meeting. **The Committee discussed strategies for joint network activities and elected Oxford to chair the Steering Committee for the next period (mid to 2018-mid 2020).** Cambridge are considering to candidate for the chair position from 2020-2022. The Committee also decided to approach IARU universities, which are not represented in the ALH Steering Committee yet and, consequently, Cape Town has entered the Committee in early 2018.

Participants at the IARU events in Oxford, 26-28 September 2017: The Emerging Researchers Conference: Demography, aging and Health.

2. Teleconference in February 2018

Following up on the meetings in Oxford, Prof. Sarah Harper, Oxford, arranged a teleconference between representatives from the ALH network in February 2018. Meeting participants represented Cape Town, UTokyo, PKU, ANU, Cambridge, UCPH and Oxford.

The agenda was to start preparing for the next meetings and revisit the defined research topics of the network. An outcome of the meeting was a tentative plan for hosting the next ALH meetings and events:

- **2018:** NUS will host a Graduate Student Conference (GSC) and ALH events. Proposed dates: 17-19 October.
- **2019:** Cape Town plan to host a Graduate Student Conference (GSC) and ALH events
- **2020:** TBD. The Steering Committee will contact Berkeley to explore interest and possibilities.

ALH Research areas: The four defined research areas for the IARU ALH network will be revisited at the next Steering Committee meeting in October 2018 in Singapore. They are:

- Cohorts, cognition and the brain (lead: ANU)
- Changing demographic, economic, social and physical environments and healthy aging (lead: Oxford)
- Approaches to understand the biology of aging (lead: Copenhagen)
- Technology and aging (lead: Berkeley)

3. Aging Symposium and a new ALH collaboration

On the 22-23 March 2018, IARU colleagues from Oxford and Cambridge participated in an aging symposium arranged by the Center for Healthy Aging at the UCPH. Professor Sarah Harper gave the keynote speech and the program also included presentations by Dr. Louise Lafortune (Cambridge) and Prof. George Leeson (Oxford), http://healthyaging.ku.dk/documents/events/SAB-CEHA_symposium_CEHA_staff.pdf/ .

Prof. Sarah Harper, Oxford, presenting at the Center for Healthy Aging Symposium in Copenhagen, 22nd-23rd March 2018.

Joint initiative to develop cross-national comparative study into healthy aging

During the Symposium, bilateral meetings between Dr. Louise Lafotune (Cambridge) and Assoc. Prof. Maria Kristiansen discussing and exploring joint research interests and grant writing also took place.

A joint IARU research project is now under development, led by University of Cambridge Institute of Public Health and Center for Healthy Aging, UCPH. The aim of the comparative, cross-country project is to explore factors underpinning healthy aging in different contexts through the lens of an ecological framework which encompasses individual-, social-, community- and policy level processes. The idea is to bring interested partners in IARU under a shared umbrella allowing for synergy and comparative elements while encouraging country-level differences in framing of the overall research question, choice of methodological approach and outputs. The aspiration is to uncover drivers of healthy aging that transcend geographical boundaries while fostering new ways of working among IARU researchers. The outputs will consist of shared publications and a final report that could serve as a stepping-stone for future research collaborations. The project group is working on a draft framework to be presented and discussed with interested partners in fall 2018.

4. Erasmus+ visit to Oxford

Secretary Hanne Kracht, Center for Healthy Aging, UCPH, visited the Oxford Institute of Population Aging, Oxford, in March within the framework of the EU funded Erasmus+ Mobility Program.

Erasmus+ allows employees at EU universities to do shorter training stays at a university in - or outside - Europe in order to get inspiration as well as a broader, international perspective. The purpose of the visit was to acquire practical skills and explore new ways of working, as well as networking with and learning how our IARU colleagues perform and work with administrative functions and processes.

5. Summer schools for IARU students within the ALH area in 2018

Again in 2018, the Center for Healthy Aging (CEHA), UCPH, runs two summer schools open for IARU students (June and August; master level). IARU students have priority to both summer courses.

1. IARU GSP: Interdisciplinary Aspects of Healthy Aging
Students get an opportunity to explore the aging phenomena through an interdisciplinary lens and in an international perspective, as well as to gain research experience in group projects. Students are also learning tools for writing grant applications.

The course program includes lecturers from CEHA as well as from the IARU network. In 2017, Prof. George Leeson, Oxford, participated. In order to strengthen the IARU flavour further, efforts are made to expand the number of IARU lecturers from the summer course of 2019. So far, lecturers from Oxford and Cambridge have participated on a regular basis.

More information is available at: http://healthyaging.ku.dk/for_students/iaru_summerschool/2018/
A video featuring IARU student's experiences at the course is available at:
https://video.ku.dk/interdisciplinary-summer-school-healthy-aging

2. Innovating Solutions for Aging Populations

This summer course is developed in collaboration with the Copenhagen Business School and Danish pharma company Novo Nordisk under the EIT Health Umbrella. In 2017, two new partners joined the project: Universities of Uppsala (Sweden) and Rotterdam (The Netherlands). The aim is to contribute to education and training of professional health innovators and entrepreneurs at an international level. The course includes online lectures on the COURSERA platform and two weeks on-campus teaching at the UCPH. Scholarships from the NNITP are available for IARU students (please see below). More information on this summer course, including a short video about the course, is available at: http://healthyaging.ku.dk/for_students/eit_summerschool/2018/.

6. **Novo Nordisk International Talent Program**

The Novo Nordisk International Talent Program (NNITP) was established in 2015 between the UCPH and the pharmaceutical company Novo Nordisk. NNITP offers scholarships for students within academic fields related to the areas that Novo Nordisk represents, primarily within specified fields of Science and Health Sciences. The program runs to 2020. Students from the IARU universities are eligible to apply and have priority. Scholarships amount to approximately € 1,200 a month. Depending on the costs and length of the study abroad at UCPH, it may increase up to € 26,000 in total. In 2017, a total of ten IARU students were awarded this scholarship for CEHA's summer schools.
More information is available at: http://studies.ku.dk/exchange/admission/nnitp_scholarship/.

Summer school students at work in Copenhagen, August 2018.

7. 2018 International Alliance of Research Universities (IARU) Aging, Longevity and Health (ALH) Graduate Student and Scientific Conference

17-19 October 2018, Centre for Aging Research and Education, Duke-NUS Medical School Singapore

Budget Request: USD 15,000 contribution from IARU

Introduction

The Centre for Aging Research and Education (CARE), sited at the Duke-NUS Medical School will host the IARU's 2018 Graduate Student Conference, an Aging Longevity and Health (ALH) Initiative scientific conference and the ALH Steering Committee Meeting, on behalf of the National University of Singapore (NUS).

Objectives

The objectives of the conferences are as follows:

i) Feature the key research initiatives of the ALH network members

ii) Provide a platform for graduate students in the IARU network to share their research and explore collaborations both within IARU and with researchers in Singapore

iii) Facilitate exchange and collaborations between key Singapore based researchers and policy makers, with ALH researchers

Summary of Proposal

The 2018 Programme will comprise of three key components:

i) Scientific conference featuring key research domains of the ALH's faculty; healthy aging, aging and cognition, employment and employability of older workers, aging and the environment, and supporting at risk elders in the community

ii) Graduate Student Conference comprising of poster sessions

iii) Thematic roundtables focussing on key aging issues

iv) Expert Lecture Programme focussing on a theme of key relevance across research, policy and practise

Programme Details

(I) ALH Scientific Conference

The proposed thematic focus of the scientific conference would be on the following based on the knowledge development needs in Singapore as well as the competencies of ALH's faculty:

- Healthy Aging : Lene Juel Rasmussen; Michael Ristow; Barri Halliwell
- Aging and Cognition: Karyn J Anstey
- Employment and employability of older adults: Sarah Harper

- Aging and the Environment: Juniro Okata; Zheng Xiaoying
- Supporting At Risk Elders in the Community: Louise Lafortune

(II) Graduate Student Conference (GSC)

It is proposed that the 2018 GSC platform comprise of a concurrent poster conference focusing on the same key themes as the scientific conference as well as graduate student attendance at the various roundtable discussions. The latter aims to provide graduate students exposure to more in depth scientific discussions as well as macro national policy and programme issues surrounding the key aging themes.

(III) Closed Door Roundtables

The specific aims of the roundtable are as follows:

- Enable more in-depth exchanges between ALH leads and local researchers on the highlighted themes
- Facilitate discussions on policy and programme translation
- Facilitate possible collaborations between ALH leads and local researchers

The proposed thematic focus of the roundtables based on key national concerns include:

i) Heathy aging

ii) Cognitive Aging

iii) Employment and Employability of Older Adults

The closed door will be a by invitation only event comprising key researchers, policy and programme professionals.

(IV) Expert Programme

The Expert Programme comprised a lecture session on a key theme of relevance across policy, practise and research. The proposed theme for the session is as follows:

Supporting at Risk Elders in the Community: Lessons and Benchmarks (working title)

IARU AHL 2018 Conference Budget

Date: 17,18,19 October 2018
Centre for Ageing Research and Education
Duke NUS Medical School, Singapore

Items	Cost
Overseas Speakers (Based on AHL Steering Group)	
Speakers Fees for 7 Speakers	$24,500.00
Ground transfer	$500.00
WHT	$210.00
Subtotal:	**$25,210.00**
Scholarships for graduate students	
10 partial scholarships	10000
Subtotal:	10000
Hospitality	
Dinner with speakers after conference	$1,750.00
Subtotal:	**$1,750.00**
Venue	
Duke-NUS Amphitheatre	
Catering (lunch and tea breaks for conference)	$4,500.00
Catering (lunch and tea breaks for roundtables)	$960.00
Catering (lunch for expert programme)	$1,000.00
Rental of equipments	$500.00
Subtotal:	**$6,960.00**
Others	
Transport claim - staff and volunteers	$500.00
Interns honorarium	$2,400.00
Stationery cost	$200.00
Conference Program booklet	$2,250.00
Subtotal:	**$5,350.00**
Publicity/ Communications	
Publicity	$500
Photography	$650.00
Subtotal:	**$650.00**
Total cost:	**$49,920.00**

*According to NUS policy, dinner with external party should not exceed $100 per head

3.3 Women and Men in Globalizing Universities

Lead	Oxford University ETH Zurich
Reporting	*Professor Rebecca Surender (Oxford)* *Professor Renate Schubert (ETH Zurich)*
Executive summary	In parallel with the last President's Meeting, the 'Women and Men in Globalizing Universities' Group had its last meeting in March 2017 at ANU. The respective outcomes are mentioned below. The next meeting will take place in mid-September 2018 at Yale University. After the meeting in March 2017, the Gender Group received an additional $4,000 for a total of $12,000 in approved funding to hire up to three interns to work on the following topics: - Gender Attainment Gap (Lead by ETH) - Implicit Bias Training (Lead by Yale) - Financial Incentives to Progress the Hiring of Women (Lead by ANU) It was envisaged that the interns would collect information and data from all IARU institutions in relation to the above topics, conduct a wider literature review and draft a preliminary report. It was anticipated that this work would take the equivalent of approximately 2 months' full time work, though may be spread over a longer period. Interns were recruited and work began in all three institutions by Sept. 2017 Final analysis on these projects is still underway and final results/reports will be discussed at the gender group's meeting in September. Preliminary findings from the study at ETH Zurich on the gender attainment gap indicate explanatory factors can be grouped in three main categories: biological factors, family related factors and institutional factors (i.e. how teaching and examining is arranged at universities). Institutional factors are those that can be influenced and changed by universities and hence, are of special importance. There is no general 'recipe' on how to narrow down the gap, and any recommendations for change need to be embedded within the particular circumstances in which an individual university faces gender attainment gaps. Nevertheless, the report outlines general strategies and recommendations for improvement. This report contains: 1. Funding request for 2018 Workshop at Yale 2. Gender Attainment Gap Report (See appendix; Tome pg. 128)

Items for decision	Funding request for 2018 workshop
Funding request	USD 6575 to host 2018 workshop at Yale
Funding to date	USD 4,000 IARU Intern for data collection and analysis of gender differences in educational achievements (ETH) USD 4,000 IARU Intern to assess role of incentives (ANU) USD 8,000 Workshop (March 2017) USD 4,000 IARU Intern to assess the role of implicit bias training (Yale) USD 3,011 Workshop (July 2016) USD 5,200 Workshop (June 2015) USD 3,638 Workshop (2013) USD 6,512 Workshop (March 2012) USD 8,500 For project development (PM2006)
Outcomes of previous meetings	**Presidents' Meeting, March 2017** **Presenters:** Fiona Jenkins, Associate Professor, School of Philosophy, Centre for Moral, Social and Political Theory, ANU Margaret Jolly, ARC Laureate Fellow School of Culture, History and Language, ANU Rebecca Surender, Pro Vice Chancellor for Equality and Diversity, Oxford Margaret Jolly began the presentation with a report for IARU by Angelica Stacey. According to the report, 31% of professors at UC Berkeley are women, the highest percent amongst the IARU institutions, but there are similar patterns of senior women academics across most IARU institutions. Rebecca Surender reported that the numbers are crucial, but so are the qualitative experiences of gender equity in the context of higher education in universities and the challenges appear to be sector wide i.e. not located in specific institutions or departments. She stressed the need to 'fix the institutions' rather than focusing solely on the 'deficits' of women faculty/students (e.g. more mentoring/confidence building strategies). Initiatives were needed to address work-life balance and systemic issues to address structural constraints on achieving gender equity. Fiona Jenkins presented the "Gender in the Global Research Landscape" report. She reported that the proportion and number of female researchers are increasing globally. Scholarly output by men is still much greater than by women and may be increasing – except in Japan where scholarly output by women is greater, but women must work twice as hard to compete with

	men. She reported that the 'citation impact' of research by men and women is about the same. **Questions from the Presidents:** Max Price (UCT) asked how financial incentives work to promote gender equality. Lykke Friis (UCPH) provided an example of this at UCPH in 2008: departments who appointed female professors received a monetary incentive. She said that this practice proved successful in increasing female faculty numbers, but was controversial and viewed by critics as a "quota setting" practice. Sarah Springman (ETH Zurich) asked what can be done to help women feel safer and better show their abilities in a university setting. Rebecca Surender reported that in terms of academic abilities/outcomes of students at Oxford, the biggest gender attainment gaps occur in Chemistry and more surprisingly, English. She said that while there was no single solution, the university was trialing/measuring a number of different things from modifying teaching and examination processes, to more visible female role models, to wider institutional cultural change (portraiture and iconography) Max Price (UCT) asked if the Gender Group will conduct research regarding heteronormative issues and whether the research makes room for third genders and non-binary people. Presidents suggest this topic as a future goal for the Gender Group. **Senior Officers' Meeting, November 2016** Jürg Brunnschweiler (ETH) and Prof. Kiichi Fujiwara (UTokyo) reported that Gender Group activities are going well. The Gender Group has allocated funding for an IARU internship program. The latest Gender Group meeting took place at Peking University in July 2016. Senior Officers expressed that a 2017 meeting at ANU in the spring in congruence with the Presidents Meeting may be too premature. A meeting is scheduled for 2018 at Yale with the directive of examining implicit bias trainings prior to this meeting. Since the Senior Officers meeting concluded, the IARU Secretariat has received notice that the Gender Group will meet at ANU in March 2017. Prof. Pradeep Chhibber (UC Berkeley) recommends the Gender Group examine the issue of sexual harassment on university campuses. He also suggests the Gender Group develop a document similar to the Green Guide for Universities on the topic of "Gender Inequality Within Universities" as a goal over the next few years. Senior Officers agree that these suggestions may be presented to the Gender Group directly. Senior Officers approved the funding request of $4,000 USD in 2017.

Women and Men in Globalizing Universities

At the next meeting of the Gender Group, the reports done by the IARU supported interns will be discussed (see also "Executive Summary"). For example, in relation to the 'attainment gap' work, the goal is to derive some recommendations which will be useful for all IARU universities in narrowing or eliminating a current or potential gender attainment gap. Since institutional issues matter – in addition to biological, psychological and cultural issues – Universities are challenged to take responsibility. Improving curricula as well as examination styles are among the measures Universities could and should consider, as well as creating an inclusive culture and welcoming atmosphere for all students. Across all the areas being investigated by these projects, it is envisaged that exchanging ideas, experiences and best-practice examples will help IARU Universities maintain their excellent positions, not only with respect to research but also with respect to teaching and education in general.

The Yale meeting will also be dedicated to more broadly discussing and sharing strategies and instruments (workshops, talks, video tutorials, video tools) that help to reduce gender biases within the IARU universities and decrease the degree of stereotype-based discrimination.

Listed below are the budget projections for the upcoming Gender Group meeting scheduled for Wednesday, September 12 through Friday, September 14, 2018 at Yale University. The amounts listed consist of a plan to host an estimated 25 participants.

Meals:
9/12/2018 Dinner $1,200
9/13/2018 Breakfast / Lunch 2625
9/14/2018 Breakfast / Boxed Lunch 725
Total Meals: $4550

A/V Services:
9/13/2018 $1000
9/14/2018 500
Total A/V Services: $1500

Shuttle Services:
9/13/2018 $350
9/14/2018 175

Total Shuttle Services: $525

Total Projected Expenses: USD $6575

INTERNATIONAL ALLIANCE OF
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Session 4:
2019 Presidents' Meeting Host & Dates

4 Presidents' Meeting 2019 & 2020

2019

It was suggested by several IARU Presidents at PM2017 in Canberra to host the Presidents' Meetings in Davos or Zurich every January, or every other January, to coincide with the annual World Economic Forum attended by most university presidents in the hopes of increasing full president attendance. This could potentially be tested in 2019. Several arguments against this method include that scheduling the Presidents' Meeting back-to-back with the Forum would mean university presidents are gone from their campuses for an extended period of time, and most, but not all, IARU Presidents attend this Forum, so attendance from all 11 IARU Presidents is still not guaranteed.

UC Berkeley originally offered to host PM2019 and is still eager to host, as the IARU Chair and Secretariat will be transitioned at this meeting. Senior Officers requested that potential dates for PM2019 be presented at the 2018 Presidents' Meeting from both UC Berkeley and ETH Zurich. Presidents will vote on the date and location that best works for their schedules.

UC Berkeley proposed dates for PM2019:

- 25–26 March 2019 with Welcome Dinner on Sunday, 24 March.
- 30–31 March with Welcome Dinner on Friday, 29 March.
- 1–2 April 2019 with Welcome Dinner on Sunday, 31 March.
- 29–30 April 2019 with Welcome Dinner on Sunday, 28 April.

ETH Zurich proposed dates for PM2019:

- 20–21 January 2019 with Welcome Dinner on Saturday, 19 January (before the World Economic Forum).
- 26–27 January 2019 with Welcome Dinner on Friday, 25 January (after the World Economic Forum).

Lunar New Year: Tuesday, 5 February 2019.

Easter: Sunday, 21 April 2019.

2020

NUS has offered to host the 2020 Presidents' Meeting.

Past Presidents' Meetings

2018 @ Peking University (4–6 May)

2017 @ Australian National University (26–28 March)

2016 @ University of Oxford (25–26 April)

2015 @ The University of Tokyo (2–3 March)

2014 @ ETH Zurich (24–25 April)

2013 @ National University of Singapore (8–9 April)

2012 @ University of Copenhagen (26–27 April)

2011 @ Yale Club, New York City (6–7 April)

2010 @ Peking University (13–14 April)

2009 @ University of Cambridge (28–29 April)

2008 @ Yale University (22–23 April)

2007 @ Australian National University (28–29 March)

2006 @ National University of Singapore (13–14 January)

INTERNATIONAL ALLIANCE OF
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Session 5:
Topical Session – China's Rejuvenation and Its Implication for Developing Countries and Economies

(no paper)

Session 5 Topical Session – China's Rejuvenation and Its Implication for Developing Countries and Economies

China had one of the most splendid civilizations in the world before the modern times. The rejuvenation of China was an unthinkable dream until the rapid growth unleashed by the transition from a planned to a market economy in 1978. This speech addresses six related questions: Why was it possible for China to achieve an extraordinary development performance during its transition? Why was China unable to attain a similar development success before its transition started? Why did most other transition economies fail to achieve a similar performance? What costs does China pay for its extraordinary success? Can China maintain dynamic growth in the coming decades? And what are the implications of China's experience for other developing countries and for economics?

Speaker

Justin Yifu LIN
Dean of Institute of New Structural Economics
Peking University

林毅夫
北京大学新结构经济学研究院院长

Justin Yifu LIN is Dean of Institute of New Structural Economics, Dean of Institute of South-South Cooperation and Development and Professor and Honorary Dean of National School of Development at Peking University. He was the Senior Vice President and Chief Economist of the World Bank, 2008-2012. Prior to this, Mr. Lin served for 15 years as Founding Director and Professor of the China Centre for Economic Research (CCER) at Peking University. He is Councillor of the State Council and a member of the Standing Committee, Chinese People's Political Consultation Conference. He is the author of more than 20 books including Beating the Odd: Jump-starting Developing Countries; Going Beyond Aid: Development Cooperation for Structural Transformation, the Quest for Prosperity: How Developing Economies Can Take Off, New Structural Economics: A Framework for Rethinking Development and Policy, Against the Consensus: Reflections on the Great Recession, and Demystifying the Chinese Economy. He is a Corresponding Fellow of the British Academy and a Fellow of the Academy of Sciences for Developing World.

林毅夫教授是北京大学新结构经济学研究院教授、院长，北京大学南南合作与发展学院院长,北京大学国家发展研究院名誉院长。1994 年创立北京大学中国经济研究中心（现北京大学国家发展研究院），并担任主任一职。2008 年被任命为世界银行首席经济学家兼负责发展经济学的高级副行长，成为担此要职的发展中国家第一人。2012 年在世界银行的任期届满，返回北大，继续教学研究工作。林毅夫现任全国政协常委，国务院参事，曾任全国工商业联合会专职副主席，任第七、八、九、十届全国政协委员，第十届全国政协经济委员会副主任，十一届全国人大代表，十二届

全国政协常委、经济委员会副主任。在国内外多个有关发展政策、农业、减贫的委员会、领导小组兼职。膺选为发展中国家科学院（原第三世界科学院）院士及英国科学院外籍院士，并获英法美加香港10所大学荣誉博士学位。主要著作：《战胜命运》、《超越发展援助》、《繁荣的求索》、《解读中国经济》、《新结构经济学》、《从西潮到东风》、《本体与常无》、《中国的奇迹》等二十余册。并在国内外学术期刊发表100多篇论文。

INTERNATIONAL ALLIANCE OF
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Session 6:
Presentation from Joint-Online Course

6 Joint-Online Course

Lead	National University of Singapore
Reporting	*Prof. Suzaina Kadir*
Executive summary	The second run of the IARU joint online course included several changes aimed at enhancing the student's learning. There was a greater focus on (a) building a learning community among students and between students and instructors across the various campuses, and (b) peer-to-peer learning among the students. There was a strong focus on identifying and guiding the students through a "collaboration period" that would stretch for 6 weeks. During this time, students would get to know each other, interact more extensively with an instructor from another institution, and began to work together on the group assignment. Overall, the changes made in the 2nd run of the course worked towards enhancing student's learning. This was reflected in the online survey among students at NUS and the University of Tokyo, as well as from the final project submissions from the students. All instructors agreed that the collaboration and peer-to-peer learning eventually produced a mastery of content that was quite impressive. This mastery of content was a product of a highly globalized learning environment where students from different institutions met, interacted and shared their knowledge and experiences. This report contains: 1. 2018 Post-Course Workshop (UC Berkeley) 2. Next Steps 3. Framework for Collaboration
Items for decision	*N/A*
Funding request	*N/A*
Funding to date	*1,600 USD* *Part-time project manager (2018)* *2,700 USD* *Post-course workshop(s) (2018)* --- 4,895.82 USD Joint video production costs (Fall 2016) 6,358 USD Organization of two workshops in 2016 8,870 USD DOOC Workshop (July 2015, Yale)
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** Andrew Wee (NUS) reported that NUS hosted a workshop in August 2017 with the four universities involved in the joint online course – UC Berkeley, Cambridge, NUS, and UTokyo. The second cycle of the IARU Joint Course – State fragility and Peace-Making – is ongoing and currently in the "designated collaboration period" of the course, when all

	four university schedules overlap and allow for student interaction and group work. Kiichi Fujiwara (UTokyo) reported that in many ways, the second cycle of this course has been more successful than the first. In addition to the increased enrollment numbers of the second cycle, instructors have successfully worked out the technological difficulties of the first cycle. They have also incorporated student video introductions and ice-breaker sessions. Part of the course success lies in students being enrolled in their home university, receiving credits consistent with their home university, and faculty teaching a regular course at their home university. Enrolled students engage in online collaboration and projects with peers from different countries and universities. Student groups are extremely diverse and committed to their shared course work. Over time, Senior Officers propose the creation of a sequence of three different courses, which students can take to receive an IARU certificate. If the sequence has coherent courses, it can even be incorporated into a minor program. Senior Officers acknowledge the biggest challenge to growing the Joint-Course is coordination across different time zones. The Joint-Course instructors will introduce a template at the 2018 Presidents' Meeting to advise other universities in strategies and best practices for launching their own joint courses. The funding request of USD $4,300 in 2018 is approved for a part-time project manager and a post-course workshop in 2018. **Presidents' Meeting, March 2017** Kiichi Fujiwara (UTokyo) explained that while this course is called an "online" course, it is not a MOOC. Faculty from UC Berkeley, Cambridge, NUS and UTokyo teach the class on the four respective campuses. The Joint Online Course is credit-bearing, and faculty work together to compose the syllabus. Student groups across the four university campuses are expected to work together on two different projects throughout the semester. He reported that the course was highly successful in its first year. Andrew Wee (NUS) added that student feedback on the course was generally positive from UC Berkeley, NUS, and UTokyo students. There was an issue with Cambridge students, who did not submit feedback and were not graded on group projects, thereby decreasing their participation in the course. Prof. Fujiwara explained other issues the course faced, including low attendance during online office hours, time zone differences, issues with academic calendar alignment, and technology, particularly with audio problems. He said that the Joint Online Course was a two-year agreement and is not seeking funding for its second year. The second year of the course will provide the ability to improve on the issues outlined. Brian Schmidt (ANU) said that in the future, it may be easier to offer two courses to alleviate the time zone issue: one course with ANU, UC

	Berkeley, NUS, PKU and UTokyo and a second course with Cambridge, ETH Zurich, Oxford, UCPH, UCT and Yale. Pradeep Chhibber (UC Berkeley) expressed his hope that the faculty can iron out the difficulties in this second year and expand it in its third year. This course provides a wonderful opportunity for students to talk about the same issues from the perspectives of different people and different parts of the world.

IARU Joint Online Course

1. 2018 Post-Course Workshop

The four instructors met at the University of California-Berkeley on 2 April 2018 for a post-course workshop. This workshop was arranged on the sidelines of the ISA annual meeting to minimize cost and travel time. The agenda for this workshop was two-fold:

1. To discuss and reflect on the 2nd run of the IARU Joint Online Course on "State Fragility and Peace-making."
2. To decide on next steps, notably whether to proceed with a 3rd run of the module.
3. To outline several best practices and strategies for presentation at the Presidents Meeting in Beijing scheduled for May 2018

Post-Course reflection:
The second run of the IARU joint online course included several changes aimed at enhancing the student's learning. There was a greater focus on (a) building a learning community among students and between students and instructors across the various campuses, and (b) peer-to-peer learning among the students. With this in mind, the four instructors opted to tighten the structure of the syllabus as well as the group assignments so that all four campuses would be aligned. There was a strong focus on identifying and guiding the students through a "collaboration period" that would stretch for 6 weeks. During this time, students would get to know each other, interact more extensively with an instructor from another institution, and began to work together on the group assignment. It was also decided that the number of students in each class would be kept small (no more than 20 students) per class per institution, and restricted to only senior-level undergraduates and/or graduate students.

