



IARU News

8 / April 2016

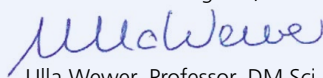
Aging,
Longevity
and Health



INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

The eighth issue of IARU News reports on exciting developments and initiatives within the IARU Aging, Longevity and Health project (ALH). Please find updates in this edition of IARU News on: A new summer course within the ALH area; the 5th IARU ALH summer school; the Novo Nordisk International Talent Program; the second meeting of the IARU ALH Steering Committee; the IARU project Walkability and iHan activities.

With best regards,



Ulla Wewer, Professor, DM.Sci

Dean of the Faculty of Health and Medical Sciences, University of Copenhagen, Denmark

Aging, Longevity and Health New summer course in aging in 2016

The Center for Healthy Aging (CEHA), University of Copenhagen, has been running the annual IARU summer school *Interdisciplinary Aspects of Healthy Aging* since 2011. Over the years, many IARU students have attended the courses and provided excellent evaluations. Lecturers from other IARU universities have also given lectures on the course. A short note on the 2015 summer school is available below. In 2016, we are proud to announce that the University of Copenhagen and CEHA will be running a second summer school in the ALH area under the *EIT Health* umbrella.

EIT Health Summer School

In the summer 2016, we are offering a new summer course titled *Alive and KICKing – innovative solutions to aging-related challenges*. The summer course is one of the University of Copenhagen's first activities in the *EIT Health* project.

The *Alive and KICKing* summer course has been developed by CEHA together with the Copenhagen Business School and Danish pharma company Novo Nordisk. The aim is to contribute to the education and training of professional health innovators and entrepreneurs at an international level. The course is open for IARU students and includes online lectures launches in June, as well as an ON-CAMPUS part at the University of Copenhagen from 8-19 August, 2016. Teaching staff and supervisors are from CEHA, Erasmus University Rotterdam, Copenhagen Business School, Novo Nordisk, Steno Diabetes Center, the Danish company DigiRehab, as well as

from UCPH's Department of Public Health and the Faculty of Science. Information on the *Alive and KICKing* summer course is available at: healthyaging.ku.dk/for_students/health-innovation-summer-school-2016.

The *EIT Health* is a consortium of more than 50 core partners and 90 associate partners from leading businesses, research centers and universities from across 14 EU countries. The University of Copenhagen acts as a core partner. The goal of *EIT Health* is to promote entrepreneurship and develop innovations in healthy living and active aging, providing the EU with new opportunities and resources. The background is that in December 2014, the *InnoLife – Healthy living and active aging project* was designated the winning Knowledge and Innovation Community (KIC), to be called *EIT Health*. The consortium was awarded funding of approx EUR 395m over 7-10 years. KICs are part of the larger Horizon 2020 European Union initiative. The relationship between the University of Copenhagen and IARU is a recognised component of *EIT Health*. More information on *EIT Health* is available at eit.ku.dk/health.

IARU summer school

CEHA hosted the 5th interdisciplinary Summer School on *Interdisciplinary Aspects of Healthy Aging*, 7-26 July, 2015 at UCPH.

The summer course gives students the opportunity to learn and use research methods from other disciplines, and to develop new projects with guidance from summer course teachers. The



course program mainly included lecturers from CEHA as well as from the IARU network, where Prof. George Leeson, University of Oxford, and Dr. Louise Lafortune, University of Cambridge, gave inspiring lectures.

Inspired by CEHA's greater focus on health innovation in connection with the *EIT Health* project described above, the summer course successfully included lectures and student project work within this field as a new initiative. Palle Høy Jakobsen, Director R&D Academic Relations, from Danish pharma company Novo Nordisk gave lectures on innovation, while Assistant Professor Till Winkler, Copenhagen Business School, supervised a student project on health and innovation. For the second time, CEHA also arranged a visit for the students to the *Søndervang* care home facility in Copenhagen in order to provide insights into the lives of the elderly in Denmark.

Summer course students were from Yale University, University of Oxford, Peking University, University of Tokyo, Australian National University, National University of Singapore, University of Copenhagen, University of California Berkeley, ETH Zürich and the Medical University of Lodz.

The 6th IARU summer school takes place 4-24 July 2016. The 2016 course features a new design, focusing its content on exploring aging phenomena through an interdisciplinary lens with a special focus on the concept of energy, which is a key component in healthy aging.

More information is available at: healthyaging.ku.dk/for_students/iarusommerskoler/iarusummerschool_2016.