The collaboration period enabled students to meet and get-to-know their fellow "classmates" better as compared to the first run of the course. Students were divided into groups based on their country projects and were assigned to a "country expert" (one of the instructors). At the start of the collaboration period, each instructor led an introductory session, after which students were left on their own to develop questions for their projects. They met as a group with their instructors two more times before the submission of the final project – a website analyzing a fragile state.

Throughout the collaboration period, students and instructors met online using the NUS *BlueJeans* account. These meetings were set-up and coordinated by a teaching assistant on the NUS side. The role of the teaching assistant/educational technologist was critical to ensuring the smooth management of the student groups as well as the online platform for use throughout the module. These meetings were recorded for internal use, and each instructor would have access to the recordings of the "meetings" should he/she want to.

Overall, the changes made in the 2nd run of the course worked towards enhancing student's learning. This was reflected in the online survey among students at NUS and the University of Tokyo. Questions 1 – 3 of the survey asked students about their understanding of key concepts taught in the class. An overwhelming number of students "agreed" or "strongly agreed" that the course enhanced their awareness and understanding of state fragility (the survey results can be shared with IARU if requested). Instructors from Berkeley and Cambridge also pointed out that the final projects submitted reflected a marked improvement to the student projects submitted in the first run. All instructors agreed that the collaboration and peer-to-peer learning eventually produced a mastery of content that was quite impressive. This mastery of content

was a product of a highly globalized learning environment where students from different institutions met, interacted and shared their knowledge and experiences. For example, the students working on the issue of state fragility in Myanmar could benefit from fellow students from Myanmar, including two who had worked with the Myanmar government. In one instance the students requested to join in the discussions outside of their own group projects so that they could contribute their professional knowledge about the case/country.

It was also clear that the students benefitted from the different methodological strengths of the respective institutions. For example, public policy students from NUS brought their knowledge of policy analysis and programme evaluation, while students from Cambridge were much stronger in historical analysis. The final collaborative projects reflected these strengths.

Nevertheless, known challenges remained. Students continued to struggle with different time-zones and the persistent free-rider issues during the collaboration period. Students indicated that they wanted more online learning time with the professors and were not fully satisfied with the length of the collaboration period (reflected clearly in the survey). This response from the survey reflected the need for a longer time to build the learning community across all four institutions. Several students questioned the effectiveness of the multimedia assignment in enhancing their learning. There was also some confusion over the assignment requirements across the four institutions, and students pointed out the need for greater standardization of assignment requirements. Students from NUS and University of Tokyo indicated their frustration at the lack of common instructions, and preferred that this be made clear and standardized at the start.

2. Next Steps:

There was strong agreement among us that the IARU joint online collaborative course was an excellent initiative. All four instructors believed that it enhanced students' learning and was a first step towards enhancing a truly global learning environment. Hence, there was keen interest to continue with a 3rd run of the course for AY2018/2019. Berkeley, NUS and Tokyo are confirmed to teach the course in the new academic year. However, Professor Devon Curtis from Cambridge University informed us that she would be on sabbatical for the next year. As such, she would not be teaching the course. After some discussion it was decided that for the 3rd run of the course, the collaboration would be restricted to Berkeley, NUS and Tokyo.

Moving forward, the instructors agreed to extend the collaboration period to emphasize the learning community across the campuses, although we would still need to work through the different start times of the semesters. The respective classes would be restricted to a maximum of 20 students from each institution, and would be a combination of senior undergraduates and graduate students. To be better aligned with Berkeley and Tokyo, NUS would reach out to include more undergraduates, from the Faculty of Arts and Social Sciences, in the course.

During the post-course workshop, the instructors worked out a framework for the assignments so that all instructions would be standardized across the three institutions. Students across all institutions would be given the same framework and common instructions on requirements for the collaboration period.

It was also decided that we would combine two online tools to better enhance the learning across campuses. Online "meet-ups" would continue via the *BlueJeans* platform. However, we would also harness *SLACK*, an online editing software that would enable students to create, develop and edit documents. This would help manage the difficulties that students encountered with time zones as they can edit the document at their own time.

The instructors agreed that there was no need for another workshop prior to the roll-out of the 3rd run of the course. Any available funding from IARU will be directed at the hiring of a teaching assistant/educational technologist who will work managing and running the collaboration period in the new academic year. NUS agreed to continue to serve as the "faculty lead" for the 3rd run of the course. NUS will confirm the hiring of the TA for this purpose in July 2018.

3. Framework for Collaboration:

Institutional Support ("political will")

- IARU support and funding – IARU provided strong support for the pilot run of the course, and continued with some additional funding towards the second and third run. This funding has allowed for the instructors to meet at important intervals and to help manage/coordinate the collaboration (via the secretariat as well as a teaching assistant)
- University/Faculty level support – This support includes University funding for such innovations in teaching, as well as flexibility and recognition from the home departments; this course and its success is heavily contingent on the commitment of the 4-5 instructors across the institutions to work closely together and in experimenting with innovative teaching methods.

Equal Partnership and Course Leadership

- The success of the IARU joint online collaborative course is contingent on the openness to, and equal collaboration, among all partners. The instructors were always open and accommodating to each other, and would try their best to take into account the specific pressures/constraints faced by a partner institution.
- It is, however, also important to note that the collaboration includes an institution taking the lead in the joint teaching. For the pilot run, the University of California-Berkeley, led by Professor Pradeep Chhibber, served as the "Faculty Lead" for the course. In the second run of the course, Dr. Suzaina Kadir from NUS served as the "Faculty Lead." The presence of a "Faculty Lead" is important to ensure the overall organization and smooth progress of the joint course from start to finish.

Role of Educational Technologist/Course Manager

- During the 1st and 2nd of the course, the role of an educational technologist/course manager was extremely important to the success of the course. In the pilot run, the respective educational technologists across the institutions played an important role in the video productions as well as the online collaborative teaching. At NUS for example, the educational technologist from the Center for Instructional Technology, coordinated and set up the joint teaching sessions to mark the start of the course for both runs. The educational technologist/course manager was the key point of contact for all students and instructors, organized and coordinated the student groups, set up the meeting rooms, ensured common instructions were sent out at the appropriate time, and oversaw/managed the collaboration period. Any collaboration of this kind must include funding for and the hiring of one course manager.

Ensuring discipline similarities/synergies across campuses

- For the course on "state fragility," Political science/IR served as the overarching disciplinary framework. This made sharing knowledge and alignment on theoretical approaches/debates easier

Pre-course coordination and preparations

- At the very start of the collaboration, it is extremely important for the instructors to meet face-to-face, and over a few times to gain better understanding of their research interests and teaching approaches. This helps builds rapport, and a sit-down workshop is crucial to help build the framework for the course and begin the process of coordinating the syllabus

Resource collation, production and ownership

- The collation of the resource materials – whether readings or videos – can be distributed between the different instructors. However, it is crucial for one faculty/technologist to coordinate the collation, and build the resource library to be shared. At the end, everyone remained dependent on the institution's own learning management system. Ideally, a single repository should be built and shared among the collaborators.

Post-course reflections and adjustments

- Each completed run of the module was followed up with a post-course workshop. These workshops have been very useful spaces for the instructors to reflect on their experiences, identify the problem areas and figure out ways to improve. For example, for the pilot run, the focus was on collaboration between the instructors and building shared resources to teach. In the second run, the instructors shifted their attention to student learning through peer-to-peer collaboration. For the third run, the focus will be on building a stronger learners community across the institutions.
- These workshops have been extremely helpful for deep reflection on the course. Ideally, the data collated through each run should be harnessed towards some form of educational research.

INTERNATIONAL ALLIANCE OF
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Session 7:
Global Education Initiatives

7.1 Global Summer Program (GSP)

Lead	GSP Coordinators GSP Working Group IARU Secretariat
Reporting	*IARU Secretariat*
Executive summary	GSP2017 offered 22 courses and 295 IARU students participated from all partner universities. GSP2017 enrollment saw an increase in numbers compared to the two previous years. The 2017 GSP Working Committee met at UC Berkeley from 25-26 September 2017. Coordinators from each of the 11 IARU universities were present at the meeting. A new selection process was implemented in GSP2017 for the first time that notified students of their GSP enrollment at an earlier date. The new selection process went well for most partner universities and is being used again in GSP2018 with the selection timeline extended by one week to allow more time for home universities to interview and select its outgoing students. The GSP2018 will offer 23 courses. All universities except ETH Zurich will host GSP2018 courses. At the 2017 meeting, GSP Coordinators set a goal for future cycles to expand collaborative curriculum and faculty exchange. One new way of doing this for GSP2018 is seen in the GSP-Global Transformation Collaborative Course. A second way of doing this will be to increase faculty exchange in future cycles. GSP Coordinators have discussed examining new avenues of funding for future GSP cycles. This will be a meeting topic for the GSP Coordinators in 2018. Banco Santander has renewed funding for the 2018 Global Summer Program for one more year in the amount of USD 200,000. This is the last year of funding from Banco Santander for the GSP. Amount of funding available for the GSP per institution for 2018 is USD 18,181 (USD 200,000 divided by 11 partners). The 2018 GSP Working Committee Meeting will be held at ETH Zurich on 16-17 September 2018 after the EAIE in Geneva. **This report contains:** ▪ Global Summer Program o GSP Review and Outlook o GSP 2018 Courses: Descriptions, Duration and Costs o GSP 2018 Application Timeline o GSP 2017 Report Summary

Items for decision	At PM2017, the IARU Presidents agreed to fund GSP2018 student scholarships in the amount of USD 200,000 (USD 18,181.81 per partner) using the IARU reserve *if Banco Santander funding was not renewed for 2018*. Although Banco Santander has renewed funding for 2018, this will be the last year of Santander support for GSP. Would the IARU Presidents like to finance GSP for 2019 and future years? If so, at what amount?
Funding request	--
Funding to date	▪ *Up to 10,000 (September 2018)* *GSP Meeting, Zurich* ▪ 6,868 (September 2017) GSP Meeting, Berkeley ▪ 6,682 (September 2016) GSP Meeting, Singapore ▪ 10,801 (September 2016) GSP Alumni travel costs to 2016 GSP meeting at NUS ▪ 5,089 (September 2015) GSP Meeting, Yale ▪ 5,938 (September 2014) GSP Meeting, Oxford ▪ 9,363 (September 2013) GSP Meeting, Zurich ▪ 7,188 (September 2012) GSP Meeting, Beijing ▪ 10,280 (September 2011) GSP Meeting, Copenhagen ▪ 7,018 (September 2010) GSP Meeting, Cambridge ▪ 10,200 (September 2009) GSP Meeting, Oxford ▪ 3,500 (September 2008) GSP Meeting, Antwerp ▪ 2,500 (February 2008) GSP Workshop, Cambridge --- ▪ *200,000 (2018)* *IARU-Santander GSP Scholarships* ▪ 200,000 (2017) IARU-Santander GSP Scholarships ▪ 200,000 (2016) IARU-Santander GSP Scholarships ▪ 200,000 (2015) IARU-Santander GSP Scholarships ▪ 200,000 (2014) IARU-Santander GSP Scholarships ▪ 200,000 (2013) IARU-Santander GSP Scholarships ▪ 200,000 (2012) IARU-Santander GSP Scholarships ▪ 75,000 (2011) Student grants ▪ 100,000 (2010) Student grants
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** **3.1 Global Summer Program (GSP)** Rexille Uy (IARU Secretariat) reported GSP2017 offered 22 courses and 295 IARU students participated from all partner universities. GSP2017 enrollment saw an increase in numbers compared to the two previous years. The 2017 GSP Working Committee met at UC Berkeley from 25-26 September 2017. Representatives from every IARU partner attended the meeting. A new selection process was implemented in GSP2017 that allowed for students to be notified of their GSP enrollment at an earlier date. The new selection process went well for most partner universities and will be used again for GSP2018.

	GSP Coordinators would like the Secretariat to move forward in seeking future funding from Banco Santander while keeping in mind the inherent values of GSP and its goal of offering *interdisciplinary, research-intensive courses with a focus on 21st century challenges*. The Secretariat will draft a report to Banco Santander that highlights the historically innovative qualities of GSP. GSP Coordinators have set a goal for future cycles to expand collaborative curriculum and faculty exchange. One new way of doing this for GSP2018 can be seen in the GSP-Global Transformation Collaborative Course. A second way of expanding collaboration will be to increase faculty exchange in future cycles. GSP Coordinators have discussed examining new avenues for funding the GSP in 2018. The IARU Presidents have agreed to fund GSP2018 student scholarships in the amount of USD $200,000 (USD $18,181.81 per partner) using the IARU reserve if Banco Santander funding is not available for 2018. If no future funding is guaranteed from Santander, GSP Coordinators may scale back the program and move forward with reduced enrollment. The 2018 GSP Working Committee Meeting will be held at ETH Zurich on 16-17 September 2018 after the EAIE in Geneva. **3.2 Banco Santander Agreement** Rexille Uy (IARU Secretariat) reported out of the 295 IARU students who participated in GSP2017, 185 students received IARU-Santander scholarships (63% of all IARU students who participated in GSP2017). 2017 is the final year of the current IARU-Santander agreement. The IARU Secretariat is in the process of negotiating a new agreement with Banco Santander. The Secretariat will request a total of USD $220,000 annually for three years, USD $20,000 per partner. Banco Santander has asked the IARU Secretariat to submit a report on the impact of its support for the GSP that addresses the following: 1) how the GSP improves IARU 2) what has been the feedback from participants specifically on how this program changed or impacted their lives 3) to what extent, based on quantitative metrics, has GSP participation made alumni more employable and relevant in their field 4) the international profile of alumni and their lives after the GSP 5) other sources of funding for the GSP and overall cost of the program and plans for the future. The Secretariat will submit this report in November 2017. In moving forward with funding negotiations with Banco Santander, GSP Coordinators state they would like to adhere to the GSP values but write the funding report in a way that addresses some of Santander's entrepreneurship goals.

	Presidents' Meeting, March 2017 Rexille Uy (IARU Secretariat) reported that the 2016 Global Summer Program offered 23 courses with 269 students from all IARU campuses participating. While GSP continues to receive positive reviews from its students based on survey data collected at the end of every summer, participant numbers have declined in recent years. She explains that the GSP Coordinators attribute this decline to competition from a growing number of other summer programs and that students accepted into GSP programs are informed too late of their acceptance, sometimes only 3 weeks prior to a course beginning. Due to this late notice, students every year withdraw their acceptance into GSP because they have already found placement in alternative summer programs. Following feedback from students regarding late acceptance notice, GSP Coordinators at the September 2016 meeting held at NUS decided to alter the application selection process to allow for earlier notification of students. Two courses, ETH1 and UCB1 still following the old selection and nomination process due to course restraints. She reported that 22 courses will be offered for the 2017 GSP and applications are under review. Applications were due on March 17 and GSP Coordinators have until April 7 to notify students of their acceptance into a GSP course, per the new selection process. Amount of funding available for the GSP per institution for 2017 is approximately $18,181.81 USD ($200,000 contribution from Banco Santander divided by 11 partners). The GSP Coordinators will meet at UC Berkeley on 25-26 September 2017.

Global Summer Program: Review and Outlook

Global Summer Program (GSP) 2017

The 10th GSP cycle took place successfully in Summer 2017. A total of 295 IARU students participated in one or more of the 22 courses offered – 431 students participated in total. Enrollment numbers increased in 2017 compared to the two previous GSP cycles.

GSP2017 implemented a new selection process that notified students of their GSP enrollment at an earlier date. GSP Coordinators hoped that the new selection process would decrease the number of students who dropped out after the nomination period, although dropout rates continued to be an issue for GSP2017. Most students responded favorably to being notified of their GSP enrollment in April as opposed to May. The same timeline is being used for GSP2018. The only change will be extending the selection period by one week (thereby cutting short the nomination period by one week). This allows more time for home universities to interview and select outgoing students.

Global Summer Program (GSP) 2018

The GSP2018 offers 23 courses addressed to undergraduate and graduate students; all courses are credit bearing. All universities will the exception of ETH Zurich are hosting GSP2018 courses. 16 courses are established and successful GSP courses and 7 new courses were added this year, including the new GT-GSP joint course.

Course descriptions and costs are given in Annexes 1-2.

Annexes:

1. IARU GSP 2018 Course Descriptions
2. IARU GSP 2018 Course Duration and Costs
3. IARU GSP 2018 Application Timeline
4. GSP 2017 – Report Summary
    a. Participants of the GSP Working Committee Meeting 2017
    b. GSP 2017 Course Descriptions

Annex 1 – Global Summer Program 2018: Course Descriptions

ANU1 – From Australia to the World: Landscapes of Politics and Power

Australian National University, 18 June 2018 – 7 July 2018

Australia is a dynamic, multicultural society that plays an active role in our globalised and increasingly multipolar world order. In this course, future leaders from across the globe will be exposed to pressing issues of politics, culture and society, with a view to mediating between different viewpoints.

We will explore landscapes of politics and power from an Australian vantage, drawing on the unique opportunities presented by Canberra, our national capital. As the seat of the federal government and the home to national institutions, including the Australian National University, Canberra offers inspiring opportunities to consider global affairs in a splendid Australian environment.

In this course, students will be encouraged to actively engage with the Australian policy-making community in hands-on sessions that will grapple with the long-term challenges facing every human society.

CAM1 – Visions of the Future

University of Cambridge, 8 July 2018 – 28 July 2018

Predicting the future has been, and still is, a part of every society. Visionaries, philosophers, rulers, astronomers, economists, engineers, politicians and scientists all try to anticipate the future. Using specific examples from both past and present, our 'visions of the future' draw on beliefs, medicine, climate change, scientific discovery, international relations and development, financial crises, disease, war and evolution. Which predictions came true? Which have proved, or are likely to prove, false? Debate - naturally – includes predictions about our own future. Additional plenary talks set discussions in context. Students write – and have supervisions - on related historical, philosophical or literary topics.

COP1 – Cultural Rights: A Promising Global Discourse?

University of Copenhagen, 25 July 2018 – 10 August 2018

Migration and advances in technology have increased the level of cultural exchange and intermingling, but they have also fostered cultural clashes and incompatibilities that were previously masked by distance. Can cultural rights become a global discourse for supporting inclusive social and political development, and for fostering intercultural dialogue for the mutual understanding of cultures? And can cultural rights become a prime mover – an enabler and driver for development by providing a much-needed cultural legitimacy for human rights? Among the topics focused on in the course are the right to science and culture; ownership of cultural heritage; and the relationship between global, national, and regional law.

COP2 – Interdisciplinary Aspects of Healthy Aging

University of Copenhagen, 2 July 2018 – 20 July 2018

Recent years have seen increasing interest in understanding healthy aging, the ability of the individual to maintain sufficient physical, mental and social energy to live active and meaningful lives. The course,

offered by the Center for Healthy Aging, University of Copenhagen, will focus on exploring the aging phenomena through an interdisciplinary lens with a special focus on the concept of energy, a key component of healthy aging. Energy relates to processes at the cellular as well as the individual level and has not only physical but also important psychological and social dimensions which affect every facet of life.

The objective of this course is to gain interdisciplinary knowledge and research experience in the field of aging to better understand how people can live energetic lives and enjoy a robust older age. The following sub objectives will be achieved over three weeks from 2-20 July 2018:

Week one: The main objective in week one is to provide knowledge on the interdisciplinary nature of the aging phenotype and how to evaluate the strengths and limitations of such research.

Week two: The objectives of week two are to bring the students closer to the scientific research process and to give the students the opportunity to design an interdisciplinary research project.

Week three: The objective in week three is to assist the students in exploring how interdisciplinary research projects are defined and evaluated.

The objectives will be achieved through a combination of lectures, interactive discussions and project work in which students will conduct aging research projects under the supervision of experienced researchers from the Center for Healthy Aging.

COP3 – New Urban Life Across the Globe: Activism and Change in a World of Cities

University of Copenhagen, 23 July 2018 – 3 August 2018

For the first time in human history, more people now live in cities than outside them, and many of the major political contestations of the 21st Century occur in urban settings. Recent years have thus seen a surge in new urban-based political and social movements, experiments in local governance, innovative forms of protest, activism and grassroots initiatives in cities and smaller towns spanning from Barcelona to Istanbul, Hong Kong to Detroit, and Bogotá to Cape Town. Uniting these trends is the belief that the state and traditional political and social institutions cannot meet all the needs arising from urbanization, that real societal change must begin from below or that the city offers unique opportunities for presenting claims and demands. To take into account this diverse field of politics emerging in cities, new understandings of both "the political" and "the urban" are needed.

During this summer school, the students will be immersed in critical urban theory and practical approaches to urban ethnography, drawing from a broad range of excellent research within the fields of sociology, development studies and cross-cultural studies at three faculties of the University of Copenhagen.

The aim of the course is to cultivate knowledge of the relation between *the urban* and social and political change today. Students will develop a general skill in applying urban theory from the humanities and the social sciences on cases from urban societies across the world. Special emphasis will be placed on combining theory and knowledge from the global north *and* south. Methodologically, the students will be trained to conduct urban ethnography and to gather qualitative data on selected processes of social and political change that could include activist communities, issues of contested authority, planning

controversies and everyday city-making. Finally, they will be trained to work analytically with this kind of data, and to discuss urban theory in relation to the ethnography.

COP4 – Field Course – Borderland: Critical Approaches to Field Research in the Global South

20 June 2018 – 18 July 2018 (in Chiang Mai, Thailand 25 June – 18 July)

Jointly developed and offered by University of Copenhagen and UC Berkeley as a collaborative initiative of the IARU GSP and the Global Transformation Strategic Working Group.

This course is designed to provide students with an opportunity to think critically about the research process, epistemologies, and ethics in the conduct of research. It combines classroom learning with field engagement and immersion in local environment that include meaningful interactions and placement with local NGOs or ongoing research projects in and around Chiang Mai, in northern Thailand.

Emphasizing the research process rather than the mastery of a specific topic or method, the aim is to provide students with the tools to raise and address critical questions in their own research and a foundation from which they can apply the knowledge and practices from the course to future projects.

We envision that, by the end of the course, each student will have produced a polished draft of a research project proposal (7-10 pages) that could be used for future engagement with the Global South, be it through research, policy, advocacy, or other pursuits. In addition, students are expected to develop and complete a group project and to make meaningful contributions to the organizations or research projects to which they are assigned.

Themes that will be addressed in the course in the context of globalization processes and borderland issues include:

- Borders and boundaries
- Mobility and immobility
- Environment and natural resource management
- Human in/security and social justice

ETH – Will not offer a summer course for GSP 2018.

NUS1 – Southeast Asia in Context

National University of Singapore, 25 June 2018 – 27 July 2018

Southeast Asia in Context is a five-week exploration of Southeast Asia's geographical, historical and cultural diversity. This course takes advantage of Singapore's strategic position in offering a unique blend of classroom instruction at NUS campus with hands-on fieldwork other SE Asian countries. The lecturers are experienced teachers and researchers of Southeast Asia, who will explore themes such as Southeast Asian religion, archaeology, rural development, politics and regional integration. The fieldtrip includes visits to magnificent ancient temples, rural agricultural communities, war memorials and a fair sampling of local village life that is well off the usual tourist track.

NUS2 – Asia Now! The Archaeology of the Future City

National University of Singapore, 25 June 2018 – 20 July 2018

According to the UN 2014 Revision on World Urbanisation Prospects, over half of the world's population today live in urban areas, of which 53 percent are concentrated in Asia. The global urban population is expected to increase to 66 percent by 2020, with nearly 90 percent of the growth taking place in Africa and Asia. What are the cultural, economic, political, and social forces shaping urban development in Asia? How are cities in this region managing the challenges associated with rapid urbanisation and working towards innovative, sustainable and livable solutions?

This module draws from the Singapore setting and comparative studies to uncover the dynamics and meanings of interrelationships between society and the built environment of cities in Asia. The theme on the archaeology of the future invites us to examine the many layers of the city to not only find elements of its past, but to also identify possible urban futures that are already emerging. Discussions and readings that provide in-depth, analytical, critical, and alternative perspectives on urbanisation and urbanism in Asia will be interspersed with field trips in Singapore, one of the world's most urbanised cities. These sessions will be supplemented with talks by prominent policy-makers, scholars, and activists, as well as a workshop on Futures Thinking for a Sustainable Future. Students will come away from the module with a deeper understanding of challenges facing a rapidly-urbanising Asia, and will gain tools to evaluate solutions being worked out in Singapore and elsewhere in the region.

OXF1 – Global Challenges of the 21st Century – Environmental, Technological and Urban Sustainability

University of Oxford, 25 June 2018 – 21 July 2018

The 2018 Oxford Global Summer Programme offers a general introduction to a range of scientific and development challenges of the 21st century. The course is designed for undergraduates, and it addresses issues of climate change, conservation and urbanisation.

It is assumed that the majority of students will have had a minimum of two years' study in the humanities, social sciences or sciences. Each student will be expected to work outside their usual area of expertise and be required to adopt methods (scientific/non-scientific) appropriate to the questions posed. However, no prior scientific knowledge is required.

PKU1 – Introduction to Chinese Economy

Peking University, 2 July 2018 – 27 July 2018

China's fast economic growth has generated great interest among media, scholars and ordinary people around the world. The aim of this course is to provide the students with an overview of China's economic development and its role in the world economy. Theoretical knowledge and empirical analyses will be used to help the students understand China's economic transition process. The topics covered include the history of a modern Chinese economy, the principles that guided institutional reforms, the transitional paths in its agricultural, industrial, financial and foreign sectors, and the multi-dimensional challenges confronting China's future economic growth. Upon completion of the course, students are expected to be

familiar with China's economic system, its current economic reforms, and the challenges that the country faces in the twenty-first century.

PKU2 – The Rise of China and Change in the World Politics

Peking University, 2 July 2018 – 27 July 2018

This seminar course is intended for advanced undergraduate students and graduate students to examine major issues and topics concerning the rise of China from a broad theoretical perspective, and to engage in the academic discourse and policy debate about implications of China's rise for world politics.

The seminar is organized around the central question – will China's rise bring about a fundamental change to the international system?

The course is roughly divided into three sections:

I. China's rise and the paradigm change in world politics;
II. China's quest for identity and order; and
III. challenges and implications of China rising for Asia and the world.

Under each of these sections, a few specific topics are identified for class discussion.

PKU3 – Culture, Behavior and Brain

Peking University, 2 July 2018 – 27 July 2018

Human beings have created the most colourful cultures in the world that not only contextualize our behaviour but shape our mind and brain as well. Do people's behaviour vary across cultures? Whether and how cultures influence human cognitive processes and underlying brain activity? Do individuals engaged in Western and East Asian cultures have distinct cognitive styles during perception and attention? Can we understand cultural differences in social behaviour by examining cultural effects on brain functional organization? Can we modify individuals' brain activity in laboratory by short-term exposure of new cultural values? How does culture interact with genes to modulate brain functions and behaviour? Can we predict future changes of human behaviour by examining current cultural differences in multiple neurocognitive processes? There has been a long history of human thoughts of these interesting issues. However, only recently have these questions been examined by empirical studies that combine psychology, neuroscience, brain imaging, genetics, etc. This 4-weeks course aims to illustrate the important issues regarding the interactive relationships between culture, behaviour and brain, to explain psychological paradigms and brain imaging methods that have been integrated to study cultural influences on cognitive and neural processes, to introduce our current knowledge/theory about the sociocultural brain, and to discuss future questions regarding the interactive relationships between culture, behaviour, and brain. The course will consist of class teaching and discussion and, in the last class, students in small groups will have chance to present their research proposals related to cultural effects on behaviour, mind, and brain.

PKU4 – China's Original International Strategy: The Belt and Road Initiatives

Peking University, 2 July 2018 – 27 July 2018

BRI is China's long-term, original, and international strategy to promote China Dream and Human destiny community created by President Xi Jin-ping with great impact on the world order after five years' practice. It will be the most important strategy of China to provide the public goods and new type of leadership for the world. This course will help students to understand BRI's strategic nature, strategic decision making, strategic implementation, and strategic management. The students can also have the opportunities to participate in the real construction of BRI with the guidance of Professor Zhai Kun.

TOK1 – Introduction to the Japanese Language

University of Tokyo, 25 June 2018 – 6 July 2018

The University of Tokyo provides an introductory course for those new to Japan which will both facilitate participation in Japanese society and introduce characteristics of the Japanese language such as the Japanese writing system, elementary grammar, and communication patterns.

With the Japanese language learnt in these classes we hope our students will be able to experience a wider range of Japanese culture by themselves. To improve students' Japanese literacy, "practical" lessons, such as the use of dictionaries, will also be included in this course to enable students to continue their study of the language when they return to their home country.

TOK2 – Sustainable Urban Management

University of Tokyo, 25 June 2018 – 6 July 2018

This course provides basic knowledge of civil engineering, architecture and urban engineering in the context of sustainable urban management. Planning and management are taught on the building, urban and national scale.

TOK3 – Japan in Today's World

University of Tokyo, 5 July 2018 – 13 July 2018

This course will give an overview of modern Japan with emphasis on the works of the political system, including political parties, civil service, elections, and foreign relations with China, US, Korea, as well as Japan's role in international political economy.

Along with those introductory classes, we will hold workshops on topics such as Territorial Disputes and Nationalism, where participants are encouraged to make contributions in the discussion with invited specialists.

TOK4 – Nanoscience

University of Tokyo, 5 July 2018 – 18 July 2018

"Nanoscience" lecture series provides a general overview of nanoscience, which has grown very rapidly in the last few years. It consists of lectures on three sub-courses, Biotechnology; Biomedicine and Nanobiotechnology; and Nanotechnology. Each sub-course will include visits to active laboratories in the University of Tokyo.

UCB1 – Beahrs Environmental Leadership Program

University of California, Berkeley, 6 July 2018 – 27 July 2018

The Beahrs Environmental Leadership Program (ELP) of the College of Natural Resources at the University of California, Berkeley provides state-of-the-art training in environmental and natural resource science, policy, and leadership to strengthen the capacities of global environmental practitioners. Participants will benefit from a unique opportunity to interact with Berkeley faculty as well as their global peers to access new information and tools, share practical experiences, and develop collaborative leadership skills. As of 2017, the Beahrs ELP has graduated 640 environmental leaders from over 110 countries.

The 3-week certificate course on *Sustainable Environmental Management* offers a series of interdisciplinary workshops, facilitated by UC Berkeley faculty and non-academic experts from the greater San Francisco Bay Area.

Program curriculum includes:

- Mitigation of and Adaptation to Climate Change
- Leadership for Collaborative Change
- Impact Assessment
- Corporate Social Responsibility
- Policies for Sustainable Development
- Population and Health
- Food, Agroecology, and Biotechnology

UCB2 – Disc*: Design & Innovation for Sustainable Cities

University of California, Berkeley, 2 July 2018 – 3 August 2018

Disc* is an intensive program that takes an interdisciplinary and multi-scalar approach to analysis of the urban environment, and explores the potential of design and innovation as catalysts for change. Students attend lectures from top practitioners in the field, engage in interactive demos and workshops, experiment with fabrication technology in the Digital Lab, conduct field work and site visits, participate in seminars and discussion, and immerse themselves in design studio culture. Disc* participants acquire the tools and expertise necessary to craft design-based solutions that meet the urgent challenges of global urbanization.

The program is comprised of four components. The *Urban Innovation& Global Cities/Global Challenges* Seminars will establish a theoretical framework for the program. The invited lecturers and guest speakers will expose students to the work of some of the most renowned & forward-thinking researcher and practitioners in the Bay Area. Fieldwork and site visits will give students an opportunity to engage directly with the dynamic built and natural environments of the Bay Area. The studio sessions and digital workshops will build core hand-on skills, empowering students to craft their own design solutions. Working in teams, students will develop a project from design conception to prototyping and present the final result of their work to instructors and guest critics.

Disc* students graduate with the necessary knowledge and skills to develop and represent their design ideas, preparing themselves to become the next thought leaders and game changers in the shaping of our built environment.

UCT1 – Sustainable Water Management in Africa

University of Cape Town, 23 July 2018 – 3 August 2018

The 'Sustainable Water Management in Africa' course at UCT is aimed at the next generation of critical thinkers. It uses an interdisciplinary approach to critically engage with the environmental, technical, socio-cultural, economic and political challenges of water demand, supply and treatment to create an understanding of the role of water in society and in sustaining livelihoods. The course provides the necessary contextual information to allow people from any background to participate meaningfully, and students from the African continent as well as South Africa will also be encouraged to apply.

Objectives of the course include: providing key theoretical themes and concepts; exposure to the African context; and facilitating critical thinking and analysis to foster paradigm shifts through engagement with both practical applications and intractable problems. Interactive time is focused on discussion, debate, and tactile engagement through workshops and serious games / activities.

The desired outcome of this course is to challenge participants to consider water in a new way, and to enable them to be able to apply learnings in their own context.

UCT2 – Afropolitanism, Social Justice and Social Entrepreneurship

University of Cape Town, 18 July 2018 – 13 July 2018

Designed to inspire students to be global citizens, this course presents comprehensive insights into South African history, politics, culture, social justice and social entrepreneurship. The course connects the past to the present, discussing opportunities and challenges of transformation facing the country, the African continent and the world today. Through engagement and immersion in the local Cape Town context, students will reflect on values of social justice and responsibility, gaining insights into the interconnectivity between their own societies and the rest of the world. Visits to historical, heritage and entrepreneurial community sites will allow students to experience the vibrant and diverse cultures that influence and shape the character of Cape Town and South Africa, as well as expose students to innovative initiatives communities are undertaking to seek solutions to social issues.

YAL1 – The Sustainable Preservation of Cultural Heritage

Yale University, 2 July 2018 – 4 August 2018

This course offers an interdisciplinary approach to understanding the complex factors that challenge the preservation of cultural heritage.

Because the challenges associated with protecting the tangible and intangible, cultural and natural heritage of the world are global in character, students will explore the following:

1. The evolution of ideas about what needs to be preserved.
2. Threats to cultural heritage from natural decay, as well as social, political, and economic threats.

3. The international protocols that have been developed for addressing these problems.

Students will be introduced to techniques for preservation, including chemical and materials analysis in the preservation lab and in the field; will learn about museum preservation and the science used to detect forgeries and fakes; and will consider the international legal and professional frameworks that enable cross-cultural efforts to combat trafficking in antiquities and to facilitate preservation.

Faculty from Yale Law School, the Yale School of Management, the Yale School of Architecture, and the Faculty of Arts and Sciences will participate in many of the class sessions. In addition, the course will draw on the collections of the Yale University Museums for discussion and as the basis of student assignments.

YAL2 – Future of Food: Environment, Health, and Law

Yale University, 2 July 2018 – 4 August 2018

This seminar will explore significant environmental, health, and energy challenges posed by global food production. These challenges all have complex histories of corporate innovation, law & regulation, scientific inquiry, confidential information, highly profitable markets, international trade, broad public acceptance, global environmental contamination, human exposure to hazardous substances, and abuse of labor, immigrants, and animals. They all offer insight into what might be: a future of "responsible food."

More specifically, the course will examine these challenges:

1. Radionuclides and the Global Ecology of Food
2. Agricultural Chemicals: Pesticides & International Trade
3. Palm Oil: Biodiversity, Air Pollution, & Human Health
4. Plastics: Energy Conservation, Waste, & Recovery
5. Livestock: Pharmaceuticals Dietary Convergence

In exploring and analyzing these challenges, students will consider the following dimensions.

1. Environmental & Health Risks
2. Law & Regulation: US and International
3. Economic Evaluation: Supply Chains; Cost & Benefit Types, Magnitudes and Distributions
4. Scientific Evaluation: Risk Magnitude & Distribution, Perception, & Acceptability
5. Religious & Ideological Influences
6. Private Sector Innovation
7. Ethical Dimensions Consumer Choices

Annex 2 – Global Summer Program 2018: Courses Duration and Costs

University	Title		Dates	Total course fees in USD*
Australian National University	ANU1	From Australia to the World: Landscapes of Politics and Power	18 June – 7 July	989
National University of Singapore	NUS1	Southeast Asia in Context	25 June – 27 July	4,591-4,628
	NUS2	Asia Now! The Archaeology of the Future City	25 June – 20 July	1,776
Peking University	PKU1	Introduction to Chinese Economy	2-27 July	2,137-2,439
	PKU2	The Rise of China and Change in the World Politics	2-27 July	2,137-2,439
	PKU3	Culture, Behavior and Brain	2-27 July	2,137-2,439
	PKU4	China's Original International Strategy: The Belt and Road Initiatives	2-27 July	2,137-2,439
University of California, Berkeley	UCB1	Environmental Leadership Program	6-27 July	8,000
	UCB2	Design and Innovation for Sustainable Cities	2 July – 3 August	4,241-6,741 (not including accommodation)
University of Cambridge	CAM1	Visions of the Future	8-28 July	4,187
University of Cape Town	UCT1	Sustainable Water Management in Africa	23 July – 3 August	3,000
	UCT2	Afropolitanism, Social Justice and Entrepreneurship	18 June – 13 July	4,200
University of Copenhagen	COP1	Cultural Rights: A Promising Global Discourse?	25 July – 10 August	With agr.**: 1,526-2,384 EU: 2,718-3,576 non-EU: 3,592-4,451
	COP2	Interdisciplinary Aspects of Healthy Aging	2-20 July	With agr.**: 1,454-2,408 EU: 2,090-3,044 non-EU: 2,448-3,402

University	Title		Dates	Total course fees in USD*
	COP3	New Urban Life Across the Globe: Activism and Change in a World of Cities	23 July – 3 August	With agr.**: 1,494-2,464 EU: 1,792-2,762 non-EU: 2,984-3,954
	COP4	Field Course – Borderland: Critical Approaches to Field Research in the Global South	20 June – 18 July	with agr.**: 205 EU: 1,209 non-EU: 2,258
University of Oxford	OXF1	Global Challenges of the 21st Century – Environmental, Technological and Urban Sustainability	25 June – 21 July	5,640
The University of Tokyo	TOK1	Introduction to the Japanese Language	25 June - 6 July	1,200
	TOK2	Sustainable Urban Management	25 June - 6 July	1,406
	TOK3	Japan in Today's World	5-13 July	1,226
	TOK4	Nanoscience	5-18 July	1,617
Yale University	YAL1	The Sustainable Preservation of Cultural Heritage	2 July - 3 August	3,825
	YAL2	Future of Food: Environment, Health, and Law	2 July - 3 August	3,825

*(estimates only, include tuition fee, textbooks, field trips and accommodation, exclude travel and visa expenses)

**ANU, ETH, UTokyo

Annex 3 – Approved Application Timeline for GSP 2018

Phase	Course Announcements	Complete Course Profiles	Start of Application Period	Selection	Nomination	Offer	Acceptance
	Basic course details submitted to Secretariat for information at the Senior Officers' Meeting	Completed course profiles forwarded to the Secretariat for upload on the website.(End November)	GSP 2018 course information go live on IARU's website and partners' websites. Application period opens.	Application period closes. Selection process commences. *Universities can set different application deadlines but no later than 16 March.*	Selection process completed at sending universities. Nominated applications forwarded to host universities. *Please include all financial aids offered to the applicant if available.*	Host university sends offer letter to applicant *Please cc sending university.*	Student responds to nomination / acceptance. University sets deadline but no later than 10 May 2018. *Please notify sending university.*
Templates, Documents	Course Info Part I	Course Info Part II	Application Materials Overview	Coordinators Overview			
Deadline	13 October 2017	30 November 2017	11 December 2017	16 March 2018	13 April 2018	27 April 2018	10 May 2018

Lunar New Year: 16 February 2018
Easter: 29 March-2 April 2018

Annex 4 – Global Summer Program 2017 – Report Summary

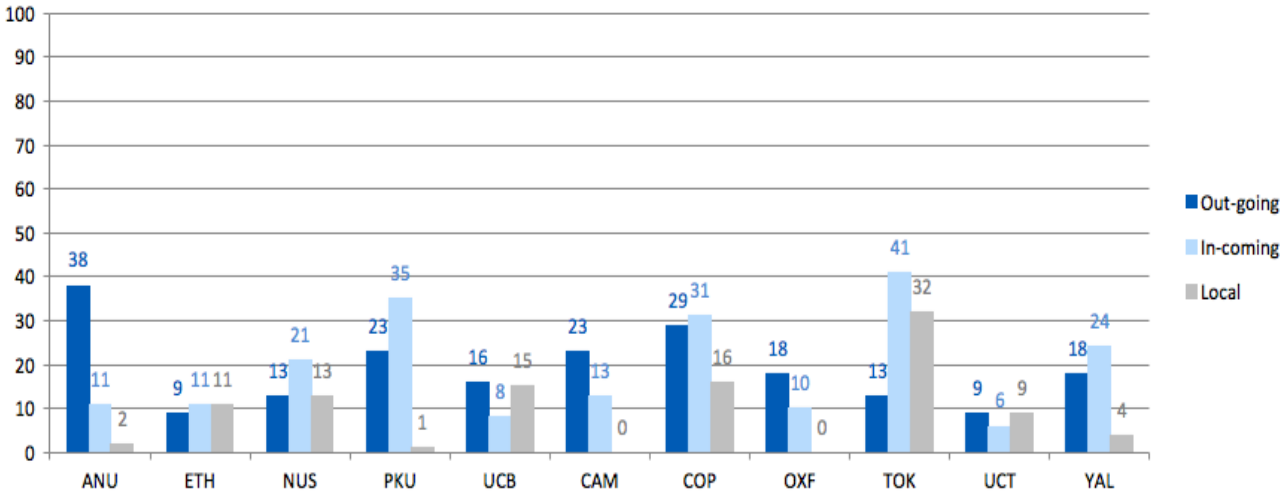
Number of Courses, Applications and IARU Participants

2017 marked the 10th year of the IARU Global Summer Program (GSP). A total of 22 courses with durations between 1 and 6 weeks were offered by all 11 partner institutions.

The 22 courses attracted 451 applications from IARU students, a 19% increase from 2016.

A total of 295 IARU students attended one or more GSP course, a 22% increase from 2016. The following graph shows the student distribution among the partner universities.

GSP 2017 – IARU Student Mobility



Student Feedback (GSP2017 Survey)

The general feedback of the 2017 program was positive. In the post-course survey, 90% of the survey participants said that they would recommend GSP to their peers (9% answered "maybe", and 1% would not recommend it). The diversity of the participants continues to be a key success factor of GSP. Having students from most, if not all, IARU institutions as well as local students is appreciated by GSP participants. The majority of respondents agreed that the GSP was a good experience for them, and believe it will positively impact their career/career goals.

Student Feedback (GSP2014-2016 Alumni Survey)

The general feedback of the alumni survey was also very positive. 98% of respondents agreed that the GSP was a rewarding experience. Students appreciated studying with peers from different backgrounds, nationalities, and cultures. 88% of respondents agreed that the GSP course broadened their horizons and allowed them to see global issues from a more holistic perspective. Many students indicated in their comments that they view contemporary issues in new ways after taking a GSP course.

77% of respondents indicated that having attended a GSP course affected their thinking about the future. 18% of respondents now work or study in a different country than their home university. Some students commented about changing major study or career path based on their GSP course and expressed a desire to return to the country they visited through GSP. Many students made lifelong friendships through the GSP.

IARU-Santander GSP Scholarships

The IARU-Santander GSP Scholarships are crucial for making this international opportunity available to as many students as possible. During the 2017 IARU Global Summer Program 185 students benefitted from the IARU-Santander GSP Scholarships (63% of all IARU GSP students). A total of USD 204,983 was awarded, averaging USD 1,108 per student.

An excess of 4,983 USD is due to some universities awarding carryover funds from GSP2016. Unconsumed sponsorships were mainly due to late cancellations from students, which prevented partners from awarding their full allotment of the IARU-Santander monies to students.

Overview of IARU-Santander Scholarships (*amounts in USD*)

University	Carry over from 2016	Awarded in 2017	Carry over to 2018	Scholarship Funds 2018	Expected Available Scholarships 2018
Australian National University	0	18,000	181	18,181	18,362
ETH Zurich	0	18,178	3	18,181	18,184
National University of Singapore	0	12,100	6,081	18,181	24,262
Peking University	4,200	22,380	0	18,181	18,181
UC Berkeley	2,970	19,664	1,487	18,181	19,668
University of Cambridge	0	18,110	71	18,181	18,252
University of Copenhagen	288	18,180	289	18,181	18,470
University of Oxford	6	18,165	22	18,181	18,203
The University of Tokyo	6,978	22,025	3,134	18,181	21,315
University of Cape Town	0	18,000	181	18,181	18,362
Yale University	2,000	20,181	0	18,181	18,181
Total	**16,442**	**204,983**	**11,449**	**200,000**	**211,440**

GSP Annual Meeting

The 2018 GSP Working Committee Meeting will be held at ETH Zurich on 16-17 September 2018 after EAIE in Geneva. The meeting will start with a welcome dinner on Saturday, 15 September, and end with lunch on Monday, 17 September.

GSP Challenges

Based on student feedback in the GSP Surveys, the two most common critiques of the GSP continue to be the high cost of programs and the short duration of some courses. Many students expressed benefitting from a longer course, but this is a competing goal w.r.t. lower costs.

Other suggested actions for improvement include:

- More field trips and social activities outside of class
- Provide more scholarship options
- More interaction with local students from the host university.
- Receive contact information about classmates prior to the course commencement

Alumni feedback mirrored that of the GSP2017 survey, requesting longer courses and greater scholarship amounts for future cycles. GSP alumni also expressed desire for a stronger alumni network.

Annex 4a – Participants of the GSP Working Committee Meeting 2017

University of California, Berkeley, 25–26 September 2017

Institution	Name	Position
Australian National University	Mr. Jonathan Dampney	Manager, Strategic Partnerships
ETH Zurich	Dr. Angelika Wittek	Head of Student Exchange Office
National University of Singapore	Prof. Anne Pakir	Director, International Relations Office
	Prof. Margaret Tan	Director of Programmes, NUS Tembusu College
	Ms. Li Ling Koh	Associate Director, International Relations Office
Peking University	Ms. Jiao Lu	Program Officer, Office of International Relations
University of California, Berkeley	Prof. Khatharya Um	Faculty Academic Director, Berkeley Summer Abroad
	Mr. Richard Russo	Associate Vice Chancellor and Dean, Summer Sessions, Study Abroad
	Ms. Tracy Weber	Assistant Director, Program Development and Operations, Summer Sessions, Study Abroad
	Mr. Darin Menlove	Director, Summer Sessions, Berkeley Study Abroad
University of Cambridge	Ms. Sarah Ormrod	Director, International Programmes, Institute of Continuing Education
University of Cape Town	Mrs. Nicola Latchiah	Manager International Programmes, Int.al Academic Programmes Office
University of Copenhagen	Dr. Andreas Christensen	Head of Department, Associate Professor, Anthropology
	Prof. Helle Samuelsen	Associate Director, International Education and Grants
	Ms. Anne Bruun	Associate Director, International Education and Grants
University of Oxford	Prof. Angus Hawkins	Director, Public and International Programmes, Continuing Education
The University of Tokyo	Prof. Yuto Kitamura	Deputy Director, International Centre
	Ms. Yoshiko Takahira	Project Specialist, Int. Exchange Group, International Affairs Dep.
Yale University	Dr. Jane Edwards	Dean of International and Professional Experience, Yale College
	Dr. Jeanne Follansbee	Dean, Yale Summer Sessions, Associate Dean, Yale College
IARU Secretariat	Ms. Rexille Uy	IARU Secretariat
	Ms. Savannah Portillo	IARU Secretariat

Annex 4b – GSP 2017 Course Descriptions

Code	Course	Length (weeks)	Total course fees in USD*	Course Description
ANU1	Mobilising Research	3	1,425	*Mobilising Research* examines the role of research for the advancement of society. This intensive, interdisciplinary course will equip students to put research into action and reset the research agenda towards the advancement of the global public good. Students are exposed to how scholarly inquiry is conducted in a range of disciplines outside their own through interactive sessions and site visits to leading research facilities on campus. The exposure to different mindsets, approaches, and cultural norms will challenge students to see how research can be used to make positive change. Students will explore a complex global problem of their choosing, and understand how research can be used to navigate and shape public opinion about the issue.
ETH1	Mountain Forests and Risk Management	1	250	32 students from all academic levels, disciplines and cultures will get the unique opportunity to theoretically and practically experience mountain forests as environmental systems from an inter- and transdisciplinary perspective.
NUS1	Southeast Asia in Context	5	4,150	Southeast Asia in Context is a five-week exploration of Southeast Asia's geographical, historical and cultural diversity. This course takes advantage of Singapore's strategic position in offering a unique blend of classroom instruction at NUS campus with hands-on fieldwork other SE Asian countries. The lecturers are experienced teachers and researchers of Southeast Asia, who will explore themes such as Southeast Asian religion, archaeology, rural development, politics and regional integration. The fieldtrip includes visits to magnificent ancient temples, rural agricultural communities, war memorials and a fair sampling of local village life that is well off the usual tourist track.
NUS2	Animals in the City	4	1,550	With a focus on Asia, this four-week intensive summer program draws on a diverse range of literature (history, anthropology, animal activism) to contextualise the dynamics and conflicts between humans and animals. Southeast Asia is one of the last regions in the world with extensive rain forest habitat for wild animals, but these creatures are threatened by burgeoning urbanization and agriculture. We will also look at 'urban animals' such as pets and farm animals, and other topics that are salient to this part of the world. Seminar-style classes will be supplemented with field trips and market surveys
PKU1	Rise of China	4	1,950	This course provides the students with a balanced overview of the Chinese economy, with special attention paid to the historical, political and institutional context of each turn in the economic transition. The topics covered include the history of a modern Chinese economy, the strategies that guided China's institutional reforms, the transitional process in China's industrial, agricultural, financial and foreign sectors, as well as the multi-dimensional challenges and emerging opportunities facing China's

Code	Course	Length (weeks)	Total course fees in USD*	Course Description
				future growth. Theoretical and empirical analyses will be used in combination with scholarly readings to help the students understand China's development models, economic systems and reform policies.
PKU2	The Rise of China and Change in the World Politics	4	1,950	This seminar course is intended for advanced undergraduate students and graduate students to examine major issues and topics concerning the rise of China from a broad theoretical perspective, and to engage in the academic discourse and policy debate about implications of China's rise for world politics. The seminar is organized around the central question – will China's rise bring about a fundamental change to the international system?
PKU3	Understanding Chinese Foreign Policy Making	4	1,950	An economically more powerful and confident China is exerting unprecedented influence on global affairs with its proactive diplomacy. Aiming to open the black box of Chinese foreign policy making, this course tries to bridge foreign decision making theories and Chinese foreign policy making practice to understand the major factors that shape Chinese foreign policy and how they exert their influences. These include: the impact of historical legacies, systematic constraints, personality and decision making style of paramount leaders, evolving foreign policy making structure and changing bureaucratic process, fluid domestic politics, and the impact of the military, nationalism, and public opinion on Chinese foreign policy.
PKU4	Silk Road: A Global History	4	1,950	This course introduces the history of the Silk Road – a complex network of trade routes that connected China to the Mediterranean world over land and sea – and examines the cultural and material exchanges between the peoples and cultures it connected in a global context. The course covers the period 500 BCE to 1600 CE, during which forces wielded by many peoples (e.g., Chinese, Greeks, Persians, Arabs, Turks, and Mongolians) shaped the geopolitical and cultural landscape of Eurasia. It explores the roles played by the Silk Road in forming and transforming the cultural, linguistic, ethnic, and religious identities of these peoples and their perceptions of one other. It highlights such themes as conspicuous consumption, cultural diversity, religious pluralism, and ethnic migration, as well as the financial, judicial, religious, and political institutions that were the fruits of these extended exchanges. The course begins and ends with an analysis of conceptualizations of the "Silk Road" against the backdrop of the "Great Game" that played out in the late 19th and early 20th centuries among various colonial powers as well as its legacy to this day.
UCB1	Environmental Leadership Program	3	5,700	3-week summer certificate course on Sustainable Environmental Management.
UCB2	Islamophobia and Constructing	6	6,400	This course will examine and attempt to understand Islamophobia, as the most recently articulated principle of otherness in America, Europe and its

Code	Course	Length (weeks)	Total course fees in USD*	Course Description
	Otherness			policy implications domestically and globally.
CAM1	Visions of the Future	3	3,940	Predicting the future has been, and still is, a part of every society. Visionaries, philosophers, rulers, warmongers, astronomers, economists, businessmen, politicians and scientists all try to anticipate the future. Using specific examples from both past and present, out 'visions of the future' draw on beliefs, astronomy, medicine, climate change, scientific discovery, international relations and development, financial crises, disease, war and space travel. Which predictions came true? Which proved false? Debate - naturally - includes predictions about our own future. Additional plenary talks set discussions in context. Students write - and have supervisions - on related historical, philosophical or literary topics.
UCT1	Sustainable Water Management in Africa	2	4,000	This course adopts an interdisciplinary approach to examine the current water crises, trends and conditions in developing countries. It critically engages with the technical, social, cultural, economic, political, economic and environmental challenges of water demand, supply and treatment with an understanding of the role of water in society and in sustaining livelihoods. Further, it addresses the need to derive maximum benefit from each water resource used while incurring minimum burden and the need to secure "new taps" in a water sensitive urban design context.
COP1	Cultural Rights: A Promising Discourse?	2	With agr.*: 790-1,220 EU: 1,865-2,295	Understand the potential of and the challenges that threaten cultural rights and contribute to this new and developing field of human rights.
COP2	Interdisciplinary Aspects of Healthy Aging	3	With agr.*: 667-1,097 EU: 1,240-1,670	Recent years have seen increasing interest in understanding *healthy aging*, the ability of the individual to maintain sufficient physical, mental and social energy to live active and meaningful lives. The course, offered by the Center for Healthy Aging, University of Copenhagen will focus on exploring the aging phenomena through an interdisciplinary lens with a special focus on the concept of energy, a key component of healthy aging. Energy relates to processes at the cellular as well as the individual level and has not only physical but also important psychological and social dimensions which affect every facet of life. The objective of this course is to gain interdisciplinary knowledge and research experience in the field of aging to better understand how people can live energetic lives and enjoy a robust older age.
COP3	New Urban Life Across the Globe: Activism and Change in a World of Cities	2	With agr.*: 405-560 EU: 675-830	During this summer school, the students will be immersed in critical urban theory and practical approaches to urban ethnography, drawing from a broad range of excellent research at three faculties of the University of Copenhagen. The aim of the course is to cultivate knowledge of the relation between *the urban* and social and political change today. Students will develop a general skill in applying urban theory from the humanities and the social sciences on cases from urban societies across the world. Special

Code	Course	Length (weeks)	Total course fees in USD*	Course Description
				emphasis will be placed on combining theory from the global north *and* south. Methodologically, the students will be trained in conducting urban ethnography and in gathering qualitative data for case studies on selected instances or processes of social and political change that could include activist communities, issues of contested authority, planning controversies and everyday city-making. Finally, they will be trained to work analytically with this kind of data, and to discuss urban theory in relation to the ethnography.
OXF1	Global Challenges of the 21st Century – Environmental, Technological and Urban Sustainability	4	5,170	The 2017 Oxford Global Summer Programme offers a general introduction to a range of scientific and development challenges of the 21st century. The course is designed for undergraduates, and it addresses issues of climate change, conservation and urbanisation.
TOK1	Introduction to the Japanese Language	1.5	1,010	The University of Tokyo provides an introductory course for those new to Japan which will both facilitate participation in Japanese society and introduce characteristics of the Japanese language such as the Japanese writing system, elementary grammar, and communication patterns. With the Japanese language learnt in these classes we hope our students will be able to experience a wider range of Japanese culture.
TOK2	Sustainable Urban Management	1.5	945	The course provides basic knowledge of civil engineering, architecture and urban engineering in the context of sustainable urban management. Planning and management are taught on the building, urban and national scale. A one-day excursion related to the lectures organized for GSP students as part of the course.
TOK3	Japan in Today's World	1	885	This course will give an overview of modern Japan with emphasis on the works of the political system, including political parties, civil service, elections, and foreign relations with China, US, Korea, as well as Japan's role in the international political economy.
TOK4	Nanoscience	1.5	1,235	This lecture series provides a general overview of nanoscience, which has grown very rapidly in the last few years. It consists of three sub-courses of lectures (Biotechnology, Biomedicine and Nanobiotechnology and Nanotechnology). Each sub-course will include visits to active laboratories in the University of Tokyo.
YAL1	The Sustainable Preservation of Cultural Heritage	5	3,763	This course offers an interdisciplinary approach to understanding the complex factors that challenge the preservation of cultural heritage. Because the challenges associated with protecting the tangible and intangible, cultural and natural heritage of the world are global in character, students will explore the following: 1. The evolution of ideas about what needs to be preserved.