Scholarships: The “Novo Nordisk International Talent Program”

During the spring of 2015, the University of Copenhagen and Danish pharma company Novo Nordisk agreed to launch a new scholarship program: the *Novo Nordisk International Talent Program*. The aim of the program is to support student mobility between the University of Copenhagen and IARU universities in health studies (master's student level). In 2015, the program was open to students attending the *Interdisciplinary Aspects of Healthy Aging* summer school. 16 students representing all participating IARU Universities each received scholarships ranging from USD 380–3500, the amount depending on the scholarship policies of the student's home institutions.

Again in 2016, the *Talent Program* will be open to IARU students in a range of selected academic fields seeking to study abroad on one of our aging summer courses. Information on procedures and deadlines is available at studies.ku.dk/exchange/admission/nnitp_scholarship.



ALH Steering Committee

The ALH Steering Committee was formed in 2014. Its *raison d'être* is to increase engagement across IARU campuses and to promote joint activities and funding opportunities for IARU ALH participants. In 2015, the Committee held their second meeting combined with a scientific workshop on 27-28th August in Copenhagen. Eight out of nine IARU universities were represented (participants are listed below).

Scientific workshop

The scientific workshop on 27th August was organized for all IARU participants and for researchers from CEHA and Aalborg University, Denmark. The program included 15 presentations by IARU and CEHA participants, followed by questions, discussions and networking. Various joint research focus areas and potential projects were discussed. The workshop served as a valuable platform – and a point of departure – for the proceedings of the Steering Committee Meeting on the next day.

ALH Steering Committee Meeting

At the 28 August meeting, the Committee discussed future activities, funding and areas of common interest, as well as possibilities for MSc and PhD student exchanges. Based on the scientific workshop the day before, four scientific focus areas of mutual interest were identified for future work:

1. Cohorts, Cognition and the Brain
2. Changing Demographic, Economic, Social and Physical Environments and Healthy Aging
3. Biology of Aging
4. Technology and Aging

The Committee also discussed the content and set-up for the upcoming 3rd *IARU Aging, Longevity and Health Graduate*

Student Conference. This conference will be held 3-5 November 2016 in Tokyo, Japan.

Workshops and meetings were run by members of the Committee (m), representatives for members (r) and other invited researchers from the IARU universities (o):

Profs. Kaarin Anstey (m, ANU); Michael Ristow (m, ETH); Sarah Harper (m, Oxford); Lene Juel Rasmussen (m, UCPH); Eric Finkelstein (r, NUS); Hiroko Akiyama (r, Tokyo); Andrew Scarlac (r, Berkeley); Dr. Li Ning (r, PKU), as well as Profs. Katsuya Iijima (o, Tokyo), George Leeson (o, Oxford), Dr. David Lindeman (o, Berkeley) and Dr. Richard Burns (o, ANU). Also attending were Ms. Michela Gaifami, IARU Secretariat (UCPH), Miriam Sander, Page One Editorial Services and Tina Gottlieb, Center for Healthy Aging (UCPH).

The 3rd Steering Committee meeting will be hosted in Tokyo in November 2016 in connection with the 3rd *IARU ALH Graduate Student Conference*. The Committee intends to meet once a year.

The Committee members as of April 2016 are:

- Prof. Lene Juel Rasmussen, University of Copenhagen (Chair)
- Prof. Kaarin Anstey, Australian National University
- Prof. Michael Ristow, ETH Zurich
- Prof. Ho Teck Hua, National University of Singapore
- Prof. Xiaoying Zheng, Peking University
- Prof. Junichiro Okata, University of Tokyo
- Dr. Louise Lafortune, University of Cambridge
- Prof. Sarah Harper, University of Oxford
- Prof. William Satariano, University of California, Berkeley

iHAN – International Healthy Aging Network

The International Healthy Aging Network (iHAN) is part of IARU. Researchers of iHAN collaborate on the study of molecular and cognitive biomarkers of healthy aging and age-related diseases, including Type 2 diabetes and Alzheimer's disease, using in vivo methods of neuroimaging, particularly positron emission tomography (PET). Researchers of iHAN include members from Aarhus (Aarhus University), Baltimore (Johns Hopkins University), Berkeley (University of California), Brisbane (University of Queensland), Cape Town (Universiteit van Stellenbosch), Copenhagen (University of Copenhagen), Montreal (McGill University), New Haven (Yale University), Oslo (University of Oslo), and Vancouver (University of British Columbia). In 2015, iHAN researchers created three affiliated nodes, including St Kitts (Ross University School of Veterinary Medicine), Tabriz (Tabriz University of Medical Sciences) and Kampala (Uganda National Research Health Organization, UNRHO), St Kitts and Tabriz affiliated with Copenhagen and Kampala affiliated with Oslo, respectively.