Code	Course	Length (weeks)	Total course fees in USD*	Course Description
				2. Threats to cultural heritage from natural decay, as well as social, political, and economic threats. 3. The international protocols that have been developed for addressing these problems.
YAL2	Future of Food: Environment, Health, and Law	5	3,763	This seminar will explore significant environmental, health, and energy challenges posed by global food production. These challenges all have complex histories of corporate innovation, law & regulation, scientific inquiry, confidential information, highly profitable markets, international trade, broad public acceptance, global environmental contamination, human exposure to hazardous substances, and abuse of labor, immigrants, and animals. They all offer insight into what might be: a future of "responsible food."

*estimates only, include tuition fees, textbooks, accommodation and field trips

7.2 2018 Banco Santander Renewal

Lead	GSP Coordinators IARU Secretariat
Reporting	*IARU Secretariat*
Executive summary	Banco Santander has renewed funding for the 2018 Global Summer Program for one more year in the amount of USD 200,000 for student scholarships. This will be the last year of support from Banco Santander. **This report contains:** o IARU-Santander MOU for 2018 extension
Items for decision	--
Funding request	--
Funding to date	▪ *200,000 (2018)* *IARU-Santander GSP Scholarships* ▪ 200,000 (2017) IARU-Santander GSP Scholarships ▪ 200,000 (2016) IARU-Santander GSP Scholarships ▪ 200,000 (2015) IARU-Santander GSP Scholarships ▪ 200,000 (2014) IARU-Santander GSP Scholarships ▪ 200,000 (2013) IARU-Santander GSP Scholarships ▪ 200,000 (2012) IARU-Santander GSP Scholarships

SPECIFIC COOPERATION AGREEMENT BETWEEN
NATIONAL UNIVERSITY OF SINGAPORE
AND
BANCO SANTANDER, S.A.

Boadilla del Monte (Spain) & Singapore,
23 January 2018

BY AND BETWEEN

On the one hand, Professor Andrew Wee Thye Shen, Vice President (University and Global Relations) of **National University of Singapore**, having its registered address at 21 Lower Kent Ridge Road, Singapore (hereinafter the "**University**"), on behalf of said **University** and in his capacity as member of the **International Alliance of Research Universities (IARU)**, and, likewise, pursuant to the authority that comes with his positions as Vice President of the **University** and as member of **IARU**,

And on the other, **Javier Roglá Puig**, head of the Santander Universities corporate area of **Banco Santander**, **S.A.** (hereinafter "**Santander**), having its registered address at Paseo de Pereda -11, Santander, Spain, acting in the name and in representation of the aforesaid company, and in accordance with the powers bestowed upon him by reason of his position.

The signatories are acting on behalf of those they represent by virtue of their respective positions and recognize in each other the capacity to sign this document.

DO DECLARE

I.- That the **University** is a member and acts on behalf of the International Alliance of Research Universities (**IARU**), an alliance formed in 2005 of eleven leading institutions comprising The Australian National University, National University of Singapore, ETH Zurich, Peking University, University of California Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, University of Tokyo, Yale University and the University of Cape Town. **IARU** has developed a unique and distinct international educational experience called the IARU Global Summer Program (**IARU GSP**) which aims to provide students with access to expertise and learning opportunities at various IARU universities.

II.- That **Santander** has made support for higher education the focus of its corporate social responsibility policy in all countries where it operates, as its institutional commitment to the **University** is characteristic of it. **Santander** wishes to cooperate in carrying out projects and in the improvements achieved by higher education and research institutions in expanding, renewing, and modernizing higher education systems, as well as in introducing greater entrepreneurial spirit into them for the benefit of the students, and hence for the benefit of society, which is the final recipient of such advantages as university graduates integrate into its structures.

III. That, on the **University's** proposal acting on behalf of **IARU**, the parties have concluded that **Santander** shall collaborate through the **University** with the activities of

the **IARU** for the year 2018 and specifically in the IARU Global Summer Program which is based on a multilateral arrangement, and has become a unique and distinct international educational experience, aiming to provide students access to the expertise and learning opportunities at various IARU universities.

IV. That, upon this **University's** request and **Santander's** initiative to support student mobility at the IARU GSP in the manner set forth below, both parties have agreed to execute the above referred project and for this purpose the parties hereto sign this Specific Cooperation Agreement which shall be governed by the following.

CLAUSES

FIRST.- PURPOSE OF THE AGREEMENT

(i) The subject of this Specific Cooperation Agreement is the establishment of a framework for cooperation between the **University** and **Santander,** for carrying out their collaboration in the IARU GSP. In the 2018 edition of the IARU GSP, students from IARU member universities (namely, Australian National University, National University of Singapore, ETH Zurich, Peking University, University of California, Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, University of Tokyo, Yale University and the University of Cape Town) (each such university is an "**IARU member**") will travel to a host member university and undertake the IARU GSP with students from the host university. The courses forming part of the IARU GSP could last anywhere between two to sixteen weeks. The IARU members intend that each host university will offer at least one, or up to four courses, and that the IARU GSP costs will be minimized for participating students as much as possible, for example, both by the sending university providing aid as well as the hosting university minimizing tuition and providing campus accommodation. The IARU members anticipate that costs will vary depending on location and institutions, and it is likely that participating students will have to spend up to USD 2,500 for economy class airfare, up to USD 5,000 for tuition fees and up to USD 3,000 for accommodation. Additional costs may be incurred in the form of visa applications, field trips for research purposes, living expenses and text books.

(ii) Upon this Specific Cooperation Agreement scholarships amounting to a maximum of USD 2,000 each, shall be awarded for at least 100 students from the eleven (11) IARU members. The scholarships will be named as the "**IARU-Santander Global Summer Program Scholarships**" ("**IARU-Santander GSP Scholarships**"). Each scholarship shall be used solely to cover a participating student's airfare, tuition and living costs.

(iii) The **University,** on behalf of the IARU Secretariat shall distribute to each IARU member their equal (pro-rata) share of each **Santander** annual contribution, upon receipt of the full amount of each instalment from **Santander**. Each IARU member shall be responsible for selection of candidates and award IARU-Santander GSP Scholarships at their discretion applying to such purpose all its quota of the contribution.

(iv) During the Term of this Agreement, the **University** will request from each participating IARU member:

a). A duly filled and sign Confirmation Form (Appendix I, hereto), to be handled to **Santander**.

b). Upon the completion of each year's IARU GSP, a list of students to whom such member has awarded the IARU-Santander GSP Scholarships for that year, and will provide such list to **Santander**.

(v) Moreover, as soon as the Scholarships Portal being developed by the Santander Group becomes operative, **Santander** shall give the **University** and the IARU members access to it, so as to facilitate the management of the scholarships granted. The Scholarships Portal will offer the students benefiting from the grants or scholarships access to information that they may need for their studies, as well as other interesting services. In order to be able to provide access to the beneficiaries, and incorporate them into the Scholarships Portal from the earliest possible point, the **University** will use reasonable commercial endeavours to obtain, when each beneficiary of the scholarships receives the grant, authorization from each beneficiary to pass on his/her data to Banco Santander, S.A., Spain, and to include such data in the Scholarships Portal file.

Such authorization shall be executed in any way seen fit by the **University**, in accordance with the Spanish Law; or in the authorization form that **Santander** has established for such purpose. The original authorization document must always be remitted to **Santander**.

SECOND.- CONTRIBUTION

(i) By virtue of this Specific Cooperation Agreement and in accordance with the above clause, **Santander** shall make a total contribution amounting to **USD 200,000 (TWO HUNDRED THOUSAND US DOLLARS)** that the **University** shall apply in support of the 2018 edition of the IARU GSP distributing to each IARU an equal (pro-rata) share, that shall be applied to grant the IARU-Santander GSP Scholarships as established hereto.

(ii) The contribution to the **University** will be paid by **Santander** in one instalment on or before 15th March 2018.

(iii) Notwithstanding the foregoing, if on the date of payment completion of each installment, **Santander** had not received the Confirmation Forms of all IARU member universities, the amount that **Santander** should pay for that installment will be reduced in **TEN THOUSAND UNITED STATES DOLLARS (USD 10,000)** for each member whose Confirmation Form had not been received. Any duties in relation to that payment shall be considered suspended and no claims in that respect will be accepted, even in case that the Confirmation Form is received later.

THIRD.- USE OF NAME

The parties hereto agree to the following for the purpose of covering and promoting their cooperation.

(i) The **University** and each IARU member will acknowledge **Santander** as a sponsor of the IARU-Santander GSP Scholarships and agrees to mention it in any publicity, advertising campaign broadcast or published regarding the cooperation project object of this Specific Cooperation Agreement, and on their respective websites or webpages on which the IARU GSP is promoted, and will provide a link directing students to the IARU-Santander GSP Scholarships while they consider their applications from those websites.

(ii) **Santander** grants to the **University** and each IARU member the right to use the **Santander** name and logo for the purposes contemplated under this Specific Cooperation Agreement. Any use of the **Santander** name and logos, whether in publications or on the **University** and each IARU member's website, shall comply with **Santander** corporate identity guidelines. The **University** and each IARU member shall also observe and comply with any guidelines or conditions that **Santander** may stipulate in respect of the use of such member's name and logo.

(iii) **Santander** shall be allowed to mention its condition as the **University**'s sponsor and co-operator in its own publications in relation to publicity of the programs sponsored by **Santander** which are referred to in this Specific Cooperation Agreement. **Santander** is authorised to display the logos of the **University, IARU** and of each IARU member and a link to their respective websites on those webpages of the Santander Group on which the IARU GSP is promoted. Any use of the **University**'s name and logos, whether in publications or on Santander's website, shall comply with the **University**'s corporate identity guidelines available at http://www.nus.edu.sg/identity. **Santander** shall also observe and comply with any guidelines or conditions that an IARU member may stipulate in respect of the use of such member's name and logo.

FOURTH.- INTELLECTUAL AND INDUSTRIAL PROPERTY

(i) The **University** and **Santander** each declare and guarantee that it is the holder or has sufficient powers to grant the right to use their respective names, logos, brand names and any other property, protected by the laws in force in matters of industrial property, as contemplated under this Specific Cooperation Agreement.

(ii) The University acknowledges that Santander. is the owner of the trademarks set forth in Schedule I to Exhibit A attached hereto and incorporated herein by reference ("Santander Trademarks"). By its signature on Exhibit A, Santander authorizes the University to use Santander Trademarks subject to the terms of this Agreement, including such services schedules as are executed by the parties Parties from time to time, and the license restrictions set forth in Exhibit A.

(iii) Nothing in this Specific Cooperation Agreement implies the cessation or transfer or waiver of any intellectual property rights that each of the parties may hold, and except for the right to use as permitted under the Third Clause above, each of the parties preserve their rights in respect of their names, logos, brand names, databases and any other property that are protected under applicable laws relating to intellectual and industrial property. Each IARU member shall have the benefit of this clause.

FIFTH – CONFIDENTIALITY AND DATA PROTECTION

(i) During the Term of this Agreement and for three years after its termination or expiry, the **University** and **Santander** may each disclose to the other certain information concerning their business, finances, activities and other necessary information in relation to this Specific Cooperation Agreement. The **University** and the IARU members may also disclose to **Santander** confidential information about their respective staff, alumni, and students, and **Santander** agrees to use such confidential information relating to staff, alumni and students of the IARU members solely for the purpose of monitoring the distribution of the contribution

to the IARU members, and in no event shall such information be used for or in connection with any marketing, publicity or promotional purposes, except if authorization is granted upon Cause First hereto. The **University** and **Santander** each agree that any such information disclosed by an IARU member (including the **University**) or **Santander** to the other shall be considered confidential information, and agree to keep such information absolutely confidential, except if such information is publicly known, or known to the recipient by legitimate means without any obligation of confidentiality, or unless the disclosing party has given its prior written consent to disclosure of such information, or unless the recipient is required by law to disclose such information to the proper judicial or administrative authorities. The confidentiality obligations pursuant to this clause shall continue notwithstanding the expiration or termination of this Agreement.

(ii) **Santander** agrees to be compliant, as far as necessary, with the provisions of Organic Law 15/1999 on Personal Data Protection, of 13 December 1999, and any amendments thereto, and any further legislation consonant with and applicable to the protection of personal data.

(iii) **Santander** shall use its best efforts to comply with all laws in Singapore applicable to the protection of personal data with regard to all personal data that it receives from the **University**. In particular, **Santander** agrees that when dealing with personal data received from the **University**, it shall:

(a) only use personal data in accordance with the purposes for which the **University** disclosed the personal data, in accordance with the instructions of the **University**;

(b) use its best efforts to protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access and against all other unlawful forms of processing;

(c) give the **University** notice in writing as soon as reasonably practicable should it be aware of, or reasonably suspect, that any of the events referred to in sub-clause (b) above has occurred and shall use its best efforts and render its full cooperation to the **University** in remedying the event and preventing its re-occurrence;

(d) not retain personal data for any longer than is necessary for the purposes for which the **University** disclosed the personal data;

(e) limit disclosure of such personal data to its employees on a need–to-know basis and only for the purposes of processing for which such personal data was disclosed by the **University**; and

(f) not to disclose or transfer any personal data received from the **University** to any third party (whether situated in the country where **Santander** is located or otherwise) without the prior written approval of the **University**, which may contain additional terms and conditions to govern such a disclosure or transfer.

SIXTH – TERM

(i) This Specific Cooperation Agreement is effective on the date first written above, and shall remain valid and in force for a period of one year from such date ("**Term**").

(ii) In case of early termination or breach of this Specific Cooperation Agreement before the end of the Term, the **University** shall accomplish its duties in relation to each program established hereto for the academic period following the previous receipt of payment which must be finished within the term establishing thereto, and except as established hereto any other duties shall be considered suspended, including **Santander** duty of payment. If at the end of the Term, there are unconsumed funds, the University and Santander shall negotiate the use of such unconsumed funds.

(iii) Should the membership of IARU be expanded to one or more further universities during the term of this Specific Cooperation Agreement, the **University** and **Santander** will review the terms of the Agreement to negotiate an addendum to accommodate such an expansion.

SEVEN.- MONITORING COMMITTEE

A Monitoring Committee comprised of four members: two appointed by the governing bodies of the **University**, representing also the interest of the IARU members, and two appointed by those of the **Santander**, shall be created to execute and monitor this Specific Cooperation Agreement. The Monitoring Committee shall meet periodically, chaired by one of the **University**'s representatives, in order to ensure the proper execution of this Specific Cooperation Agreement, to define specific projects, to analyze the execution process, and to propose new actions, issuing reports evaluating the actions performed and proposing an action plan for the following year, which they shall submit to the Parties.

EIGHT.- APPLICABLE LAW AND JURISIDICTION

This Specific Cooperation Agreement shall be governed by Spanish legislation.

This Specific Cooperation Agreement has been signed in good faith, and therefore any conflict that may arise as to its interpretation, formalization and fulfillment shall be resolved by the Monitoring Committee referred to in Clause Seven; it shall not be possible to appeal against the decisions of said Committee.

In cases where this is not possible, the Parties, waiving the right to recourse to any other authority with jurisdiction and expressly renouncing all other rights, hereby submit to the Courts and Tribunals of Madrid (Spain).

The Parties, having read this document and finding it to be in agreement and proof of what they have discussed, sign it in two identical copies in English language, at the places and on the dates specified above.

NATIONAL UNIVERSITY OF SINGAPORE (ACTING ON BEHALF OF IARU SECRETARIAT)	**BANCO SANTANDER, S.A.**
Signed: Professor Andrew Wee Thye Shen	**Signed: Mr. Javier Roglá Puig**

APPENDIX I

CONFIRMATION FORM FOR THE "IARU-Santander Global Summer Program Scholarships" UPON SPECIFIC COOPERATION AGREEMENT DATED.....

A. Contact details of the university to participate in the "IARU-Santander Global Summer Program Scholarships"

University					
Legal Name:	*Enter the name in national characters*				
Acronym:					
Type of institution	Private ☐ Public ☐				
Legal Domicile:					
Postcode:		City:			
Region/District/Other:		Country:			
Web site:	http://				
Phone number 1:		Phone number 2:		Fax:	
Other national supervisory organisation it belongs to (if applicable):					

DECLARATION:

It is hereby certified through this individualised confirmation form that the person signing it, in representation of the indicated University,

DECLARES TO KNOW AND ACCEPT, without reservation and in their entirety, the conditions and requisites in force for the "**IARU-Santander Global Summer Program Scholarships**", its content, according to the Specific Cooperation Agreement between Banco Santander, S.A. and National University of Singapore, in its capacity as Secretariat of the **International Alliance of Research Universities (IARU)**, as well as the rights and obligation for the IARU member universities included in the document that comes before this one, which he/she has also read.

Starting from the inscription date for the present document, the indicated University / Education Institution, will be considered to be part of the "**IARU-Santander Global Summer Program Scholarships**", in its condition of participating university, and as such, it assumes the right and obligations that derive from its implementation and it accepts those held upon the Specific Cooperation Agreement by Banco Santander, S.A. and the rest of the **participating universities**.

The present Confirmation Form will have binding effects and will enter into force from the date it is submitted to Banco Santander, S.A., which is shown at the end of the document

B.Person authorised to represent the participating university with respect to the "IARU-Santander Global Summer Program Scholarships" (representative)	
Name and surname:	
University:	
Position:	
Signature:	
Place and date:	
RECEIVED BY:	
Name and surname:	
Position:	
	BANCO SANTANDER, S.A.
Signature:	
Place and date:	

C. Person from Participating University nominated to coordinate and accompany the participation in "IARU-Santander Global Summer Program Scholarships"					
Name:		Surname(s):			
Job/Position:					
E-mail:					
Address: *(only fill out if it is different from the address for the institution)*					
Phone number 1:		Phone number 2:		Fax:	

EXHIBIT A
to
The SPECIFIC COLLABORATION AGREEMENT BY AND BETWEEN NATIONAL UNIVERSITY OF SINGAPORE
AND
BANCO SANTANDER, S.A.

Trademark License

Pursuant to the Collaboration Agreement by and between **National University of Singapore**, (hereinafter the "**University**"), and Banco Santander, S.A. (hereinafter "Licensor") dated January 23, 2018 as owner of the Trademarks (hereinafter "Trademarks") listed in Schedule I to this license (hereinafter "License") grants a limited non-exclusive, non-transferable, non-assignable license to the University subject to the following terms:

1. University acknowledges and agrees by execution of the Agreement that their use of Licensor's Intellectual Property (referred to in this License as the "Trademarks") is limited to the purposes ("Permitted Uses") set forth in the Agreement.

2. University shall not acquire any rights in the Trademarks, other than the limited license rights granted in this License, and any goodwill generated by University's use of the Trademarks shall accrue to the exclusive benefit of Licensor.

3. University shall comply with any reasonable directions given by Licensor, with regard to University's use, placement, depiction and/or the manner in which the Trademarks are used, placed or depicted.

4. University shall not apply to register any trademarks or domain names, which are the same as or confusingly similar to the Trademarks.

5. University will not use the Trademarks in such a way as may affect their validity or may lead to revocation of the Trademarks or otherwise injure the reputation or distinctiveness of the Trademarks.

6. University shall not act nor purport to act as an agent of Licensor and shall not in using the Trademarks make any representation nor give any warranty on behalf of Licensor.

7. If University becomes aware of infringement by any third party, University shall promptly notify Licensor in writing, explaining the known facts in reasonable detail, and Licensor shall have the exclusive right to decide if it is to commence proceedings against the offending third party at Licensor's expense.

8. The License granted to University to use the Trademarks shall be terminated upon the occurrence of any of the following: (a) the expiration or early termination of the License or the Agreement; (b) on the termination date of the Agreement which is 31st December 2018 (c) Licensor no longer directly or indirectly controls

Santander; or (d) any breach (either by act or omission) by University of its licensing obligations under the terms of the License, including but not limited to the misuse of the Trademarks or any use which could compromise the goodwill, public image or reputation of Licensor or its affiliates. Upon termination of such license, University shall cease use of the Trademarks and shall remove the Trademarks from any stationery, products, advertising or other promotional materials or other goods and services within a reasonable period of time as reasonably determined by Licensor.

9. University shall indemnify Licensor and its affiliates for any claim arising from University's breach of any of the foregoing.

10. Licensor will defend Licensee from any third party claim for intellectual property infringement for its proper use of the Trademarks in accordance with the terms of this License and the Agreement.

BANCO SANTANDER, S.A.

Iñigo Sanchez Fernández de la Puente

Schedule I
Trademarks

Trade Mark	Registration No.	Class	Status	Jurisdiction
Santander	T07/11312C	41	Registered	Singapore
Santander	T0711310G	36	Registered	Singapore
Santander	1079659	36,41	Registered	IR Extension to Singapore
Santander UNIVERSITIES	1240743	41	Registered	IR Extension to Singapore

7.3 GT-GSP Collaborative Course

Lead	UC Berkeley and University of Copenhagen
Reporting	*Professor Khatharya Um* *Professor Andreas Egelund Christensen*
Executive summary	In response to the long-standing urging of IARU leadership for GSP to offer more research-intensive courses and to the shared desire at multiple levels of IARU to see greater synergy among programs, this summer field research course was envisioned and developed with multifaceted collaboration in mind, namely 1) collaboration among IARU faculty 2) collaboration among IARU programs 3) collaboration between IARU institutions and institutions in the Global South. Since the submission of our course proposal, we have finalized our understanding with the University of Chiang Mai and with local NGOs and are ready to launch the course this summer 2018. We also envision these dialogues with local partners as paving the way for the development of a longer-term internship program under the auspices of GT (and possibly jointly with GSP and Sustainability). Thus far, student response has been remarkable, which underscores the need for such a course. In addition to bringing together Global Transformation and GSP, we have also worked closely with the Sustainability Working Group to intentionally create a student leadership pipeline between the course and other activities relevant to the work of the Sustainability Working Group, using the UN Sustainable Development Goals as a shared platform for our collaborative engagement. We are confident that on multiple fronts, this course brings IARU closer to the defining principles of the alliance. This report contains: 1. Course Description
Items for decision	n/a
Funding request	n/a
Funding to date	*USD 2,000* *GT-GSP course reserve*
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** **GT-GSP Collaborative Course Outcomes** Rexille Uy (IARU Secretariat) reported that *Engaging Challenges of the 21st Century: A Critical Field Research Course*, is being co-developed and co-taught by faculty from UC Berkeley and UCPH. This course is a curricular response to the long-standing urging of IARU leadership for the GSP to offer more research-intensive courses. It is also a response to the

	interest of many IARU institutions in minimizing duplicative efforts and promoting more collaboration among alliance members. Important contributions to the GT-GSP collaborative include: • Strengthening the research component of the IARU teaching initiatives • Moving the alliance towards its goal of promoting critical thinking, critical learning, and critical research • Promoting interdisciplinary coursework and learning by involving faculty members from different IARU institutions and disciplines • Adding new dimensions to prior initiatives, namely research, a field engagement component, a location in the Global South, and critical discourse • Promoting intercultural learning through the diversity of students and faculty and immersion in a local context • Deepening collaboration among IARU members through co-development and co-teaching of the research curriculum • Creating new opportunities for involvement of other IARU member institutions • Extending the reach of the alliance and enhancing its overall effectiveness in engagement with 21st century challenges through new partnerships with countries, institutions, faculty, students and other stakeholders in the Global South This course will combine classroom learning with field engagement and immersion in local environments that include interactions with local villages and placement with NGOs, public institutions, or private institutions (i.e. government, schools, temples, art collectives). The fieldwork component will be located in northern Thailand, based at Chiang Mai University. The Senior Officers approve the USD $2,000 funding request to be held in reserve to support collaboration among IARU faculty and local institutions in Thailand in course development and student placement with NGOs. **Global Transformation in IARU Member Strategies Outcomes** Kiichi Fujiwara (UTokyo) reported that at the 2017 Presidents' Meeting at ANU, IARU Presidents and Senior Officers directed Global Transformation to develop a clear vision, core activity, and attainable objectives in order for IARU funding to continue. This directive was the main focus of discussion at the 2017 Global Transformation meeting in Beijing. With the retirement of Barbara Becker (ETH Zurich) at the end of 2017, the newly appointed chair of GT is Khatharya Um (UC Berkeley) with co-chair Helle Samuelsen (UCPH).

	The GT joint activities and work plan consist primarily of the GSP Critical Field Research Course that will launch in Summer 2018. The work plan also includes a proposed student exchange program led by PKU that will build on already existing exchange agreements. A 2016 GT meeting at UCT explored the possibility of a partnership with the African Research Universities Alliance (ARUA). However, GT has not seen much progress in developing this partnership. Senior Officers express that pursuing partnerships with other networks should not be a priority; rather, GT should focus on expanding its education activities. Senior Officers are still unclear as to the focus of Global Transformation. Senior Officers feel the current work plan has too many topics of interest and reject the GT presentation as an agenda item for PM2018. Kiichi says the main focus of GT will be education, particularly the development of the GT-GSP collaborative course for 2018, and this will be the main topic of the 2018 GT meeting to be held in Cambridge. Senior Officers request clearer guidance on what types of faculty and staff to send to the 2018 meeting, especially if the GT focus is shifting to education and course development. The USD $8,000 funding for 2018 has been approved with reservations. Senior Officers stress that this meeting should focus on course development for the GT-GSP course and conversation to explore other potential crossover courses with GSP or other IARU initiatives. The new focus on education and collaboration will redefine the scope of GT's future work.

1. Course Description

Borderland: Critical Approaches to Field Research in the Global South

20 June 2018 – 18 July 2018 (in Chiang Mai, Thailand 25 June – 18 July)

Jointly developed and offered by University of Copenhagen and UC Berkeley as a collaborative initiative of the IARU GSP and the Global Transformation Strategic Working Group.

This course is designed to provide students with an opportunity to think critically about the research process, epistemologies, and ethics in the conduct of research. It combines classroom learning with field engagement and immersion in local environment that include meaningful interactions and placement with local NGOs or ongoing research projects in and around Chiang Mai, in northern Thailand.

Emphasizing the research process rather than the mastery of a specific topic or method, the aim is to provide students with the tools to raise and address critical questions in their own research and a foundation from which they can apply the knowledge and practices from the course to future projects.

We envision that, by the end of the course, each student will have produced a polished draft of a research project proposal (7-10 pages) that could be used for future engagement with the Global South, be it through research, policy, advocacy, or other pursuits. In addition, students are expected to develop and complete a group project and to make meaningful contributions to the organizations or research projects to which they are assigned.

Themes that will be addressed in the course in the context of globalization processes and borderland issues include:

- Borders and boundaries
- Mobility and immobility
- Environment and natural resource management
- Human in/security and social justice

7.4 Global Internship Program (GIP)

Lead	n/a
Reporting	IARU Secretariat
Executive summary	In 2017, NUS awarded a total of 3 internships to IARU students. The Women and Men in Globalizing Universities initiative offered 3 internships on implicit bias training (Yale), assessing the role of incentives (ANU), and data collection and analysis of gender differences in educational achievements (ETH Zurich). The Sustainable Campus Initiative employed four interns in 2017, three at Yale and one at Oxford. At the SOM2017, Senior Officers decided to promote the GIP by offering monetary incentives to campuses who open internship opportunities to students in 2018. Each university had the option to submit one internship proposal for the 2018 calendar year. Submitted proposals received USD $2,000 to support one intern pending approval from the Senior Officers. For 2018, five universities (NUS, Oxford, UCPH, UTokyo, Yale) will offer a total of six internships. Each of the five universities will receive USD 2,000 for a total of USD 10,000. **This report contains:** 1. GIP 2018 Proposals
Funding to date	*USD 10,000* *2018 GIP (NUS, Oxford, UCPH, UTokyo, Yale)*
Outcomes of previous meetings	**Senior Officers' Meeting, October 2017** Rexille Uy (IARU Secretariat) reported that in 2017, NUS awarded a total of 3 internships to IARU students. The Women and Men in Globalizing Universities initiative offered 3 internships on implicit bias training (Yale), assessing the role of incentives (ANU), and data collection and analysis of gender differences in educational achievements (ETH Zurich). A more comprehensive report of the Gender Group intern work will be presented at the 2018 Presidents' Meeting as some internships are currently ongoing. The Sustainable Campus Initiative also employed four interns in 2017, three at Yale and one at Oxford. Senior Officers agreed that this is a good opportunity for students to move around IARU campuses. They wish to encourage more universities to offer internship opportunities. Thus, Senior Officers propose that the Secretariat issue a call to all partners to increase internship opportunities for IARU undergraduate or graduate students at IARU campuses. These internships could be made available to students enrolled in GSP. Each university has the option to submit one internship proposal for the 2018 calendar year to the Secretariat by Monday, 15 January 2018. The

	dates and duration of each internship opportunity will be determined by the host university. Selected proposals will receive USD $2,000 to support one intern pending approval from the Senior Officers. Total maximum expense in 2018 as approved by the Senior Officers is USD $22,000. **Senior Officers' Meeting, November 2016** Steen Ulrich (IARU Secretariat) reported that in 2016, NUS offered one internship, which was awarded to a PKU student. For 2017, two internship opportunities are being offered at NUS and three at the University of Oxford and ETH Zurich in the framework of the Gender Group. The IARU Secretariat encourages the partners to look into possibilities of creating new internship opportunities for IARU students.

1. Global Internship Program 2018 Proposals

National University of Singapore:

Department:	Global Relations Office
Duration of Internship:	Minimum of 5 months, preferably between: • January and July • August and February of the following year Exact start/end dates of the internship are negotiable.
Application Deadline:	Internship in first-half of the year (e.g. January to July) – 31 October Internship in second-half of the year (e.g. August to February) – 31 May Please apply early, as suitable candidates may be interviewed and offered the position before the application deadline.
Job Scope:	The intern will work on various projects pertaining to internationalisation at the National University of Singapore (NUS), ranging from study abroad programmes and student services to strategic research and the organisation of events. Specific duties include: - Compile, analyse and present data for management reports - Research into topics of internationalisation in higher education - Engage faculty and students on study abroad programmes - Host overseas visitors / partners - Organise marketing and student events - Create publicity materials and event collaterals - Prepare and attend meetings with NUS' partners
Learning Objectives:	1. Gain an understanding of internationalisation in higher education 2. Develop project development and management skills 3. Develop research and analytical skills 4. Develop networking skills with university and industry partners
Benefits:	On-campus housing will be provided for the duration of the internship.
Application and Enquiries:	Completed application forms and any student enquiries should be sent via email to: adeline.ang@nus.edu.sg

Position:	Summer Programmes Intern
Department:	International Relations & Special Duties Dean's Office, Faculty of Arts & Social Sciences
Duration of Internship:	10 to 12 weeks, preferably between May and July. Exact start/end dates of the internship are negotiable.
Application Deadline:	25 February 2018
Job Scope:	The intern will work with the team that manages FASStrack Asia: The Summer School. Specific duties include: - Verify the list of documents submitted by students upon application - Follow-up with faculty and students on administrative matters - Plan and provide administrative and logistical support for social events - Coordinate and schedule meetings with FASStrack Buddies - Update and maintain FASStrack social media platforms - Attend to any ad-hoc requests or incidents
Learning Objectives:	1. Gain experience in managing a study abroad programme 2. Develop project development and management skills 3. Networking skills with various groups of people (faculty, local and foreign students, inter-department staff etc.)
Benefits:	On-campus housing will be provided for the duration of the internship.
Application and Enquiries:	Completed application forms and any student enquiries should be sent via email concurrently to: • letitia.thng@nus.edu.sg • fastjyj@nus.edu.sg • adeline.ang@nus.edu.sg

University of Oxford:

Details of sponsoring Office	Oxford Institute of Population Ageing The Oxford Institute of Population Ageing is a multidisciplinary research institute concerned with the processes and implications of global demographic change. It was established in 1998. Based on the US Population Center, it was funded by a grant from the National Institute of Health (National Institute on Aging - NIA) to establish the UK's first population center on the demography and economics of ageing populations. It achieved Institute status in 2001.

Scope of work	Multi-disciplinary research on different aspects of population ageing. Graduate students' level.
Duration of Internship	From one week to three months
Information on accommodation and other facilities for the intern	The Institute will assign a mentor to the intern who will work with him/her on proposed research. In addition, the Institute is offering a University card giving access to the Oxford University Central Library ("the Bodleian Library") and to the Institute building; free attendance at departmental and institute seminars and lectures, as well as a wide range of seminars and lectures across the University (during term time); access to the University IT facilities; use of dedicated desk and storage space, within the Institute's Research Area; use of shared telephone for University Network calls and for limited use of local UK dialing; general access to the Institute and departmental communal facilities and common area; free use of photocopier to a limit of 1000 unites; reasonable free use of stationery and consumables, as well as use of printing facilities, through central laser printer; free use of shared Institute PC for access to emails etc. Assistance with finding accommodation in one of the University Colleges would be provided.

University of Copenhagen:

Host Faculty/Department	UCPH Global, Faculty of Social Science
Internship Title	University of Copenhagen IARU Internship Program
Duration of Internship	Two alternative periods (prioritized) 1. 3 Months: 1 April – 1 July 2. 3 Months: 1 September – 1 December
Supervisor/Mentor	Andreas Egelund Christensen, International Network Coordinator, PhD UCPH Global Development, University of Copenhagen
Funding	IARU stipend 2018 (maximum US$ 2000 to cover travel expenses, etc.)
Contact for more information	Andreas Egelund Christensen, International Network Coordinator, PhD UCPH Global Development, University of Copenhagen Email: aec@samf.ku.dk
Internship Description	The cross-faculty unit 'UCPH Global' at University of Copenhagen calls for an IARU intern for academic assistance to the following activities mainly related to IARU engagement: • Organizing the next workshop for the IARU Global

	Transformation Initiative to be held in Cambridge May 2018. • Developing and planning the IARU Global Summer Program (GSP): 'Critical Field Course' to be held June-July 2018. • Provide documentation on global development initiatives locally at UCPH as well as within IARU partner institutions – e.g. mapping exercises, research collaborations etc. • Maintain and develop website for UCPH Global and IARU Global Transformation. • Communication of global development initiatives through social media.
Application deadline	1 March 2018
Additional information/requirements	Preferably advanced undergraduate students, but not required. Preferably students with interests in global development issues – specifically in relation to the Global South. Good English skills – oral and written.

University of Tokyo:

Host Faculty/Department	School of Science/ Physics, Astronomy, Earth and Planetary Science, Chemistry, Biological Sciences
Internship Title	The University of Tokyo Research Internship Program
Duration of Internship	2 program periods, 6 weeks each: [1st Crew] June 13 - July 24, 2018 [2nd Crew] June 27 - August 7, 2018
Supervisor/Mentor	Students can choose up to two professors from the list of UTRIP hosting professors upon application, and they will be assigned to one of them once selected. The hosting laboratories change every year.
Funding	Free off-campus accommodation, stipend and airfare support
Contact for more information	Chie Sakuta (Ms.) and Fumie Hasegawa (Ms.) International Liaison Office, School of Science utrip.s@gs.mail.u-tokyo.ac.jp
Internship Description	UTRIP is a summer internship program organized by the Graduate School of Science at the University of Tokyo, which invites undergraduate students from all around the world with keen interests in pursuing an M.S. or Ph.D. degree in the future, to experience the forefront of research at a world-leading laboratory. It

	is open to students in the second or a later year of undergraduate studies at a university outside of Japan, who major in a natural science or related field. Selected participants will work closely with leading researchers at the laboratory of their own choice in the five departments at the Graduate School of Science: Physics, Astronomy, Earth and Planetary Science, Chemistry, and Biological Sciences. The program also incorporates a short Japanese language course, an excursion outside of Tokyo, a Japanese culture workshop, and a few social events, to enhance the participants' understanding of Japan and rapport with current students at UTokyo.
Application deadline	26 January 2018
Additional information/requirements	Only undergraduate students who fulfill the eligibility criteria and requirements stated on the UTRIP website may apply.

Yale University:

Host Faculty/Department	Office of International Affairs
Internship Title	Partnership Analysis Internship
Duration of Internship	6 weeks Preferred period: 2 July – 10 August 2018 (negotiable)
Supervisor/Mentor	Supervision would be provided by a staff member in the Yale Office of International Affairs
Funding	Stipend Intern must secure own accommodation; options will be provided for on-campus and off-campus
Contact for more information	Donald L. Filer Executive Director, Office of International Affairs Donald.filer@yale.edu
Internship Description	The intern will produce an analysis of Yale University's partnerships with universities and other institutions around the world. This analysis will include an examination of formal documents and agreements, websites, and other sources to identify agreements that are awaiting renewal, drafting and editing descriptions and results of partnerships, and identifying potential partnerships in a variety of schools, programs, departments, and areas.
Application deadline	15 April 2018

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Session 8: Closing Matters

8.1 2017 Financial Report and 2018 Outlook
8.2 2018 IARU Calendar
8.3 Next IARU Chair

8.1 2017 Financial Report and 2018 Outlook

IARU Income & Expenditure Statement

1 January 2017 --- 31 December 2017

	max. amount	Total (USD)
Carried forward from 31 December 2016		**249 898.00**
INCOME		**400 000.00**
Members' contribution	200 000.00	
IARU---Santander sponsorship for GSP	200 000.00	
Total available funds		**649 898.00**
EXPENDITURE		
Meetings		**47 129.71**
Presidents' Meeting (March 2017)	30 000.00	
GSP Working Committee Meeting (Sep 2017)	6 868.30	
Senior Officers' Meeting (Oct 2017)	10 261.41	
Running Initiatives		**58 748.88**
Gender Group Meeting (March 2017)	8 000.00	
Gender Group Interns	12 000.00	
Intern to assess the role of implicit bias training (Yale)	*4 000.00*	
Intern to assess role of incentives (ANU)	*4 000.00*	
Intern for data collection and analysis of gender differences in educational attainment (ETH)	*4 000.00*	
Global Transformation 3rd Workshop (May 2017)	10 000.00	
Campus Sustainability Officers' Workshop (June 2017)	4 133.68	
Sustainable Campus Projects	11 612.00	
Presentation to the IARU Presidents at PM2017 (ANU)	*2 709.00*	
IARU Universities as Catalysts for a Sustainable Society (Yale)	*3 903.00*	
Energy Management and Behavior Change (Oxford)	*5000.00*	
ALH GSC Conference (October 2017)	13 003.20	
New Initiatives		**5 516.20**
Real Estate Working Group (Sep 2017)	5 516.20	
Disbursements		**200 000.00**
Banco Santander sponsorship for GSP 2017	200 000.00	
Secretariat costs		**80 000.00**
Contribution to Secretariat costs at Berkeley	80 000.00	
Total Expenditure		**391 394.79**
BALANCE		**258 503.21**
Total available funds	649 898.00	
Total expenditure	391 394.79	

2018 Outlook

	max. amount	Total (USD)
Carried forward from 31 December 2017	approx.	**258 503.00**
INCOME		**400 000.00**
Members' contribution	200 000.00	
IARU---Santander sponsorship for GSP	200 000.00	
Total available funds		**658 503.00**
EXPENDITURE		
Meetings	up to	**55 000.00**
Presidents' Meeting (May 2018)	30 000.00	
GSP Working Committee Meeting (Sep 2018)	10 000.00	
Senior Officers' Meeting (Sep 2018)	15 000.00	
Running Initiatives	up to	**108 875.00**
Campus Sustainability Officers' Workshop (June 2018)	10 000.00	
Sustainable Campus Projects	21 000.00	
Event on role of academia in advancing the SDGs (June 2018)	*10 000.00*	
Design support for publications	*3 000.00*	
Staff exchange program	*3 000.00*	
Student fellows to support communication and outreach	*2 000.00*	
Design and production of best practice guide	*3 000.00*	
Global Transformation 4th Workshop (June 2018)	8 000.00	
Global Transformation-GSP Course reserve	2 000.00	
Joint-Online Course	4 300.00	
Part-time "project manager"	*1 600.00*	
Post-course workshop(s)	*2 700.00*	
Real Estate Working Group Meeting (Sep/Oct 2018)	10 000.00	
Real Estate Working Group Benchmarking Initiative	12 000.00	
Research Administrators' Meeting (unscheduled for 2018)	10 000.00	
Global Internship Program (2018)	10 000.00	
NUS	*2 000.00*	
Oxford	*2 000.00*	
UCPH	*2 000.00*	
UTokyo	*2 000.00*	
Yale	*2 000.00*	
Gender Group Meeting (Sep 2018) *pending decision*	6 575.00	
ALH GSC Conference (Oct 2018) *pending decision*	15 000.00	
New Initiatives	up to 8 000.00	**8 000.00**
Cybersecurity Forum (April 2018)		
Disbursements	200 000.00	**200 000.00**
Banco Santander sponsorship for GSP 2018		
Secretariat costs	80 000.00	**80 000.00**
Contribution to Secretariat costs at UC Berkeley		
		451 875.00
BALANCE		**206 628.00**
Total available funds	658 503.00	
Total expenditure	451 875.00	

2019 Outlook

		Total (USD)
Approved Activities		**up to 20,000**
Campus Sustainability Officers' Workshop 2019	up to 10,000	
Real Estate Working Group Meeting 2019	up to 10,000	

Alumni Associations Network

(own funds resulting from a positive balance from the World Alumni Forum held at UTokyo in 2015)

	max. amount	**Total (USD)**
INCOME		
Balance of 1st World Alumni Forum		10,000
Total available funds		**10,000**
EXPENDITURE		
Contribution to the 2016 Presidents' Panel (up to GBP 2,000)		2,500
Total Expenditure		**2,500**
BALANCE		**7,500**
Total available funds	10,000.00	
Total expenditure	2,500.00	

8.2 IARU Calendar

Meetings and Activities 2018

Date	Event	Host
15 January	Global Internship Program (GIP) Proposals Due	all
4-5 April	Cybersecurity Forum	NUS
9 April	Joint Online Course Meeting	UC Berkeley
4-6 May	Presidents' Meeting	PKU
3-5 June	Global Transformation Workshop	Cambridge
18-21 June	Campus Sustainability Officers' Workshop, to coincide with EAUC meeting	Oxford
3-7 July	Librarians' Meeting	Oxford & Cambridge
June - August	Global Summer Program (GSP)	all
12-14 September	Gender Group Meeting	Yale
16-17 September	GSP Working Committee Meeting	ETH Zurich
20-21 September	Senior Officers' Meeting	UTokyo
30 September – 2 October	Real Estate Working Group Meeting	Oxford
17-19 October	ALH Meeting and Graduate Student Conference	NUS

IARU Meetings – Overview

Presidents' Meetings

2020 @ National University of Singapore (dates tbd)
2019 – location and dates tbd
2018 @ Peking University (4-6 May)
2017 @ Australian National University (26-28 March)
2016 @ University of Oxford (25 -26 April)
2015 @ The University of Tokyo (2–3 March)
2014 @ ETH Zurich (24–25 April)
2013 @ National University of Singapore (8–9 April)
2012 @ University of Copenhagen (26–27 April)
2011 @ Yale Club, New York City (6–7 April)
2010 @ Peking University (13–14 April)
2009 @ University of Cambridge (28–29 April)
2008 @ Yale University (22–23 April)
2007 @ Australian National University (28–29 March)
2006 @ National University of Singapore (13–14 January)

Senior Officers' Meetings

2020 @ University of Oxford (dates tbd)
2019 @ ETH Zurich (9-19 September)
2018 @ The University of Tokyo (20-21 September)
2017 @ Yale University (26-27 October)
2016 @ Peking University (2-3 November)
2015 @ University of Copenhagen (22-23 October)
2014 @ National University of Singapore (14–15 November)
2013 @ University of California, Berkeley (5–6 November)
2012 @ University of Cambridge (29–30 October)
2011 @ Australian National University (24–25 October)
2010 @ ETH Zurich (18–19 October)
2009 @ University of Oxford (22–23 October)
2008 @ University of California, Berkeley (20–21 October)
2007 @ The University of Tokyo (19–21 September)
2006 @ ETH Zurich (20 September)
2005 @ Yale University

GSP Working Committee Meetings

2018 @ ETH Zurich (16-17 September)
2017 @ UC Berkeley (25-26 September)
2016 @ NUS (26-27 September)
2015 @ Yale University (21–22 September)
2014 @ University of Oxford (22–23 September)
2013 @ ETH Zurich (9–10 September)
2012 @ Peking University (24–25 September)
2011 @ University of Copenhagen (17–18 September)

2010 @ University of Cambridge (19–21 September)
2009 @ University of Oxford (14–15 September)
2008 @ Antwerp, Belgium (19–21 September)
2008 @ University of Cambridge (11–13 February)

8.3 Next IARU Chair

Current Chair

Professor Carol Christ, 2017-2018 (University of California, Berkeley)

Past Chairs

Professor Ralf Hemmingsen, 2015 - 2016 (University of Copenhagen)
Professor Ralph Eichler, 2013 - 2014 (ETH Zurich)
Professor Tan Chorh Chuan, 2009 - 2012 (National University of Singapore)
Professor Ian Chubb, 2005 - 2008 (Australian National University).

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Appendix

Participants' Biographies
Gender Attainment Gap Information Sheet
Gender Attainment Gap Report

Participants' Biographies

Australian National University

Professor Brian P. SCHMIDT AC
Vice-Chancellor

The Vice-Chancellor is the President and Chief Executive Officer of ANU. The Vice-Chancellor guides strategy and day-to-day leadership for the University and is also a member of the Council.

Professor Brian P. Schmidt was appointed Vice-Chancellor of ANU in January 2016.

Professor Schmidt is the 12th Vice-Chancellor of The Australian National University (ANU). Winner of the 2011 Nobel Prize in Physics, Professor Schmidt was an astrophysicist at the ANU Mount Stromlo Observatory and Research School of Astronomy and Astrophysics before becoming Vice-Chancellor.

Professor Schmidt received undergraduate degrees in Astronomy and Physics from the University of Arizona in 1989, and completed his Astronomy Master's degree (1992) and PhD (1993) from Harvard University. Under his leadership, in 1998, the High-Z Supernova Search team made the startling discovery that the expansion rate of the Universe is accelerating. Fellow of the Australian Academy of Science, The United States Academy of Science, and the Royal Society, he was made a Companion of the Order of Australia in 2013.

Professor Shirley LEITCH
Deputy Vice-Chancellor (Global Engagement)

The Deputy Vice-Chancellor (Global Engagement) provides leadership across a broad portfolio, including international alliances and partnerships, national and international government relations, marketing, brand management, media relations, online learning, learning and teaching innovation, and educational technologies.

Previously, Professor Leitch was Dean of the College of Business and Economics at the Australian National University. While Dean, her major strategic initiatives centred on increasing external engagement with industry, public sector, and international partners, including the establishment of an Innovation Hub, internship programs, and expanding international university partnerships.

Professor Leitch has a longstanding interest in online education and currently co-chairs the Revenue Committee of edX, which offers massive open online courses (MOOCS) to millions of students. Prior to joining the ANU, she was Deputy Vice Chancellor (Academic) at Swinburne University of Technology in

Melbourne, Australia, where she co-founded Online Education Services Ltd (OES) in partnership with SEEK Ltd. In 2015, OES was recognised as Australia's fastest growing company in the BRW Fast 100.

Professor Leitch's own research is focused on public discourse and change, including science-society engagement in relation to controversial science and technology. She has been a CI within research teams that have received more than $5m in national competitive grants, including for an Australian Research Council project on the Mineral Resources Rent Tax, and a NZ Foundation for Research Science Technology project *Building our Productivity: Understanding sustainable collective productivity in NZ firms*. In 2017 she commences work on a new ARC Linkage project in partnership with Sydney Trains.

Dr. Anthony NELLIGAN
Manager, Regional Partnerships Development

Anthony was appointed as the Manager, Regional Partnerships Development in October 2017 and joined the Australian National University from the University of Melbourne. He has responsibility for institutional partnerships in the Asia Pacific within the University's International Strategy and Partnerships team.

Anthony has worked in the Australian Higher Education sector over the past 15 years with a focus on international education, associated governance and management frameworks, and the provision of business intelligence and data to inform the development of international education. He holds a Bachelor of Veterinary Science (Honours) and Bachelor of Letters from the University of Melbourne.

ETH Zurich

Prof. Lino GUZZELLA
President

Lino Guzzella has been full professor of thermotronics since 1999 and, in addition, from August 2012 to December 2014 Rector of ETH Zurich. Since January 2015 he is President of ETH Zurich.

He was born on October 13, 1957 in Zurich. After receiving his mechanical engineering diploma in 1981 and his doctoral degree in 1986 from ETH, he held several positions in industry (R&D team leader, Sulzer Brothers, Winterthur; R&D mechatronics department head, Hilti, Schaan) and academia (assistant and associate professor in the electrical engineering and mechanical engineering department at ETH; Honda Visiting Professor at The Ohio State University).

With his group he focuses in research on novel approaches in system dynamics and control of energy conversion systems. Control-oriented systems modeling, dynamic optimization and feedback control design methods are the main area of research. A particular emphasis is placed on the minimization of fuel consumption and pollutant emission of land vehicle propulsion systems. Among others he received the IEEE-MSC – Industry Award for Excellence in Translational Control Research, IEEE Control Systems

Magazine Outstanding Paper Award, the SAE Arch T. Colwell Merit Award and the Ralph R. Teetor Educational Award, the IMechE Thomas Hawksley Medal and Crompton Lancaster Medal, the Energy Globe Award and the Golden Owl 2011 for Excellence in Teaching.

Professor Guzzella has published more than 100 research articles in peer refereed journals and conferences as well as two research textbooks (Introduction to Modeling and Control of IC Engine Systems, Springer Verlag, 2nd. Ed. 2010 and Vehicle Propulsion Systems – Modeling and Optimization, Springer Verlag, 3rd Ed. 2013). He has been a keynote speaker at many conferences worldwide.

Professor Guzzella is a fellow of IFAC and a fellow of IEEE and a member of the Swiss academy of engineering sciences (SATW). He is member of several international and national research committees, e.g. the Swiss CTI Committee on Engineering Sciences and was for many years member of the board of governors of IFAC.

Dr. Jürg BRUNNSCHWEILER
Director, ETH Global

Jürg Brunnschweiler is the Head of ETH Global and Director of Global Institutional Affairs at ETH Zurich. ETH Global is the staff unit for international relations at ETH Zurich. It fosters international partnerships in research and education and enhances the institution's visibility abroad. ETH Global's crosscutting mission complements the international relations of research groups, departments or administrative units at the institutional level.

Jürg Brunnschweiler joined ETH Zurich in 2002. Before taking the helm of ETH Global on 1 October 2012, he worked first in the Presidents' Staff and the Lecturers' Office, then in the office dealing with the European Union Framework Programmes and in 2009 returned to the Office for Faculty Affairs where he was responsible for faculty recruiting procedures at various departments. In addition, he was contact person for academic career advancement and Secretary of the Tenure Committee. Since 1 January 2017, Jürg Brunnschweiler is a member of the Board of Directors of the ETH Alumni Association.

Jürg Brunnschweiler holds a PhD in Biology from the University of Zurich.

National University of Singapore

Professor TAN Eng Chye
President

Professor Tan Eng Chye was appointed President of the National University of Singapore (NUS) on 1 January 2018. He is the University's 5th president, and the 23rd leader to head Singapore's oldest higher education institution.

Prof Tan, who attended Raffles Institution (1974 to 1979), obtained his Bachelor in Mathematics (First Class Honours, 1985) at NUS and his PhD (1989) at Yale University. He joined NUS as a faculty member in the Department of

Mathematics in 1985, as a Senior Tutor, and has held visiting positions at various universities overseas such as the Rutgers University, University of Washington at Seattle, University of California at Berkeley and University of Maryland, USA; Universities of Tokyo and Kyoto, Japan; as well as the Hong Kong University of Science and Technology.

Prof Tan's research interests are in the Representation Theory of Lie Groups and Lie Algebras; and Invariant Theory and Algebraic Combinatorics. He has been invited to speak in numerous top conferences overseas, and has published more than 20 articles in top internationally-refereed journals and conference proceedings. He has co-authored three books on mathematics, including a well-known graduate text on non-Abelian harmonic analysis.

Prof Tan is a passionate and award-winning educator. He was a pioneer architect of the current academic system in NUS, and has seeded many initiatives such as the Special Programme in Science, University Scholars Programme, University Town Residential College Programme, Grade-free Year, and Technology-enhanced Education. He was recognised with the University Teaching Award for Innovative Teaching in 1998, and was President of the Singapore Mathematical Society (2001 to 2005) as well as the South East Asian Mathematical Society (2004 to 2005).

Prof Tan sits on the International Advisory Council of the Southern University of Science and Technology in China. He is on the boards of the Agency for Science, Technology and Research (A*STAR); Defence Science & Technology Agency (DSTA), Ministry of Defence; Bizlink Centre, a social enterprise; and NUS High School of Mathematics and Science. He is also a past board member of Defence Science Organisation (DSO) Laboratories, National Institute of Education, and Infocomm Development Authority of Singapore.

Prof Tan received the Public Administration Medal (Gold) at Singapore's National Day Awards in 2014 for his outstanding contributions to education.

Professor WEE Andrew

Vice President, University and Global Relations

Professor Andrew Wee is Vice President (University and Global Relations) at the National University of Singapore (NUS). In his role as Vice President, he works with the President on the University's efforts to become a leading global university located in the heart of Asia through the strengthening of strategic relations with stakeholders both in Singapore and overseas.

He was concurrently appointed Deputy Managing Director (Research) of A*STAR in October 2017. The DMD Research role is pivotal in the coordination of work between the Biomedical Research Council and the Science and Engineering Research Council, and its responsibilities include the attraction and retention of scientific talent, the review of scientific policies and processes, and the functionalisation of scientific shared services.