iHAN publications 2015

Andalib S, Talebi M, Sakhinia E, Farhoudi M, Sadeghi-Bazargani H, Gjedde A. Lack of association between mitochondrial DNA G15257A and G15812A variations and multiple sclerosis. *J Neurol Sci.* 2015 Sep 15;356(1-2): 102-6. doi: 10.1016/j.jns.2015.06.022. Epub 2015 Jun 12. PubMed PMID: 26233806.

Andalib S, Talebi M, Sakhinia E, Farhoudi M, Sadeghi-Bazargani H, Gjedde A. Mitochondrial DNA T4216C and A4917G variations in multiple sclerosis. *J Neurol Sci.* 2015 Sep 15; 356(1-2):55-60. doi: 10.1016/j.jns.2015.04.050. Epub 2015 May 7. PubMed PMID: 26201854.

Arnold A, Calvetti D, Gjedde A, Iversen P, Somersalo E. Astrocytic tracer dynamics estimated from [1-11C]-acetate PET measurements. *Math Med Biol.* 2015 Dec; 32(4):367-82. doi: 10.1093/imammb/dqu021. Epub 2014 Nov 24. PubMed PMID: 25424579.

Knowledge exchange between iHAN universities

Dr Kai-Hsiang Chuang, Center of Advanced Imaging at the University of Queensland, Brisbane, and Dr Saeed Sadigh-Eteghad, Tabriz University of Medical Sciences, collaborated with local researchers at BRAINlab and CEHA (UCPH) between August 17 - September 15. Dr. and PhD Student Mostafa Araj Khodaei, Tehran, worked at BRAINlab and CEHA (UCPH) from July 1 to December 31. Dean Seyed Kazem Shakouri, Tabriz University of Medical Sciences, visited BRAINlab and CEHA (UCPH) between November 9-11.

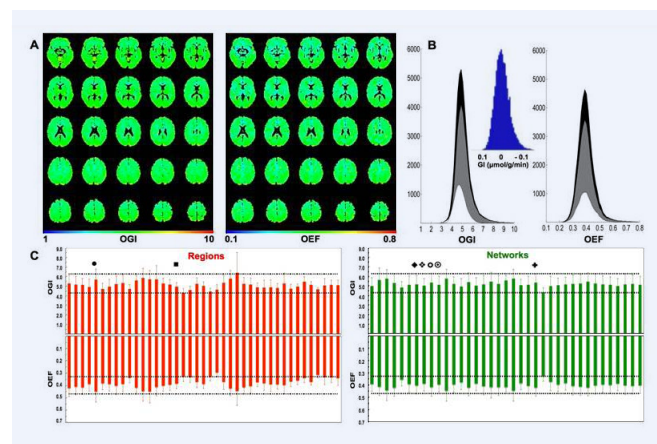


Figure: Uniformity of absolute OGI and OEF values in normal human brain as (A) maps and (B) histograms replacing voxels by regional averages. Histograms shaded in black, gray, and white represent whole brain, gray matter, white matter, respectively. In (C), OGI and OEF values across regions (left) and networks (right) are shown across 41 regions and 37 networks in relation to gray matter means. The uniformity and magnitude of preclude a significant role of aerobic glycolysis in brain structural plasticity.

"Uniform distributions of glucose oxidation and oxygen extraction in gray matter of human brain." Accepted, *JCBF&M*: Fahmeed Hyder Peter Herman, Christopher J. Bailey, Arne Møller, Ronen Globinsky, Robert K. Fulbright, Douglas L. Rothman, Albert Gjedde.

The IARU Project: Walkability

The joint IARU research project titled *Walkability – mobility and social relations among the elderly* involves Oxford University, CEHA and the Helen Hamlyn Center for Design at the Royal College of Art. The goal of *Walkability* is to investigate whether the existence of perceived community assets and/or specific characteristics of the built environment, including streetscape design, and/or characteristics of the social environment, influence the propensity of older adults to walk, exercise and/or practice other healthy behaviors. Joint project meetings were conducted in Copenhagen in August and September and several local meetings were held by the Danish team in November and December to further develop the proposal and identify potential funding sources. The project group expects to be able to submit an application for funding during 2016.