Prof Wee, who was Dean of the NUS Faculty of Science from 2007 to 2014, is President of the Singapore National Academy of Science. He is also the Director of the Surface Science Laboratory in the Department of Physics at the NUS Faculty of Science, and an adjunct scientist at the Agency of Science, Technology and Research's Institute of Materials Research and Engineering.

For his scientific excellence as a Professor of Physics, Professor Wee was awarded the President's Medal in 2008 by the Institute of Physics Singapore, a Provost's Chair Professorship in 2013, as well as the Outstanding Scientist Award 2015 by NUS Science. A fellow of the Institute of Physics, UK, the SNAS, as well as the Institute of Physics, Singapore, he has published more than 500 internationally refereed scientific papers. He is an Associate Editor of the journal ACS Nano since 2011, and serves or has served on several journal editorial boards including Applied Physics Letters-Journal of Applied Physics (2009-2011), Surface and Interface Analysis, and Surface Review and Letters.

Prof Wee's research interests are in surface and nanoscale science, scanning tunneling microscopy (STM) and synchrotron radiation studies of the molecule-substrate interface, graphene and related 2D materials. He was previously a visiting scientist with the Lawrence Berkeley National Laboratories in the US, a Commonwealth Fellow as well as a Rhodes Scholar at the University of Oxford, where he received his received his DPhil (1990). He holds a Bachelor of Arts (Honours) in Physics (1994) as well as a Masters degree from the University of Cambridge, on a PSC Overseas Merit Scholarship (Teaching).

Ms. CHOOI Foong Sin
Associate Director, Global Relations Office

A graduate of the NUS Business School, Foong Sin leads the Coordination, Alliances & Communications at the NUS Global Relations Office. Her team coordinates NUS' participation at various university alliances, including IARU and also participation in international education conferences. Foong Sin has served in various leadership roles within the Global Relations Office for over 14 years.

Peking University

Professor LIN Jianhua
President

Professor Lin Jianhua is President of Peking University and Professor of Chemistry. His presidential term began in February 2015.

Prior to becoming President of Peking University, Professor Lin served as President of Chongqing University from December 2010 to June 2013, and President of Zhejiang University from 2013 to 2015. Other leadership roles have included: Dean of the College of Chemistry, Executive Vice President and Provost at Peking University from 1998 to 2010.

Born in October 1955 in Inner Mongolia, China, Professor Lin received his PhD in Chemistry from Peking University in 1986 and joined the University as an academic faculty in the same year. From 1988 to 1993, he conducted his post-doctoral research in the field of inorganic solid chemistry and material chemistry first at Max-Planck Institute of Solid State Research in Germany and then at the Department of Chemistry at Iowa State University and Ames National Laboratory in the US. In 1993, Professor Lin

returned to teach at Peking University as an Associate Professor and was promoted to full professorship in 1995.

Professor Lin's research interests cover a wide range of areas in solid chemistry, with more focus on new metal borates with novel structure type, and synthesis, structure and properties of transition metal oxides. He has published over 140 journal articles on the related subjects.

In addition to teaching and mentoring scores of students, Professor Lin won the 1st Prize for State-level Teaching Excellence in 2009.He was also awarded the 2nd Prize for Science and Technology Excellence by the Ministry of Education in 1995and a recipient of National Outstanding Youth Foundation in 1997.

Dr. TIAN Gang

Vice President, President's Office

Dr. Gang Tian has made fundamental contributions to geometric analysis, complex geometry and symplectic geometry. He did his undergraduate study at Nanjing University in China, received his MS at Peking University and PhD at Harvard University. He was a professor at Courant Institute of NYU, a Simons professor at MIT and a Higgins professor at Princeton University. He is now a Chair Professor and Vice-President of Peking University. And he has been the director of Beijing International Center for Mathematical Research (BICMR) since 2005.

Dr. Gang Tian solved completely the existence of Kahler-Einstein metrics on compact complex surfaces with positive first Chern class. He proved that the deformation of Calabi-Yau manifolds is unobstructed, now known as the Bogomolov–Tian–Todorov theorem. Together with Ruan, he established a mathematical theory for quantum cohomology and Gromov-Witten invariants on semi-positive symplectic manifolds which include any symplectic manifolds of dimension 3 and Calabi-Yau spaces, in particular, they proved the associativity of the quantum cohomology ring of semi-positive symplectic manifold. He was also one of pioneers in constructing virtual cycles and consequently constructed the Gromov-Witten invariants for any closed symplectic manifolds. He developed a compactness theory for high dimensional Yang-Mills fields and found a deep connection between high dimensional gauge fields and calibrated geometry. He introduced the K-stability which has been further developed and become a central topic in the theory of geometric stability. He initiated the Analytical Minimal Model program through Kahler-Ricci flow, known as Tian-Song MMP theory in complex geometry. Together with J. Morgan, amongst others, Dr. Gang Tian played a very important role in the solution of Poincaré Conjecture and Thurston's Geometrization Conjecture by providing sufficient arguments in the proof by G. Perelman. More recently, he gave a complete solution for the Yau-Tian-Donaldson's conjecture, a central conjecture in Kahler geometry. His solution follows the approach he proposed before. Together with J. Streets, he introduced new geometric flows and found their connection to the duality in the superstring theory. Their flows provide very important tools in complex geometry.

Dr. Gang Tian won Alan T. Waterman Award in 1994 and Veblen Prize in 1996. He spoke twice at the International Congress of Mathematics in 1990 and 2002. He was elected to the National Academy of China in 2001 and the American Academy of Arts and Science in 2004.

Professor CHEN Dongmin

Dean, School of Innovation and Entrepreneurship

Prof. Dongmin Chen is a Chair Professor in Peking University Institute for Advanced Interdisciplinary Research. He heads the Planning Committee for School of Innovation and Entrepreneurship at PKU. From 2012-1026 He served as the Director of Office of Science and Technology Development at PKU, and has overseen the university innovation ecosystem development, including technology licensing, spin-offs, several incubators and investment funds, and entrepreneurship education programs. He was a former Sr. Rowland Fellow at Harvard University for 15 years and a serial entrepreneur and co-founder of two Silicon Valley companies. Prof. Chen is the International Adviser of WIPO Global Innovation Index and the Honorary Advisor and former Chairman & President of Chinese American Semiconductor Professional Association. Prof. Chen is an Associate Editor of *Applied Physics letter*. His research expertise includes nanotechnologies, RRAM, MEMS-CMOS integration; wearable sensor, Tele-medicine and big-data in health-informatics. He co-authored more than 70 scientific publications and 150 US and international patents.

Dr. XIA Hongwei

Director, Office of International Relations

Dr. Xia Hongwei is Director of the Office of International Relations of Peking University and Deputy Director of the Peking University Center for International Higher Education. He received his Bachelor degree in Political Science from the University of International Relations in 1989, and went on to further his postgraduate studies at Peking University and was awarded the Master and Ph.D in International & Intercultural Studies in 1994 and 2009 respectively.

From 1995 to 1997, Dr Xia was invited as an exchange scholar in the Department of Communication Studies, University of Nebraska-Lincoln, United States, engaging in the study of cross-cultural communication. In June 2005, he was again invited as a visiting scholar sponsored by DAAD to conduct research on the China-Germany Educational Exchange in the late 19th century at the Free University of Berlin. In the summer of 2007, Dr Xia visited the Fairbank Center for Chinese Studies at Harvard University as a visiting fellow focusing on the research of cultural interactions between China and US in early 20th century.

Dr. Xia has published several theses in academic journals about Sino-Foreign Higher Education Exchange, and edited books on the Internationalization of Universities, and conducted some research

projects on Student Mobility of China's National Association of Research on Study Abroad. His main research areas include: Sino-Western Cultural Exchange in late Qing Dynasty, Cross-cultural Conflict and Communication, Internationalization of Higher Education and International Communication and Management between Universities.

Dr. LI Yun

Chief, Division for Education Abroad Programs, Office of International Relations

Ms. Li Yun is Chief of the Division for Education Abroad Programs, Office of International Relations of Peking University. She received the BA and MA from the School of International Studies of Peking University and then Ph.D. in Management of Higher Education from the Graduate School of Education of Peking University.

Dr. Li has been working at the Office of International Relations since 2006. She is responsible for the exchange programs with European partners and the coordinator for IARU affairs at Peking University.

University of California, Berkeley

Dr. Carol CHRIST

Chancellor

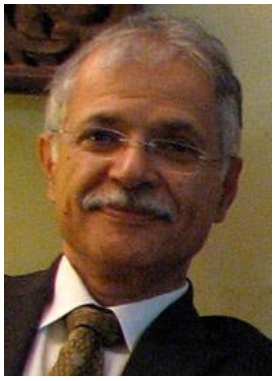
Carol Tecla Christ began her term as the 11th chancellor of the University of California, Berkeley on July 1, 2017. A celebrated scholar of Victorian literature, Christ is also well known as an advocate for quality, accessible public higher education, a proponent of the value of a broad education in the liberal arts and sciences, and a champion of women's issues and diversity on college campuses.

Christ spent more than three decades as a professor and administrator at UC Berkeley before serving as president of Smith College, one of the country's most distinguished liberal arts colleges, from 2002 to 2013. She returned to Berkeley in January 2015 to direct the campus's Center for Studies in Higher Education, and was appointed interim executive vice chancellor and provost in April 2016 before being named chancellor in March 2017. Since returning to Berkeley, Christ has played an instrumental role in efforts to stabilize the institution's budget, confront sexual violence and sexual harassment on campus, create a long-term plan for housing students and scholars, and more.

As president of Smith for more than a decade, Christ supervised the development of the nation's only accredited engineering program at a women's college, oversaw a significant rise in student diversity, expanded Smith's global activities and reach, managed a major campus capital planning program, and shepherded the college through strategic planning exercises designed to improve its academic and financial models within the context of changing trends in higher education.

Prior to joining Smith, Christ served as UC Berkeley's executive vice chancellor and provost from 1994 until 2000. During her six years as the campus's top academic officer, she sharpened Berkeley's intellectual focus, strengthening many of the institution's top-rated departments in the humanities and sciences as well as advancing major initiatives in areas including neuroscience and bioengineering.

Christ received her B.A. (1966) from Douglass College, and her M.Ph. (1969) and Ph.D. (1970) from Yale University. She joined the Berkeley English faculty in 1970, and in addition to her other roles, has served as chair of that department, dean of the Division of Humanities, and provost for the College of Letters and Science. Christ has authored two books, *The Finer Optic: The Aesthetic of Particularity in Victorian Poetry* (1975) and *Victorian and Modern Poetics* (1994), and has edited or co-edited several others, including *The Norton Anthology of English Literature*. She is a member of the American Academy of Arts and Sciences and the American Philosophical Society.



Professor Pradeep CHHIBBER
Director, Institute of International Studies

Professor Pradeep Chhibber is the Director of the Institute of International Studies at UC Berkeley. He is concurrently the Indo-American Endowed Chair and Class of 1959 Chair as well as a professor at the Department of Political Science at UC Berkeley. Professor Chhibber has published extensively on issues related to party systems, electoral politics and the politics of India.

University of Cambridge

Professor Stephen J. TOOPE
Vice-Chancellor

Professor Stephen J. Toope OC, LL.D. was appointed Vice-Chancellor of the University of Cambridge from 1st October 2017. He was previously Director of the Munk School of Global Affairs at the University of Toronto, and President and Vice-Chancellor, the University of British Columbia. A former President of the Pierre Elliott Trudeau Foundation, and Dean of Law, McGill University, Professor Toope also served as Law Clerk to the Rt. Hon. Brian Dickson of the Supreme Court of Canada. He served as Chair of the Board of Universities Canada, President of the Federation for the Humanities and Social Sciences, and as Director of the Public Policy Forum, the Canadian Institute for Advanced Research and the Royal Conservatory of Music.

Toope publishes in leading international journals on international dispute resolution, international environmental law, human rights, the use of force, and international legal theory, and has lectured at

leading universities around the globe. His current book project with Professor Jutta Brunnée explores mechanisms and processes fostering stability and change in international law.

Toope also served as Chair of the United Nations Working Group on Enforced and Involuntary Disappearances, and as Fact-Finder for the Commission of Inquiry into the Actions of Canadian Government Officials in relation to Maher Arar.

University of Copenhagen

Dr. Henrik Caspar WEGENER

Rector

Henrik C. Wegener has been rector at the University of Copenhagen since March 2017. He is an expert on food safety, zoonoses, antimicrobial resistance and emerging infectious diseases. He has served as advisor to national and international authorities & governments, (including the position as Chair of the High Level Group of the EC Scientific Advice Mechanism), international organizations and private companies, and universities and research foundations, and he has served, and is presently serving, on several national and international committees and boards on food safety, veterinary public health, and research policy. Mr. Henrik Wegener is a former prorector at the Technical University of Denmark.

Dr. Lykke FRIIS

Prorector for Education

Ms. Lykke Friis is Prorector for Education since August 2013. Ms. Friis has once before been Prorector at the University of Copenhagen and held the position from 2006 until she was appointed Minister of Climate and Energy in November 2009–2011 and from 2010 also Minister for Gender Equality. She was member of the Danish Parliament from 2011–2013. Earlier in her career, she has held positions at the Confederation of Danish Industries, the Danish Institute of International Affairs (Head of Research), the European Parliament and the Danish Ministry of Business Affairs. Ms. Friis holds a 1992 Master of Science in European Studies from the London School of Economics and Political Science. The following year, she graduated from the University of Copenhagen as Master of Political Science. In 1997, she received her PhD in International Politics from the University of Copenhagen. In 2008 Lykke was appointed member of the EU Reflection Group established by the European Council.

Mr. Jonas E. BAK
Senior Advisor, Rector's Office

Jonas Bak is a senior advisor at the Rector's Office at the University of Copenhagen, where he works with strategic development and public and international relations. He has held previous positions as head of section at the Danish Ministry of Higher Education and Science and EU consultant at the Copenhagen EU office in Brussels. Mr. Bak's academic background includes a Master of Political Science.

University of Oxford

Professor Louise RICHARDSON AAS ACSS FRSE RIIA
Vice Chancellor

Professor Louise Richardson is Vice-Chancellor of the University of Oxford. She previously served as Principal and Vice-Chancellor of the University of St Andrews.

A political scientist by training, Professor Richardson received a BA in History from Trinity College, Dublin, an MA in Political Science from UCLA, and an MA and PhD in Government from Harvard University. Professor Richardson's research specialises in international security with a particular emphasis on terrorist movements.

Her work has been widely recognised through the awarding, amongst others, of prizes such as the Sumner Prize for work towards the prevention of war and the establishment of universal peace. She also holds a number of honorary doctorates.

Professor Richardson serves on several not-for profit boards including the Carnegie Corporation of New York and the Booker Prize Foundation.

The University of Tokyo

Dr. Makoto GONOKAMI
President

Professor Makoto Gonokami became the 30th President of the University of Tokyo on April 1st, 2015, with a six-year term. Prof. Gonokami was previously the Dean of the School of Science. He became a full professor in 1998 having joined UTokyo as an academic staff in 1983. He has held several appointments in UTokyo including the positions of Vice President ('12-'14). He is a council member of the Science Council of Japan, and a Fellow of the American Physical Society (2012) and Optical Society of America (2013).

Professor Gonokami is well-known in the field of photon science, and has established worldleading photon research centers in the School of Science and School of Engineering.

Professor Kiichi FUJIWARA
Special Assistant to the President, Professor, Graduate Schools of Law and Politics, Director, Policy Alternatives Research Institute

Professor Kiichi Fujiwara is Professor of International Politics at the University of Tokyo, teaching courses on international relations and international conflict at the Faculty of Law, Graduate Schools of Law and Politics, and the Graduate School of Public Policy, the University of Tokyo.

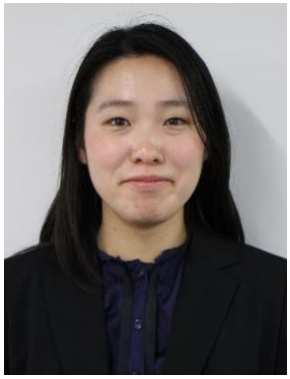
A graduate of the University of Tokyo (B.A. and M.A.), Professor Fujiwara studied as a Fulbright student at Yale University before he returned to Japan at the Institute of Social Science (ISS). He first joined the faculty at Chiba University and then returned to ISS for seven years before moving into his present position. He has held positions at the University of the Philippines, Johns Hopkins University, and was selected as a fellow of the Woodrow Wilson International Center at Washington D.C.

Professor Fujiwara is known for his writings on international affairs, including *Remembering the War* (2001), *A Democratic Empire* (2002), *Is There Really a Just War?* (2003), *Peace for Realists* (2004) (winner of the Ishibashi Tanzan award, 2005), *International Politics* (2007), *War Unleashed* (2007), and *Conditions of War* (2013). Professor Fujiwara is a regular commentator on international affairs and Japanese foreign policy on Japanese TV networks such as NHK and TBS, along with the BBC World Service, CNN and NPR. He is also a film critic with two published works, *America in Film* (2006) and *That's a Movie!* (2012).

Mr. Hiroyuki FURUYA
Assistant Manager, Assistant to the President, Office of the President

Mr. Hiroyuki Furuya is a member of the Office of the President since 2015. His appointment as assistant to the president began with President Makoto Gonokami taking office in April 2015.

Since joining the University, he has worked for Kavli IPMU (Institute of Physics and Mathematics of the Universe) providing linguistic support to international researchers. He has also worked for Management Planning Group and was involved in various university-wide initiatives including undergraduate education reform.



Ms. Yuko OHKUMA
Administrative staff, International Strategy Group, Management Planning Department

Ms. Yuko Ohkuma is a member of the International Strategy Group, Management Planning Department of the University of Tokyo since 2016.

She is responsible for various matters relating to international alliances to which the University of Tokyo belongs, international training programs for UTokyo staff. Since joining the University, she has worked for the Finance Team at School of Science, Scholarship Team and participated in the staff training program at the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Yale University

Professor Peter SALOVEY
President

Peter Salovey is the twenty-third president of Yale University and the Chris Argyris Professor of Psychology. He accepted leadership of the university in July 2013. Since then, he has transformed programming and facilities for education, research, and scholarship across the schools and departments of Yale, including restructuring the Faculty of Arts and Sciences and opening two new residential colleges, expanding Yale College by 15 percent. He is advancing experimental teaching on campus; amplifying Yale's partnerships in Africa, Asia, and other parts of the world; and enhancing interdisciplinary collaborations, innovation, and entrepreneurial opportunities for faculty and students. President Salovey is also significantly increasing access to a Yale education for students worldwide regardless of their financial background.

Prior to becoming president, Salovey served as the provost of Yale University from 2008 to 2013. As provost, Salovey facilitated strategic planning and initiatives such as enhancing career development and mentoring opportunities for all Yale faculty members; promoting faculty diversity; creating the Office of Academic Integrity; establishing the University-wide Committee on Sexual Misconduct; developing the West Campus; and overseeing the university's budget during the global financial crisis.

Other leadership roles at Yale have included chair of the Department of Psychology from 2000 to 2003; dean of the Graduate School of Arts and Sciences in 2003 and 2004; and dean of Yale College from 2004 to 2008.

After receiving an A.B. (psychology) and A.M. (sociology) from Stanford University in 1980 with departmental honors and university distinction, Salovey earned three degrees at Yale in psychology: an M.S. (1983), M.Phil. (1984), and Ph.D. (1986). Since joining the Yale faculty in 1986, he has studied the connection between human emotion and health behavior, and played key roles in multiple Yale programs including the Health, Emotion, and Behavior Laboratory, which Salovey founded and is now called the

Center for Emotional Intelligence; the Center for Interdisciplinary Research on AIDS; and the Cancer Prevention and Control Research Program. He currently holds secondary faculty appointments in the School of Management, the School of Public Health, the Institution for Social and Policy Studies, and the Sociology Department.

Salovey has authored or edited over a dozen books translated into eleven languages and published hundreds of journal articles and essays, focused primarily on human emotion and health behavior. With John D. Mayer, he developed a broad framework called "Emotional Intelligence," the theory that just as people have a wide range of intellectual abilities, they also have a wide range of measurable emotional skills that profoundly affect their thinking and action.

In addition to teaching and mentoring scores of graduate students, Salovey has won both the William Clyde DeVane Medal for Distinguished Scholarship and Teaching in Yale College and the Lex Hixon '63 Prize for Teaching Excellence in the Social Sciences. He has received honorary degrees from the University of Pretoria (2009), Shanghai Jiao Tong University (2014), National Tsing Hua University (2014), and Harvard University (2015). He was elected to the American Academy of Arts and Sciences and to the National Academy of Medicine in 2013.

Mr. Donald L. FILER

Executive Director, Office of International Affairs

Donald Filer was appointed to his present position in 2004 as the first director of Yale's newly created Office of International Affairs (OIA). He has overall responsibility for OIA, providing administrative support for the international activities of the schools, programs, and individual faculty across the university. These efforts focus on supporting the development of new projects with partner universities, coordinating the work of other Yale offices during project start-ups, managing visits to Yale by university delegations and other dignitaries, and safeguarding Yale's reputation around the world.

Mr. Filer also leads the university's emergency response in the event of a medical emergency, natural disaster, or civil unrest taking place abroad, and oversees the Yale Young Global Scholars Program, the Greenberg Conference Center, Yale's Marketing and Trademark Licensing Office, and the Yale Conferences & Events Office.

He joined Yale University in 2000 as Associate Secretary with responsibility for managing support for the Yale Corporation (the university's governing board), supervising the Yale Visitor Center, and directing the Office of Licensing Programs. Prior to his appointment at Yale, he served in a number of capacities at Connecticut College in New London, Connecticut, from 1991 to 2000 including Vice President for Community and Public Affairs, Secretary of the College, and Acting Vice President for Development. He worked for former U.S. Representative Bruce A. Morrison of New Haven from 1985 to 1991. Mr. Filer earned a B.A. in political science from Colgate University.

Joy MCGRATH

Chief of Staff, Office of the President

Ms. McGrath handles special projects across Yale University, a complex global institution that spans Yale College, the Graduate School of Arts and Sciences, the Faculty of Arts and Sciences, and 12 professional schools, as well as extensive museum, library, and gallery collections. In her role, Ms. McGrath is responsible for a wide variety of projects, primarily related to the implementation of the president's initiatives and vision for the university. Her expertise centers in fundraising, communication, and organizational development. Projects currently in her portfolio relate to international affairs, governance, and strategic planning. She also oversees the operations of the president's office, house, and events. Ms. McGrath arrived at Yale in 2007 and has served as the director of development in Yale College and the special assistant in the Office of the Provost. She came to Yale from St. Andrew's School in Delaware, where she was the director of advancement and a member of the English department, among other responsibilities. She holds an A.B. from Harvard College. At Yale, she is a fellow of Silliman College.

IARU Secretariat

Ms. Rexille UY
IARU Secretariat

Rexille has worked at the Institute of International Studies at UC Berkeley since 2011. She manages the operations, events, and financial matters of the Institute. Rexille has worked in some capacity with IARU since 2013 and has been the IARU Secretariat since November 2016. She has degrees in both Sociology and Media Studies from UC Berkeley.

Ms. Savannah PORTILLO HEAP
IARU Secretariat

Savannah has worked at the Institute of International Studies at UC Berkeley since 2015. She manages the operations, events, and financial matters of the Center on the Politics of Development, and manages all grants held at CPD. In January 2017, she began assisting with the IARU Secretariat position. She holds a B.A. from UC Berkeley in Political Economy with a concentration in Inequality in the United States.

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INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

Gender Attainment Gaps. Literature Review and Empirical Evidence from IARU Universities

Information Sheet

Prof. Dr. Renate Schubert
Ioana Alexandra Marinică

March, 2018

Although gender attainment gaps in research universities have been subjected to academic scrutiny for more than a century, debate persists around their causes, magnitude, implications and possible cures.

Main **predictors** of gender attainment gaps identified in the literature are:

- ☐ **Biological** predictors (e.g. disproportionate development of visuospatial and verbal skills);
- ☐ **Psychological** predictors (e.g. interests, expectations, self-confidence levels);
- ☐ **Cultural** predictors (e.g. national-level implicit gender-science stereotypes);
- ☐ Factors under the influence of **universities** (e.g. campus environment, teaching and examination styles).

The report comprises **empirical data** from ETH Zurich, the University of Tokyo, the University of Cape Town, the University of Copenhagen and the University of Oxford.

Main findings of the empirical analysis are:

- ☐ There is high variation between universities in the proportion of female students;
- ☐ There is high variation between universities in their relative emphasis on STEM programmes;
- ☐ **Prior knowledge** and **academic self-concept**(the belief in one's own ability to succeed in a given subject) emerged as significant predictors of gender attainment gaps;
- ☐ In addition, significant differences are observed between female and male students on a series of **psychometric dimensions**:
  - · Female students report higher levels of perceived *stress*, *threat* and *uncertainty*;
  - · Female students are *less competitive*;
  - · Female students are more likely to perceive the *workload* as excessively heavy.

Recommendations to close the observed gender attainment gap:

- ☐ Measures to **level up students' prior knowledge and skills** at the start of study programmes seem advisable;
- ☐ Acceptance of different **problem-solving approaches** (e.g. verbal, visuospatial, collaborative, competitive);
- ☐ Encouragement for **full-time attendance** and **interaction with faculty members**;
- ☐ Delegation of an **institutional body** responsible for identifying institution-specific gender gap determinants, and for designing and implementing policies tackling them.

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INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

Gender Attainment Gaps. Literature Review and Empirical Evidence from IARU Universities

Prof. Dr. Renate Schubert
Ioana Alexandra Marinică

March 2018

Contents

Executive Summary

This report reveals a number of factors which are likely to be involved in the emergence of gender attainment gaps in various research universities. The relevant literature discusses *biological predictors* of gender gaps, such as a disproportionate development of visuospatial skills in men and women, which might lead to a difference in performance on certain types of tasks, *psychological predictors* such as interests and self-confidence levels, as well as *cultural predictors* such as national-level gender-science stereotypes. In addition, this report identifies a series of predictors of gender attainment gaps which universities can directly influence, such as the campus environment and teaching and examination styles.

The report also comprises empirical data from ETH Zurich, the University of Tokyo, the University of Cape Town, the University of Copenhagen and the University of Oxford. Universities in the sample vary greatly with regard to the percentage of female students enrolled, yet also with regard to their relative emphasis on STEM programmes, the area in which gender attainment gaps are most acute. *Prior knowledge* and *academic self-concept* (the belief in one's own ability to succeed in a given subject) emerged as significant predictors of gender attainment gaps. It is also apparent from the data that there are significant differences between female and male students on psychometric variables. Female students report higher levels of perceived *stress*, *threat* and *uncertainty*, are *less competitive* than men and more likely to perceive the workload as excessively heavy.

The report recommends measures to level up students' prior knowledge and skills at the start of study programmes. It also advocates for acceptance of different problem-solving approaches (verbal, visuospatial, collaborative, competitive), while encouraging full-time attendance and interaction with faculty. Acknowledging the context-dependent nature of such measures, the report advises universities to delegate an institutional body responsible for identifying institution-specific gender gap determinants, and for designing and implementing policies tackling them.

1 Introduction

The International Alliance of Research Universities (IARU) launched, in 2017, an investigation of gender attainment gaps, after observing that the phenomenon exists in some of its eleven research-intensive member institutions. An internship position based at ETH Zurich was created for this purpose, and the results of the investigation are presented in the current report.

The report comprises three main components. The first part is a review of the relevant literature. The most methodologically sound scientific articles have been selected and structured into those addressing biological predictors of gender attainment gaps, those addressing psychological and those addressing cultural predictors. Since the aim of this report is to facilitate institutional intervention alleviating gender gaps, the predictors of performance which are mostly under the influence of universities, as opposed to families or societies in general, have received particular attention. Furthermore, the report contains empirical data collected from the IARU universities which responded to our call. The respective data is presented and analysed. Lastly, in the final part the report advances some conclusions and a series of recommendations as to how gender attainment gaps could be closed.

2 Starting Point

Research on gender attainment gaps dates back from the beginning of the 20^{th} century. Throughout their development, these studies sparked debates around not only the causes of such a phenomenon, but also about whether gender gaps exist in the first place. Against a background of fierce discussions about variables which would best predict differences between boys' and girls' school performance, Hyde & Linn (2006) and Hyde et al. (2008) claim that, in fact, there is no evidence of significant gender attainment gaps in the case of American children up until high school. They argue that the differences in performance might actually be fabricated by media overstating minor effect sizes found in studies of attainment, psychological and behavioural differences

between women and men, which result in the end in the reinforcement of biases. Under these conditions, it is not the subtle differences between women and men that should be emphasised in order to increase women's ability to succeed, but the similarity between women's and men's capacity to achieve high performance.

In line with Hyde & Linn (2006)'s emphasis on the implications of media's approach to gender studies, Halpern et al. (2005) illustrate this media bias using the hyped example of a presumed variation in cognitive abilities over the menstrual cycle. Considered highly controversial and potentially discrimination-generating, the issue of cyclical change in cognitive abilities due to fluctuating hormone levels has only been presented by the media using studies on females' performance levels, although there are observations of similar variations in males. The effect of hormone levels on performance in various tasks is, however, of small magnitude in the case of both sexes.

The remainder of this paper will focus, hence, on instances in which evidence of gender attainment gaps has been found. It will be structured in six main sections. Section 3 reviews literature focusing on biological predictors, Section 4 presents the main psychological predictors, while Section 5 addresses cultural predictors of gender attainment gaps. Section 6 covers those factors which are mostly under the influence of universities. In Section 7 we report on the gender attainment situation in IARU member institutions, presenting empirical evidence provided by the research universities themselves (subsection 7.1) and a series of comparative observations (subsection 7.2). Lastly, Section 8 advances conclusions and a series of recommendations, derived from the literature as well as from the data that has been collected, on how gender attainment gaps could be closed.

This structure should nevertheless be regarded with the caveat that the differentiation between categories of predictors is imperfect and only meant to facilitate readability. As Halpern et al. (2007) note, biological and environmental factors reciprocally influence each other and are thus almost impossible to analyse separately. In terms of the topic of this paper, it is extremely difficult for conclusions to be drawn as to whether high ability in a domain leads

to more interest and involvement in additional activities, or a high level of interest and willingness to get involved in additional activities lead to high ability in that specific domain.

3 Biological predictors

Claims that gender attainment gaps have genetic causes have been immediately rejected by some authors on the basis of observed spatial and temporal variances in the difference between women and men's performance. It has been noted that countries differ significantly in the extent to which boys have higher science achievements than girls, with some of them even displaying the reverse pattern. Whereas the male advantage is manifest in countries such as the US, Australia, Belgium, Chile, Hungary, Tunisia, or Israel, girls have higher science grades that boys in Jordan, Macedonia, Moldova, Philippines and Cyprus (Nosek et al., 2009). In addition, evidence from the U.S. shows that, compared to previous generations, boys and girls take high school math and science courses in equal numbers and with equal difficulty levels (Ackerman et al., 2001).

However, neither the biological, nor the psychosocial explanations can be excluded from any analysis of gender attainment gaps. Awareness of biological differences does not imply acknowledging the existence of a 'smarter sex' (Halpern & LaMay, 2000, p. 229), but of differences, and not deficiencies, which at times favour one sex or the other. It has been shown that women perform better in tasks involving the retrieval of semantic or phonological information from the long-term memory, advanced language or reading skills, or high perception speed. Comparatively, men display higher performance rates when the tasks require visual-spatial transformations, aiming-like motor skills or abstract reasoning of the type employed, for example, in mathematics (Halpern, 1997). The fact that a set of skills which is associated with either females or males is routinely valued higher is essentially a result of the social structure establishing the hierarchy in abilities and not a consequence of the biological differences themselves (Halpern et al., 2005).

Implications of the fact that performance levels are highly sensitive to characteristics of the tasks are evident in education and particularly in standardised testing. For instance, using evidence from the United States, SAT-Ms have been shown to systematically underpredict female performance in mathematics, presumably due to the mix of items used to assess mathematical reasoning (Spelke, 2005). Despite men obtaining higher SAT-M scores, women's and men's grades in college calculus classes are equal (Bridgeman & Lewis, 1996), women generally have higher undergraduate grade point averages (Sonnert & Fox, 2012), and they have been shown to earn US bachelor's degrees in mathematics in a proportion almost equal to that of men (Chipman, 2005). However, when standardised testing is conducted at higher educational levels, the disparity between women's and men's scores reappears, showing that normed tests and classroom achievement differ in the knowledge and skills that they are tapping into.

A possible explanation for the so-called 'grade-test disparity' (Halpern et al., 2007, p. 4) might lie in the above-mentioned easiness with which men and women approach different types of tasks. Women's superior retrieval capacity and language skills might improve their performance in advanced math classes, whereas men might perform better in nationally or internationally normed tests, which deviate from the course material, due to their superior abilities in visual-spatial transformations (Halpern et al., 2005). Alternatively, Kling et al. (2013) have found that conscientiousness, a personality trait most often displayed by women, mediates the relationship between gender and grade-test disparity. In other words, women are able to exceed the performance that their results in standardised tests would predict because of their tendency to be more careful, deliberate and thorough.

The Study of Mathematically Precocious Youth (SMPY), a longitudinal study following more than 5000 gifted American children over 35 years, proposes a relative approach to individual abilities. Starting from the first years in which the study has been conducted, a difference in the type of abilities at which boys and girls excel has been noted (Benbow & Stanley, 1980). Yet, in comparison to previous studies, the SMPY found that more accurate predic-

tions can be formulated based on the relative score on one of either mathematical, verbal, and spatial reasoning abilities, rather than by examining the three dimensions independently. Individuals having outstanding verbal abilities, compared to their mathematical and spatial skills, were the ones who then chose as favorite courses, college major and occupations from social sciences and humanities. Comparatively, favorite courses, college majors and occupations from math, engineering or computer science have been later selected by those participants which initially displayed superior mathematics and spatial, relative to verbal abilities (Lubinski & Benbow, 2006). Ability profiles might explain the gender difference at university level in that the relatively higher mathematical abilities compared to verbal abilities, which was then associated with careers in mathematics and science, is a more common trait of men, whereas women generally display a math-verbal balance (Halpern et al., 2007).

And it is not only that women obtain systematically lower scores than men in nationally and internationally regulated tests, but the difference grows larger the higher the educational level at which the test is taken. This observation has been argued to be the consequence of males' higher variance in their academic abilities and achievement, resulting in more men being situated at both the high and the low ends of the distribution. Test scores for men in the United States have been found to be more variable than those of women, particularly for measures of science achievement and vocational aptitudes. It is for this reason that differences in means are relatively small when comparing the number of women and men in a nearly representative sample, but in subsamples of the most talented individuals men clearly outnumber women, with sex ratios of 5:1 in the top 3% and 7:1 in the top 1%. At the same time, about twice as many men than women are situated in the bottom 10% of the national distribution for reading comprehension, perceptual speed and associative memory (Hedges & Nowell, 1995). Nevertheless, the ratio of men to women in the upper tail of the SAT-M scores distribution has recently become less extreme. Speculative reasons behind the improvement include the now balanced number of math courses taken by boys and girls, as well as the newly-introduced special programs and mentoring for girls (Halpern et al.,

2007).

From an evolutionary perspective, higher genetic variation in males compared to females is considered to be a consequence of competition among males and of the process of female choice, which favours the development of extreme traits (Pomiankowski & Moller, 1995). In particular, superior spatial skills in males are traced back to men having to travel long distances for warfare and hunting. In line with predictions from evolutionary theory, it has been found that boys outperform girls in spatial tasks only when they come from high and middle income families. That is because, from an evolutionary perspective, difficult environments are more likely to affect males, due to the same patterns of competition and choice (Levine et al., 2005).

Another proposed explanation of sex differences in visuospatial abilities has been derived from patterns of brain function. Gur et al. (2000) have found that during verbal tasks both women and men display identical activation of the left brain hemisphere. However, when spatial tasks are performed, men show superior activation of the right hemisphere, which the authors state could lead to better performance. Similarly, (Grön et al., 2000) found that, during visuospatial navigation, the areas of the brain activated in the case of women reflected their attempt at using their working memory to keep track of landmark cues encountered during navigation. By comparison, men mostly employed areas of the brain responsible for processing multiple geometric cues retrieved from the more remote episodic memory. There is, however, a lack of studies directly analysing brain structure and processes in their relation with mathematical or scientific abilities (Halpern et al., 2007).

From a biological perspective, it appears that gender attainment gaps mainly stem from the fact that women and men differ in the development level of their visuospatial abilities. Backed with evidence from in-class studies, neuroscience experiments, and supported by evolutionary theory, this observation turns problem formulation and evaluation methods in higher education into key factors controlling the magnitude of gender gaps in performance. Fortunately, the implications of these differences in visuospatial abilities are not, in fact, as deterministic as they might seem from the studies presented so far.

Recommendations in Section 8 include evidence of successful implementation of a course meant at improving students' 3-D spatial visualisation skills, with long-lasting positive effects on performance.

4 Psychological predictors

In the current section, we review those psychosocial likely causes of gender attainment gaps which are predominantly under the influence of families separate from those mostly under the influence of universities. The distinction is, naturally, imperfect, more so given that both categories of predictors are also themselves impacted by societal-level factors, yet useful given the purposes of the present report.

The Study of Mathematically Precocious Youth went beyond the analysis of the subjects' abilities and identified further differences in the preferences reported by women and men. Women were three times more likely than men to place social interests (learning about and working with people) among their top two preferred themes, whereas men were four times more likely than women to place realistic interests (learning about and working with things and gadgets) among their top two preferences. 72% of males and 35% of females indicated theoretical values as one of their top two preferences. Later in the life course of the study participants, it has been found that individuals possessing high mathematical abilities and theoretical values, while scoring low on the social dimension, were the ones who have then obtained a college degree in mathematics or science, as opposed to one in humanities (Lubinski & Benbow, 2006). As noted before, these math-related abilities and preferences are shown predominantly by men.

When analysing trait complexes, that is, combinations of variables related to cognitive, personality and interest constructs, Ackerman et al. (2001) found that men score higher on the Science/Math/Technology trait complex, while women score higher on Social Potency/Enterprising, Social Closeness/Femininity, and Traditionalism/Worry/Emotionality. These trait complexes have further been found by Ackerman et al. (2001) to be correlated with

knowledge, with those individuals scoring high on the Science/Math/Technology complex having also a more advanced knowledge in the physical science and technology fields. It has thus been argued that a general interest in science and math, a trait mostly shown by men, and the resulting interest-based experiences, might explain the difference in math performance between women and men (Halpern et al., 2005).

Expectations form another psychosocial predictor of performance. It is considered that positive expectations related to one's ability to successfully fulfill a task would lead the individual to being more persistent and thus, at least in the case of mathematical problem-solving, increase their performance. Higher performance would in turn increase the level of self-confidence, ultimately generating a positive feedback loop (Halpern et al., 2005). Indeed, Vermeer et al. (2000) found a strong correlation between the perceived confidence of sixth-grade boys and girls and their mathematical performance. Boys outperformed girls in applied problem solving, with girls reporting lower confidence levels when starting to work on the same applied problems. The relationship between perceived confidence and persistence, however, did not receive significant empirical support.

A longitudinal study of students in the US revealed that high aspirations for degree attainment and high self-confidence are significant predictors of degree completion in science and engineering. Expectations and self-confidence appear to even mitigate the negative effects of lack of family financial support and low level of parental education (Huang et al., 2000). Yet women systematically report lower self-confidence levels related to math ability and higher levels of perceived discrimination and effort compared to their male counterparts (Vogt et al., 2007), factors which may lead to a higher likelihood of them abandoning science, mathematics and engineering disciplines at early stages (Seymour, 1995). Grunspan et al. (2016) argue that women's low self-confidence levels and resulting low retention rates might be partially due to the systematic underestimation of their knowledge by male peers. In a study conducted with college-level biology students, they have found that, even after controlling for performance and outspokenness, men are more likely

to be nominated by colleagues as being knowledgeable about course content. The difference appears to be driven by males disproportionately naming their male peers relative to their actual performance, while females do not display gender bias in their assessment. Similarly, Proudfoot et al. (2015) have shown that males are perceived as more creative than women, regardless of how their competence is evaluated.

Parental impact is traditionally considered to play a major role in shaping boys and girls self-confidence levels, yet the direction of the effect is notoriously difficult to identify. Despite strong correlations between parents' beliefs in the abilities of their children and their actual performance, little can be said about which one phenomenon led to the other, or whether there is a reciprocal relation between the two. Under these conditions, studies are even less likely to provide evidence of differential parental treatment by sex. One notable exception is the finding that parents tend to grant boys a play range up to three times larger than that of girls (Halpern et al., 2007). In a longitudinal study of primary school children in the US, Entwisle et al. (1994) found that boys spend more time away from home than girls do and are more often left by themselves. Boys are also playing more often with friends in the street or play organised sports, while girls spend more time with relatives, at home. Entwisle et al. (1994) argue that these specific experiences might help boys develop superior math skills.

In sum, psychological factors such as interests, preferences, expectations, and self-confidence levels are likely not only to guide degree choice, but also to generate gender attainment gaps. Out of all agents, families appear to be in the best position to mitigate possible negative effects. Whether consciously or not, families exert influence on boys' and girls' preferences and interests from young ages through selective exposure to certain types of stimuli. Starting from the choice of toys that the children are handed and continuing with didactic material they get in contact with, the places they visit and people they interact with, families control to a large extent the trait complexes that boys and girls are likely to display later on. As the evidence in the current section supports, these trait complexes tend to reflect in the field in which young adults are then

likely to pursue a degree. Similarly, high expectations and self-confidence are traits which families can actively instill in their children. Awareness of the fact that female students tend to display lower self-confidence levels and that low confidence negatively impacts performance might encourage families to counter societally-held stereotypes and act towards ameliorating this effect.

5 Cultural predictors

Women's low confidence levels have oftentimes been discussed in relation with a socio-cultural context dominated by pervasive gender-science stereotypes. A national indicator of implicit gender-science stereotyping, measured as the likelihood of both men and women associating men with science and women with liberal arts rather than the opposite, has been shown to be correlated with that nation's gender gaps in math and science performance (Nosek et al., 2009). Yet the role that gender-science stereotypes play remains unclear. Whereas Nosek et al. (2009) advocate for a mutually reinforcing relationship between stereotypes and gender differences in science participation and performance, Miller et al. (2015) found that a high level of female enrollment in tertiary science education in a country predicts weaker implicit and explicit gender-science stereotypes at the national level. Their analysis focuses on a sample of 350.000 individuals from 66 countries. It appears that, even when a country has high overall gender equity, if science fields are male-dominated, then that nation is also likely to display strong gender-science stereotypes.

Miller et al. (2015) also note that women's employment in the researcher workforce in a given country could only predict explicit, and not implicit, gender-science stereotypes. This observation, together with the fact that the relationship between high female enrollment in tertiary science education and weak gender-science stereotypes is most robust in the case of college-educated individuals, suggest that it is only through repeated and varied exposure to counterstereotypic women that these pervasive societal-level gender-science stereotypes could be overcome.

Another indicator which is frequently included in analyses of gender at-

tainment gaps in light of cultural predictors is the World Economic Forum's Gender Gap Index, measuring a country's gender equality commitments. In a cross-sectional study, Guiso et al. (2008) have found a correlation between a country's score on the Gender Gap Index and the magnitude of the gender gap in mathematics existing in that country. In more gender equal countries, there is no significant difference between the scores that boys and girls obtained in the mathematics section of the Programme for International Student Assessment (PISA).

However, in a more recent publication, Stoet & Geary (2018) found that countries having the highest levels of gender equality (as reported in the same Gender Gap Index), such as Finland, Norway or Sweden, at the same time have some of the largest gaps in secondary and tertiary STEM education. Despite high levels of overall gender equality in these countries, less that 25% of STEM graduates are female. As opposed to Guiso et al. (2008), Stoet & Geary (2018) focus on female and male students' performance in each of the three subjects covered by PISA examinations (science, mathematics and reading), relative to the remaining two. This measurement change allowed for the observation that, even in the cases in which girls perform equally well as boys in the science assessment, they often perform even better in reading. This might in turn lead to girls being encouraged to pursue an academic path reflecting these superior reading skills as an intra-individual academic strength, and not a path acknowledging their nevertheless high mathematics and science skills that would be required for a STEM career.

Stoet & Geary (2018)'s results showed that the percentage of girls having science or mathematics as their best subject (as opposed to reading) is, in all countries in their sample, higher than the percentage of female STEM graduates, and this difference grows larger in more gender equal countries. That is to say, countries having high levels of overall gender equality are more likely than less gender equal countries to lose from the academic STEM track girls which would otherwise be likely to choose this path based on their relative academic strengths.

The reason behind the larger gender differences in STEM graduation and

relative science literacy in countries with higher overall gender equality, Stoet & Geary (2018) claim, might lie in popular beliefs about the value of pursuing STEM occupations in more gender equal versus less gender equal countries. More gender equal countries are generally welfare states, offering extensive social security for all citizens. Comparatively, less gender equal countries are at the same time countries where citizens have more difficult living conditions, less security and in general lower levels of life satisfaction. It is thus in these latter countries that STEM occupations would be particularly attractive, to men as well as to women, in light of their relatively higher remuneration packages and resulting economic security. Overall life satisfaction's role as a mediator between gender equality and the gender gap in STEM graduation received moderate statistical support.

National-level indicators reflecting cultural factors appear to have profound implications for the observable gender gap in STEM fields. Most importantly, it should be noted that these predictors can take either subtle forms, such as implicit gender-science stereotypes, influencing behaviour at the subconscious level, or that of hard observations of the fact that girls perform relatively better in reading despite often having similarly high skills in mathematics and science as boys do. Lastly, aspects related to a state's capacity to guarantee the social security of its citizens might have an impact on their decision to pursue a STEM career, having thus the potential to alter gender distributions in these fields.

6 Factors under the influence of universities

The negative stereotype that women have lower math abilities, usually referred to as stereotype threat, has been repeatedly shown to damage women's performance in difficult math tests (Spencer et al., 1999; Schmader et al., 2004; Tomasetto et al., 2011). In an experiment involving highly mathematically skilled subjects, Spencer et al. (1999) have demonstrated that, by describing a difficult math test as not producing gender differences, the difference in performance that is usually found between women and men can be eliminated.

Comparatively, describing the test as one which generates gender differences determines women to perform significantly worse than equally qualified men. Since Spencer et al. (1999)'s study, about a hundred more research papers have been published on the topic (Flore & Wicherts, 2015). There is also evidence, albeit scarce, of stereotype threat not having a noteworthy impact on performance. Stricker & Ward (1998) found that reminding examinees of their gender before taking a test, covering algebra, arithmetic, reading comprehension and sentence skills, does not influence their performance.

In a study including interaction effects, Kiefer & Sekaquaptewa (2007) have found that, for women to perform better in math exams, both implicit stereotypes and gender identification need to have low values, but for them to have the desire to pursue a mathematical career just one of the two factors having low values is enough. It seems that a stereotypical threat is more likely to manifest under the stressful conditions of an exam, than when women are consciously deliberating on career choices. An important consequence of this observation would be that increased attention should be paid to women which do want to pursue a career in maths but fall short of achieving it because of stereotype-affected examination results.

Gayles & Ampaw (2014) analyse both background characteristics of students and institutional factors such as the campus climate and advance the enhancement of college experience for women as a mean to retain them in STEM fields. They found that the effects of student background (ethnicity, financial situation, high school track record, parents' educational attainment) on degree completion are relatively uniform for both genders, yet the same cannot be said about characteristics of male and female college experiences. Women appear to benefit more than men from faculty interaction outside of the classroom, an observation which is proposed as a possible way of combating the 'chilly climate' (Vogt et al., 2007), characterised by impersonal interactions, which women in STEM, male-dominated fields report to perceive. Women are also more likely to meet with their advisors and attend study groups, yet this behaviour appears to hinder degree completion. It has thus been proposed that high attendance of advising appointments and group study sessions by women

might reveal their attempt at establishing a connection with the faculty in order to offset the perceived chilly climate. Lastly, attending college full-time was found to be a necessary condition for degree completion, particularly in the case of women (Gayles & Ampaw, 2014).

As far as teaching is concerned, it has been found, in a study of Israeli advanced placement physics classes, that girls are more attracted to female rather than male teachers, perform better in examinations implying interaction with a teacher, and are deeply distressed by an excessively competitive, fast-paced environment (Zohar & Sela, 2010). Studies have shown the existence of a gender gap in the willingness to compete, with women being more reluctant to compete than men (Niederle & Vesterlund, 2011). Willingness to compete then appears to be correlated with the choice of a math-intensive study field (Buser et al., 2017). In addition, girls in the Israeli study have reported frustration and alienation from a teaching style which emphasises mechanical problem-solving through meaningless manipulation of formulas. Instead, they would prefer a teaching for understanding approach, also referred to as connected knowledge, in which the curriculum would be studied in a more meaningful way (Zohar & Sela, 2010). This observation ties up with the issue of test problem contextualisation, mentioned in a previous section. Experiments involving changes to the context of test questions from male-oriented to female-oriented formulations have been conducted and revealed an impact on test performance, yet the direction of the effect, and thus it's capacity to reduce the gender gap, is still unclear (McCullough, 2004).

Even though the relationship between teachers' behaviour and the campus environment, on the one side, and the gender attainment gap, on the other side, has not yet been understood in all of its particularities, mounting evidence supports the idea that educators should be aware of the potential of their actions to generate performance imbalances. During examinations, special attention should be paid to problem formulation, which can be either female- or male-oriented, and to the extent to which the test design reminds examinees of their gender or discloses information on whether the examination is likely or not to produce gender differences. As far as teaching is concerned, performance

of female and male students might be affected by the educator's choice of a cooperative learning environment as opposed to a competitive one, as well as by her prioritisation of a mechanical approach, as opposed to teaching for understanding. Lastly, universities should be aware of the extent to which they create opportunities for full-time attendance and for interaction with peers and faculty members, both inside and outside of the classroom.

Teachers undoubtedly play a key role in improving students' attitude towards and achievements in science through use of specific teaching strategies and materials or through their ability to explain the information. However, the question remains whether their efforts are able to counterbalance the strong, empirically supported effect of parental attitudes and expectations of child's ability (Labudde et al., 2010).

7 Empirical Evidence from IARU Universities

In November 2017, representatives of each IARU member university have been contacted with a request for information on and related to gender attainment gaps in their institution. Inquiries have been made into female and male students' performance, levels of prior knowledge, skills, positioning along psychometric dimensions, into previous university-level studies which revealed gender differences of any kind and into numerical differences between female and male students in each department (for the full questionnaire that has been sent to IARU members, see Appendix).

In the current section, university-level data will be presented in the order of receipt, as follows: ETH Zurich, University of Tokyo, University of Cape Town, University of Copenhagen, University of Oxford. The section includes, lastly, a subsection covering a series of cross-sectional observations.

7.1 University-level data

7.1.1 ETH Zurich

At *ETH Zurich*, women are a minority at all career levels. In 2016, 31% of doctoral students, 15% of senior scientists and 11% of full professors were women. With respect to students, the total number of enrollments has been continuously increasing, from almost 10000 in 2003 to almost 15000 in 2016. However, the proportion of female students has remained constant at roughly 30%. Figures vary greatly across departments, with 63.5% female students reported by the Health Sciences and Technology department, while in the Mechanical and Process Engineering department only 10% of the enrolled students were women (Schubert & Kaczykowski-Patermann, 2017). See Table 1 for detailed departmental data.

As far as attainment gaps are concerned, investigations have revealed that in some of the traditionally male-dominated departments of ETH, that is, mathematics, physics, engineering and computer science, female students obtain lower grades and are more likely to fail the compulsory exam which ETH students have to sit at the end of the first year of their studies. In addition, the Student Satisfaction Survey carried out in 2015 revealed that women perceive more time pressure and a generally more threatening atmosphere, while men are more likely to indicate feelings of belonging to ETH. 92% of male respondents and 87% of female respondents declared that they experience respectful treatment on campus, without discrimination, while 96% of men and 91% of women agreed with the statement that women are treated with respect at ETH.

Following these initial findings, ETH Zurich is currently conducting the EQUATES project, aimed at further analysing the factors contributing to performance in the first year of study. Special emphasis is laid on psychosocial predictors which might explain the difference in success rates between men and women. Preliminary results indicate that, for the 2016 cohort, depending on the indicator employed, differences in prior knowledge between female and male first year students benefit one or the other group, providing sup-

Table 1: ETH Zurich. Proportion of female students by department in 2016

Department	% of female students
Architecture	42.6
Civil, Environmental and Geomatics Engineering	30.3
Mechanical and Process Engineering	10.2
Information Technology and Electrical Engineering	16.2
Computer Science	12.2
Materials	29.2
Biosystems Science and Engineering	37.7
Mathematics	21.7
Physics	17.1
Chemistry and Applied Biosciences	43.1
Biology	51.9
Earth Sciences	37.5
Environmental Systems Science	54.4
Health Sciences and Technology	63.5
Management, Technology and Economics	27.7
Humanities, Social and Political Sciences	36.3

Source: Schubert & Kaczykowski-Patermann (2017)

port for the grade-test disparity hypothesis (Halpern et al., 2007). While men performed better in tests of their conceptual knowledge of mathematics and physics, administered during their first week at ETH, and had superior programming knowledge, women had overall higher high school grades, as well as better grades in the mathematics and first language high school courses. The study also confirmed findings from the Student Satisfaction Survey in 2015, in that female students appeared to report, once again, insufficient time for exam preparation and expressed higher belonging uncertainty than their male counterparts. Conversely, there were no significant differences between women and men regarding their levels of study engagement, they reported a similarly low number of alternative and thus potentially distracting plans they had alongside their studies, as well as similarly high levels of general wellbeing at ETH. However, it appears that prior knowledge (measured with conceptual knowledge tests) fully mediates the effect of gender in models predicting whether students perceive time pressure or belonging uncertainty.

As part of the same EQUATES project, first year students were also assessed at the end of their first semester of studies. Significant differences between women and men identified at this stage include higher levels of perceived stress on female students' side, as well as more uncertainty regarding the extent to which their efforts will lead to desirable results and higher perceived threat of unfavourable outcomes such as bad grades. Female students were also more likely to make detrimental attributions, that is attribute their success to luck and their failure to lack of talent. Performance in the exam taken after one year of studies was found to be, as it was the case in previous studies, lower for women than for men. The effect of gender on grades is, once again, fully mediated by prior knowledge, yet gender does explain additional variance beyond prior knowledge when examining perceived stress, outcome expectations, perceived threat and detrimental attributions.

Measures for the advancement of women at ETH Zurich date back to 1991 and the establishment of the ETH point of contact for women, renamed the Office of Equal Opportunities for Women and Men in 1993. Starting from 2007, the Office of Equal Opportunities has been affiliated to the ETH Presidents

office. Events such as trial study weeks for female upper secondary school students, meant to introduce prospective female students to traditionally male-dominated fields of study, are being organised annually. The Office of Equal Opportunities has conducted studies of perceived degree to which family and research responsibilities can be reconciled, a study of Swiss upper secondary school graduates' perception of ETH Zurich, as well as an Implicit Association Test (IAT). The latter, carried out over the course of an exhibition on the topic of gender stereotypes organised by Equal! in 2013, revealed a moderate association of 'male' with 'career' and 'female' with 'family' by both female and male ETH participants, the majority of which were students. The results of the gender science association test also emphasised that, on average, both women and men display a moderate implicit association of 'male' with 'natural sciences' and 'female' with 'humanities'. The Office of Equal Opportunities also provides counseling services in case of sexual harassment or discrimination.

The situation of gender equality at ETH Zurich is addressed in the Gender Monitoring report, published yearly. In addition, binding key measures for attaining gender balance in the institution are specified in the Gender Action Plan, covering four main areas of action: career development, gender aspects in research and teaching, work/life balance, and sexual harassment and discrimination. Most recently, in the 2017/18 academic year ETH launched the Respect campaign, aimed at countering behaviour through which one might overstep another one's personal boundaries. ETH thus puts forward discrimination, sexual harassment, bullying, threats and violence as types of behaviour which will not be tolerated on its premises.

7.1.2 University of Tokyo

The *University of Tokyo* reported a total of about 27500 students in 2017. Half of them are undergraduate students, while the other half comprises an almost equal number of master and PhD students. The proportion of female students varies greatly according to whether the domestic or international students group is examined. Thus, while women account for just 19% of domestic undergraduate students, they are in the majority in the international

Table 2: University of Tokyo. Proportion of female students by study level and place of origin

	Undergraduate	MA	PhD
Domestic	19%	19%	28%
International	54%	41%	39%

Source: http://www.u-tokyo.ac.jp/en/about/enrollment.html

undergraduate students segment. Another noteworthy difference between the two groups is that evidence of a 'leaky pipeline' is only visible in the case of international students, whereas the proportion of women among domestic students increases by almost 10% from the undergraduate to the PhD level (see Table 2).

Table 3 presents faculty-level data on the proportion of female undergraduate students. Regardless of whether humanities or STEM fields are concerned, female students are a minority at the University of Tokyo. They account for 35% of students at the Faculty of Education, and for just 11% of engineering undergraduates.

The situation among MA and PhD students is presented in Table 4. The majority of education graduates and the majority of medicine master students are women, although the latter field is marked by a stark decrease in the proportion of women among PhD candidates. Female graduate students also come close to holding majority of PhD positions in interdisciplinary information studies. At the other extreme, only 4% of MA and PhD students in mathematical sciences are women, and just 5% of those in the field of information science and technology.

Although the gender attainment gap is not per se a topic actively debated at the University of Tokyo, discussions regarding the university's efforts to enhance the diversity of its members, including students, are currently being

Table 3: University of Tokyo. Proportion of female undergraduate students by faculty

Faculty	Proportion of female undergraduate students
Law	24%
Medicine	19%
Engineering	11%
Letters	29%
Science	12%
Agriculture	24%
Economics	17%
Arts and Sciences	34%
Education	35%
Pharmaceutical Sciences	23%

Source: http://www.u-tokyo.ac.jp/en/about/enrollment.html

carried out. For this purpose, the University of Tokyo proactively promotes gender equality and universal access.

7.1.3 University of Cape Town

The total number of students and the percentage of female students enrolled at the *University of Cape Town* are reported in Table 5. Women form the majority of students, yet their proportion varies greatly across faculties. Whereas females represent 70.6% of students in humanities and 65.3% of students in health sciences, only 28.4% of students in engineering and the built environment are women.

As far as performance is concerned, female and male students at the University of Cape Town do not appear to differ significantly. As shown in Table 6, men at the faculty of law have marginally higher grades than women, yet in all of the other faculties there is evidence of a slight female advantage.

Table 4: University of Tokyo. Proportion of female graduate students by faculty

Faculty	Proportion of female MA students	Proportion of female PhD students
Humanities and Sociology	38%	43%
Education	52%	58%
Law and Politics	30%	29%
Economics	41%	16%
Arts and Sciences	37%	44%
Science	18%	16%
Engineering	13%	18%
Agricultural and Life Sciences	35%	38%
Medicine	59%	36%
Pharmaceutical Sciences	21%	22%
Mathematical Sciences	4%	4%
Frontier Sciences	24%	26%
Information Science and Technology	5%	5%
Interdisciplinary Information Studies	34%	49%
Public Policy	-	14%

Source: http://www.u-tokyo.ac.jp/en/about/enrollment.html

The lack of evident gender attainment gaps is particularly impressive in light of the fact that differences between female and male students' levels of prior knowledge are at times larger than ten percentage points (Table 7). In line with findings in the literature, women perform better in language, compared to quantitative reasoning tests. In addition, data from the University of Cape Town provides evidence in support of the grade-test disparity hypothesis (Halpern et al., 2007). In the case of the National Benchmarking Test in mathematics, aimed at measuring readiness for tertiary education, the difference in average score between female and male students is a staggering 13%, whereas examining the math grade 12 final results only reveals a difference of 5.5%.

Table 5: University of Cape Town. Number of students and proportion of female students, by faculty

Faculty	Number of students	Proportion of female students
Commerce	7751	44.3%
Graduate School of Business	790	37.7%
Engineering and the Built Environment	4673	28.4%
Health Sciences	4572	65.3%
Humanities	7158	70.6%
Law	1462	62.7%
Science	2826	47.2%
TOTAL	29232	52.5%

Table 6: University of Cape Town. Grade point average at the end of first year studies, by faculty

Faculty	Females	Males
Commerce	63.94%	62.68%
Engineering and the Built Environment	62.21%	60.12%
Health Sciences	68.32%	65.57%
Humanities	58.04%	55.35%
Law	57.6%	58.1%
Science	59.21%	58.97%

Table 7: University of Cape Town. Prior knowledge: average score of national benchmarking tests (NBT) and Grade 12 final results

	Females	Males
NBT Academic Literacy	69.97%	69.78%
NBT Quantitative Literacy	59.55%	68.78%
NBT Math Score	46.52%	59.80%
Math Grade 12 final results	74.31%	79.79%
English Grade 12 final results	78.57%	76.51%
Physical Science Grade 12 final results	74.75%	77.90%

Thus standardised tests and classroom achievement appear to be tapping into different types of knowledge and sets of skills.

The topic of gender attainment gaps is generally embedded in a much broader set of actions regarding equity at the University of Cape Town. Given the local context, measures are necessarily informed also by intersectionality, cultural capital and economic disadvantage.

7.1.4 University of Copenhagen

At the *University of Copenhagen*, women form the majority of students in all but one of the Faculties, that is the Faculty of Science, where there are nevertheless 49% female students. Over all departments, women represent 61% of all students enrolled (see Table 8). In addition, women also appear to have higher grades than men do. The average grade of female students having sat the entry exams in September 2017 was 9.6, whereas male students' average grade was 9.1. Similarly, the average grade for the exams conducted between September 2016 and August 2017 was 7.3 for women versus 7.1 for men.

Every three years, the University of Copenhagen conducts an Educational Environment Assessment. It covers issues related to the physical, aesthetic and social study environment and it allows students to actively influence the

Table 8: University of Copenhagen. Number of students and proportion of female students, by faculty

Faculty	Number of students	Proportion of female students
Faculty of Humanities	9466	67%
Faculty of Law	4380	62%
Faculty of Science	9485	49%
Faculty of Social Sciences	6740	56%
Faculty of Health	7854	71%
Faculty of Theology	556	59%
TOTAL	38481	61%

university's prioritising and action plans. The 2016 Educational Environment Assessment reveals that female students reported significantly more physical stress symptoms than men did. 81% of female students admitted to experience stress either during the semester, in connection with exams, or both, compared to only 60% of males. Conversely, 40% of male students claim not to experience any physical stress symptoms, whereas only 19% of female students report to be in such a situation.

Bullying and harassment from employees or students at the University of Copenhagen does not appear to be a widespread phenomenon. 4% of the female respondents claiming they have experienced bullying or harassment in the past 12 months, compared to 2% of the male respondents.

In terms of satisfaction with the study programme, both women and men have reported high levels of satisfaction, with 84% of the students in each gender group claiming they are happy with their chosen programme. Similarly, 69% of the students in each gender group reported to be part of a good study community among the students in their programme, while 75% of male students and 73% of female students are happy with the range of extracurricular activities provided.

Regarding participation and integration in the study environment, female and male students reported active participation in the study environment in almost equal proportions (46% and 47%, respectively). Women appear to have a slightly harder time getting academic help or input from their colleagues in the study programme. 59% of them agree with the fact that getting help is easy, compared to 65% of men. In addition, 61% of men and 58% of women responded that they can find a study group or study partner when they intend to.

Only 57% of female students perceive that they have the necessary knowledge and tools to plan their studies at the University of Copenhagen, while the proportion rises to 67% in the case of males. This gap exists even though an almost equal percentage of female (49%) and male students (52%) report to have clear information about what it is expected of them academically. It thus appears that the different perceptions regarding the availability of means for study planning might not be caused by factors related to communication of this type of information by faculty members, but rather by student-level variables. Tentative explanations could be a difference in the level of prior knowledge between men and women, or different standards between gender groups when it comes to what planning one's studies actually implies.

Lastly, the 2016 Educational Environment Assessment also touched upon students' interaction with faculty members. 67% of men and 63% of women reported that they find it easy to get a hold of their teachers.

Gender gaps receive extensive attention at the University of Copenhagen, especially in study programmes where the gender gap in enrollment is significant, such as Computer Science.

7.1.5 University of Oxford

At the *University of Oxford*, the proportion of female students across divisions was 46% in 2017. As noted in Table 9, women are in the majority in the Medical Sciences, Humanities, Continuing Education and University of Oxford divisions. Comparatively, they make up for 49% of the students in the Social Sciences division and for only 28% of the students in Mathematical, Physical

Table 9: University of Oxford. Number of students and proportion of female students, by division

Division	Number of students	Proportion of female students
Medical Sciences	3334	54%
Social Sciences	6306	49%
Mathematical, Physical and Life Sciences	6632	28%
Humanities	5819	56%
Continuing Education	1343	54%
University of Oxford	541	61%
TOTAL	23975	46%

Source: https://www1.admin.ox.ac.uk/aad/studentregistry/sdma/statistics/student/

and Life Sciences.

Figure 1 is an excerpt from the University of Oxford Gazette Supplement, presenting the number and proportion of students achieving each degree class at the end of their undergraduate studies, by division and sex, in 2017. A significant gender attainment gap is apparent in the Mathematical, Physical and Life Sciences division, where 44% of male students, compared to only 28% of female students, have graduated with a First class degree. Surprisingly, a gender gap is also noticeable in the results of the Humanities division, where 41% of men and only 32% of women have obtained a First class degree. In the Medical Sciences and Social Sciences divisions, on the other hand, the results of male and female student are comparable.

At the same time, University representatives confirm a significant reduction of the gender attainment gaps in certain subject areas such as Biological Sciences, Engineering, Geography, Law, and Modern Languages. Within the Chemistry course, outcomes have also been analysed in relation with students' level of prior knowledge. It appears that A* grades, the highest achievement in A-level examinations, do correlate with undergraduate performance, yet there

Figure 1: University of Oxford. 2017 undergraduate student outcomes, by division and sex

Division	Sex	1	2.1	2.2	3	Pass/ Unclassified	Fail	Grand total
Humanities	Female	218	451	7				676
		32%	*67%*	*1%*				*100%*
	Male	204	280	14				498
		41%	*56%*	*3%*				*100%*
Total		422	731	21				1,174
Percentage total		36%	62%	2%				100%
Mathematical, Physical and Life Sciences	Female	75	147	40	2	1		265
		28%	*55%*	*15%*	*1%*	*0%*		*100%*
	Male	256	243	58	18	7		582
		44%	*42%*	*10%*	*3%*	*1%*		*100%*
Total		331	390	98	20	8		847
Percentage total		39%	46%	12%	2%	1%		100%
Medical Sciences	Female	61	135	8				204
		30%	*66%*	*4%*				*100%*
	Male	38	83	7				128
		30%	*65%*	*5%*				*100%*
Total		99	218	15				332
Percentage total		30%	66%	5%				100%
Social Sciences	Female	75	219	10	1			305
		25%	*72%*	*3%*	*0%*			*100%*
	Male	100	253	17	1		1	372
		27%	*68%*	*5%*	*0%*		*0%*	*100%*
Total		175	472	27	2		1	677
Percentage total		26%	70%	4%	0%		0%	100%
Grand total		1,027	1,811	161	22	8	1	3,030
Percentage grand total		34%	60%	5%	1%	0%	0%	100%

Note: 1 = First Class Degree; 2.1 = Upper Second Class Degree; 2.2 = Lower Second Class Degree; 3 = Third Class Degree.

Source: University of Oxford (2018)

is no gender difference in the number of A* results.

The gender attainment gap is a topic which receives substantial attention at the University of Oxford. Activity in this area has been coordinated between 2007-2011 by the Gender Panel, followed by the Student Attainment Gap Working Group from 2015 onwards. The latter body's role is precisely to identify possible causes of the difference between the proportions of women and men attaining a First class degree. Attainment by gender, ethnicity and disability is reviewed on a yearly basis at institutional, departmental and divisional levels.

The University of Oxford has conducted extensive investigations into the causes of gender attainment gaps. Despite not being able to conclusively identify one or more such causes, their research made possible the rejection of a series of hypotheses. The gender attainment gap at Finals could not be explained by:

- Differential intelligence;
- Lowered efficiency of female selection at admissions;
- Disadvantage for state school students relative to those attending independent schools;
- Women's lower self-efficacy and confidence;
- Women's higher levels of anxiety and depression;
- Differences in physical strength;
- Pre-menstrual syndrome.

In addition, research at the University of Oxford also resulted in the identification of a series of hypotheses which could not be proven, either because they have not been sufficiently tested, or because it is still not clear how the causal mechanism, linking the predictor with women's lower performance levels, works in practice. Plausible, yet unproven predictors are:

- Stereotype threat;
- Assessment environment;
- Differential approach to learning;
- Teaching styles;
- Differential understanding of assessment criteria;
- Differential approach to examinations;
- Different responses to 'sudden death' examinations;
- Examination anxiety;
- The possibility of examiner bias;
- Declining female academic self-concept;
- Perfectionism;
- Psychosocial factors.

The Student Attainment Gap Working Group has also conducted a university-wide longitudinal analysis of the first year students' academic self-concept, a predictor of academic performance defined as the belief in one's own ability to succeed in a specific subject area. It has been found that women have a significantly lower academic self-concept than men and that this level is mainly predicted by sex, performance in A-levels and competitiveness, with school performance being a statistically significant predictor in just one of the two survey waves. Socioeconomic status, on the other hand, did not appear to have a significant impact on students' beliefs in their ability to succeed academically. In addition, the academic self-concept levels remained constant for both men and women throughout the first year.

Taking the analysis one step further and inquiring into predictors of performance, the study found that academic self-concept and competitiveness,

measured half way through the first year of studies, and A-level grades predict achievement during the first public examination, taken at the end of the first year. Sex itself was not found to be a significant predictor, thus indicating academic self-concept's mediating role in the association between gender and attainment. Since the lower academic self-concept is a trait which female students possess before arriving on campus, the question of how to raise their perceived academic competence remains an open one at the University of Oxford.

Given the nature of this investigation, the academic self-concept survey also revealed a series of significant differences between women and men with regard to competitiveness, aspirations and responses to personal problems and to workload. It has been found that men are more competitive than women, reporting higher motivation levels when in competition with other people. Female students, on the other hand, were more likely to report aspiring to get an experience that would help their career plans, to participate in non-academic activities and to make a contribution to public life. As far as response to personal problems is concerned, women claimed to throw themselves into work and to keep talking the problem over with other people to a larger extent than men did. Lastly, female and male students' response to workload was found to be significantly different, with women reporting being assigned an excessively heavy workload in a larger proportion than men did. Questions related to one's disposition to understand, tapping into levels of effort and independent attempts at sense-making, finding examples and reaching own conclusions, did not reveal any significant gender differences.

7.2 Comparative observations

Drawing cross-sectional conclusions from the university-level data above is a challenging undertaking for two main reasons. First, the quantitative data is hardly comparable and thus impossible to analyse using conventional statistical instruments beyond those having a descriptive function. This lack of comparability derives from the fact that each university has its original in-

stitutional structure. Aside from being a differentiation factor in itself, this specific structure will dictate the levels at which the data is aggregated. In addition, each university has developed its own methodology for assessing variables related to gender attainment gaps. So long as no one single instrument has been used for data collection, one cannot conduct a comparative analysis in the traditional sense.

Secondly, our report includes at this point five IARU member universities from three different continents. Even if the quantitative data itself would be comparable, it is unlikely that a statistical analysis performed on such a small sample of institutions which differ greatly with regard to the social, political and economic conditions in which they function would produce meaningful conclusions on which recommendations could be based.

We thus resort to reporting on descriptive statistics, where relatively comparable data from all of the universities in our sample exists, and to formulating several comparative observations in those cases where two or more institutions have collected data in relation with the same phenomenon.

Universities in the sample vary greatly with regard to their percentage of female students (Figure 2), from 23% at the University of Tokyo, up to 61% at the University of Copenhagen. Yet these institutions also vary greatly in their focus on STEM versus non-STEM fields. For a better understanding of the situation of female students particularly in technical fields, in Figure 3 each of the universities in the sample is positioned according to both its percentage of female students and STEM focus, measured as the share of STEM students out of the total number of students.

The Oxford, Cape Town and Copenhagen Universities have a larger percentage of female students enrolled than their focus on STEM fields would predict. Although more than 40% of their students are pursuing a STEM degree, overall the percentage of female students enrolled at these universities is higher than 45%. Comparatively, ETH Zurich falls right under the predicted percentage of female students, yet it is also the university with the by far strongest emphasis on STEM subjects. The University of Tokyo appears here as a relative outlier, with low values in both share of female students and

Figure 2: Percentage of female students, by university

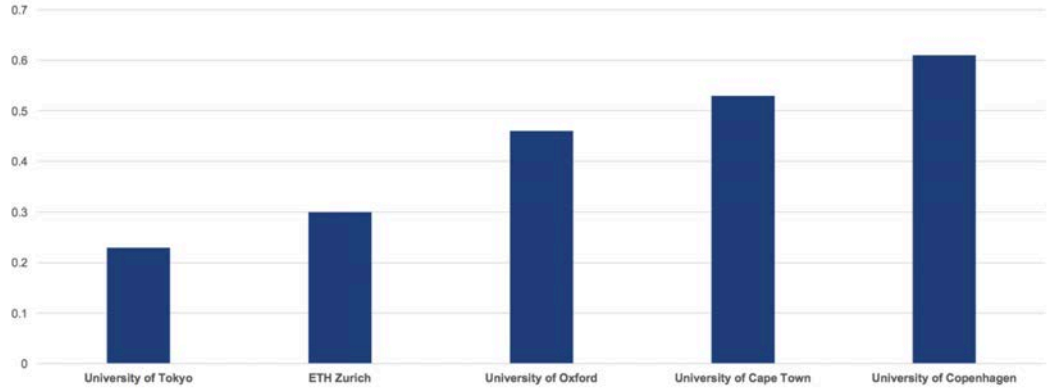
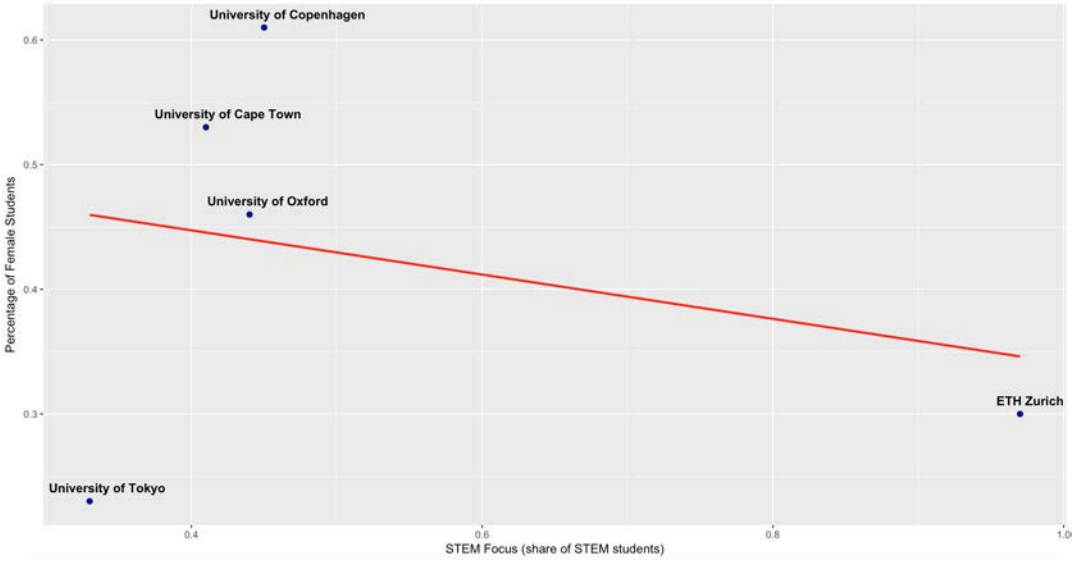


Figure 3: Percentage of female students and share of STEM students, by university



Note: health sciences students have also been included in the STEM category.

STEM focus.

Gender attainment gaps are manifest at ETH Zurich, yet fully mediated by differences in prior knowledge. The opposite scenario can be observed at the University of Cape Town, where, despite differences in the level of prior knowledge between female and male students, there is no evidence of gender attainment gaps. It should be noted, however, that in both cases the differences in prior knowledge appear when measured at the level of standardised tests, while in the case of both universities there is evidence of a grade-test disparity. At the University of Copenhagen women outperform men in both entry exams and course exams. Lastly, at the University of Oxford there is evidence of gender attainment gaps in, surprisingly, both the Humanities and the Mathematical, Physical and Life Sciences divisions.

Psychometric variables have been systematically analysed in three of the universities in the sample: ETH Zurich, University of Copenhagen and University of Oxford. Female students at ETH report higher levels of perceived stress than men do and are more uncertain about whether their efforts will lead to success. They also show a higher perceived threat of unfavourable outcomes, such as bad grades, and are more likely than men to make detrimental attributions: attribute their success to luck and their failure to lack of talent.

At the University of Copenhagen, female students also report higher levels of perceived stress than men do, have a slightly harder time than men in getting academic help from their colleagues, and are report having the necessary tools to plan their studies to a lesser extent than their male counterparts. Investigations of psychosocial variables at the University of Oxford have shown that female students have a significantly lower level of academic self-concept, meaning their belief in their own ability to succeed, and that academic self-concept is a significant performance predictor. Female students are also less competitive than males and are more likely than men to tackle personal problems by throwing themselves into work or by talking the problem over with other people. Female students at the University of Oxford are more likely to report having been assigned an excessively heavy workload, while no gender difference has been found in students' perception of the amount of effort they

have invested in their studies.

8 Conclusion and recommendations

This report brings together findings in the relevant literature and empirical evidence from IARU universities, in an attempt to identify the main factors leading to the emergence of gender attainment gaps, and to grasp the magnitude of the phenomenon. We found that the causes of gender gaps in performance lie at the intersection between biological, psychological and cultural factors, yet also that universities have nevertheless power to alleviate them to a certain extent. It is for this reason that we will now turn to suggesting a series of measures which could lead to a gradual closing of gender attainment gaps, structured in four main areas of intervention.

Accepting different problem-solving approaches

Following the observation that the level of visuospatial abilities is one of the main factors leading to differences in mathematical performance between women and men, Halpern et al. (2007) propose intervening in the problem-solving strategies that are being taught. Students should be taught both verbal and visuospatial solution strategies and be allowed to employ either one of them, thus creating a more flexible problem-solving process in which both women and men can make use of their best abilities.

Leveling up students' skills

In addition to creating opportunities for women and men to employ their preferred approach to problem-solving, it has been shown that visuospatial abilities can also be trained. After meta-analysing 217 studies of the effects of training on spatial skills development, Uttal et al. (2013) have concluded that training indeed generates long-lasting improvements to individual spatial abilities and that these abilities also transfer to other spatial tasks which have not been specifically practiced. Both women's and men's spatial skills appear

to improve equally well with training. A direct test of the visuospatial abilities improvement through training has been performed by (Sorby & Baartmans, 2000). They developed a real-life course meant to enhance the skills of first year engineering students who, after testing, have been found to be weak in 3-D spatial visualisation. The course significantly improved attendees' visuospatial skills and the results held for all of the six consecutive cohorts investigated. In addition, not only have the students taking the course improved their performance on the test which had served as the criterion for their admission, but they also obtained higher grades in subsequent engineering graphics courses. The visualisation course also seems to have had a positive impact on women's retention rate.

Following the case of visuospatial skills, we would recommend, based on the empirical findings in this report, a thorough evaluation of incoming students' prior knowledge, followed by swift action aimed at leveling skills up, before attainment gaps start manifesting.

Promoting interaction and understanding

In light of their findings about the role of womens' academic and social experiences during the college years on degree completion, Gayles & Ampaw (2014) recommend universities to lay great emphasis on interaction with the faculty outside of the classroom and facilitate full-time attendance. Inside of the classroom, teachers might consider slowing down the pace in order to promote students' understanding of the topic, a teaching strategy which is generally considered to be beneficial to both women and men. In addition, a mixed strategy, integrating both competitive and collaborative work, would ensure equal opportunities for all students (Zohar & Sela, 2010).

Employing interactive engagement courses, as opposed to the traditional lecture format, would also improve female students' performance while not affecting that of males. Lorenzo et al. (2006) argue that the reduction and even elimination of the gender attainment gap could be achieved through the introduction of peer instruction, tutorials, and cooperative problem-solving ac-

tivities. These instructional methods differ from traditional ones in that they foster a less competitive interaction between students and create opportunities for them to explain their ideas, in an alternation of structured teaching and group discussions. This allows women to employ their preferred verbal articulation of ideas and men to benefit from the structured learning experience which has been shown to improve their performance.

Considering the context and creating accountability

Lastly, we would advise IARU member universities to each delegate an institutional body responsible for identifying those gender gap determinants specific to the socio-cultural environment in which the institution is functioning and even specific to the university itself. Given the context-dependent nature of any measure aimed at closing gender attainment gaps, the establishment of such a body becomes a necessary condition for efficient policy design and implementation.

Appendix

Questionnaire for Member Institutions of the International Alliance of Research Universities

1. What is the average performance of students at your university, by gender?

> Do you observe gender attainment gaps, and, if so, what do you believe could be causing them?
> By performance we mean grades obtained at the level of entry exams, course assessments, or standardized tests.

2. Are there differences between female and male students' levels of prior knowledge (for instance in mathematics or languages)?

> What is the magnitude of these differences, in each of these domains, and what is the differences' direction?

3. Do female and male students interact differently with faculty members?

> We would be interested in either quantitative or anecdotal evidence regarding frequency of question asking during class, frequency of faculty contact, talking with faculty outside class, requesting or attending advisory meetings, attending study groups outside class, etc.

4. Do female and male students differ with respect to their self-confidence, positive expectations levels, willingness to compete, or other psychometric dimensions?

> What is the magnitude of these differences, on each dimension, and what is their direction?

5. Are there differences between female and male students' skill levels (verbal, visuospatial, etc.)?

> What are the magnitude and direction of these differences, for each type of skill?

6. Has an implicit association test ever been conducted at your university?

> If yes, did it lead to university-wide discussions about gender stereotypes or to the (re-)formulation of gender policies at your university?

7. Have the students at your institution ever been subject to in-class experiments in which the treatment has been found to differentially influence women's and men's behaviour?

> Such experiments might include, but are not restricted to, changes in problem formulation or use of personal response devices (clickers) during lectures.
>
> Please describe some examples of such experiments, their results, as well as some after-experiment reactions or changes.

8. Is gender attainment gap a topic discussed at your university?

> If yes, which next steps are planned?
>
> If no, why do you think the topic is not on the agenda?

9. What is the number of students at your university (total and by department)?

10. What is the percentage of female students at your university (across departments and by department)?

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