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DOHaD 2017

10th World Congress on Developmental Origins of Health and Disease, October 16-19th

Life course health and disease; Observations, experiments and interventions

Get ready to go European!

The 2017 DOHaD Congress will be held in The Netherlands – a European hub of DOHaD research – on October 16-19, 2017. The 2017 Congress is chaired by Professor Vincent Jaddoe and no doubt will be a fantastic Congress. Home of the Generation R; Rotterdam is the second largest city in The Netherlands and is one of the world’s largest ports. Plan now to see the sights of Rotterdam before or after the Congress! Look out for more information about the 2017 Congress in future DOHaD newsletters, and visit http://www.generationr.nl/researchers/dohad-2017.html for more information. We look forward to a great event in The Netherlands!

DOHaD 2019

Are you ready to BBQ? DOHaD is going down under!

DOHaD 2019 will be held in Melbourne Australia with the Congress chairs Professors John Bertram and Euan Wallace from Monash University, who will be joined by the DOHaD Society of ANZ in organizing this next World Congress. Australia has a long history of DOHaD research, and we look forward to seeing it first hand at the Melbourne Convention Centre! Look out for more information about the 2019 Congress in future newsletters. We look forward to a great event in Melbourne with all of our mates!
Membership Update: 613 and going strong!

Congratulations to our Society that is now over the 600-member mark! Countries that score highly on our member list include Australia (123 members, well done mates!) France, Japan, UK and USA. We also have new countries joining our list now – welcome members from Algeria. Although our student numbers are up (62) we need students to join us! There is an active trainee world of DOHaD – see our trainee section!

Please encourage your colleagues and trainees to sign up at www.dohadsoc.org.

Trainee Section:

Hello Trainees! We hope all is well, and wish you the best in all of your experiments and research endeavours!

Join the new DOHaD trainee Facebook group today!

You can now contribute ideas, share new findings, and stay connected via the ‘Developmental Origins of Health and Disease (DOHaD) Society Trainees’ group on Facebook, open to all trainees and emerging scientists. Please join the group here: https://www.facebook.com/groups/408996095891579/

Postdoc trainees – become a J DOHaD reviewer today!!

Many trainees have expressed an interest in gaining more formal manuscript reviewing experience, and we have created a unique platform with the J DOHaD editorial team for this. DOHaD Postdoc Trainee members who are interested in reviewing journal articles submitted to J DOHaD are encouraged to get involved today!

To learn more about reviewing J DOHaD articles, please email your trainee representatives Amita (amitab@mail.med.upenn.edu) and Sky (sky.feuer@ucsf.edu). We will provide you with additional details once you confirm your interest with us.

Get ready for DOHaD 2017 in Rotterdam

It’s never to late to get a jumpstart on next year’s DOHaD meeting! Amita and Sky are working with the organizers to create more trainee opportunities, networking events and workshops at the next world congress. If there is a particular theme that you feel is particularly valuable to your training, or that you would like to see represented, please let us know and we will work to incorporate it into the program.

Membership

If you would like to become a trainee member, or update your trainee membership, email Jane Pearce at jp@mrcsoton.ac.uk. The trainee membership fee is GBP 20 for one year, or GBP 35 for two years. Please encourage your fellow trainees to join today!

Questions? Ideas? Concerns? We would love to hear from you! Email your Trainee Council Representatives Amita or Sky: amitab@mail.med.upenn.edu; sky.feuer@ucsf.edu
WHO is Elena Zambrano?

- BSc, MSc, PhD
- Teacher at the School of Chemistry, National University of Mexico, 1991 to date.

WHERE did she come from?

- BSc in Chemistry Pharmacobiology, MSc in Cellular Biology, PhD in Biology, Universidad Nacional Autónoma de México, Mexico.
- Postdoctoral Training, Laboratory for Pregnancy and Newborn Research, College of Veterinary Medicine, Cornell University, Ithaca, NY. USA.

WHAT does she do?

Elena interest in Reproductive biology began with her PhD on hypothalamic gonadotropins, and evolved into fetal programming and its life course consequences during her postdoctoral training with Dr Peter W Nathanielsz at Cornell University. After returning to Mexico, she developed rat models of developmental programming to explore how phenotype is affected by maternal restriction, obesity and age-related issues within concrete windows of exposure. In addition, her group was one of the first groups to address gender-related differences in the DOHaD field. Her paper on the transgenerational passage of insulin resistance from mother to the second generation offspring has been recognized by The Physiologist magazine, the Wall Street Journal and the British Broadcasting Corporation. Over the past few years, Elena has become increasingly interested in evaluating maternal interventions to prevent offspring outcomes, and understanding mechanisms that underlie the phenotypic changes observed following maternal undernutrition and obesity. She believes that if interventions cannot be applied in obese pregnant women, it is necessary to determine whether interventions in offspring are beneficial. Work from her laboratory recently showed that maternal obesity impairs rat offspring reproductive capacity. In addition, it demonstrates that regular physical voluntary exercise even in old male offspring of obese mothers improves sperm quality, reduces oxidative stress biomarkers in both the testes and the sperm and improves fertility. Additionally:

- She has received several awards including the Nestle Award for best nutrition paper in Mexico in 2010 and 2014, and the Bimbo Co. Award for the whole of Latin America in 2010.
- She has been funded by CONACyT (Mexico).
- This year, together with Dr. Paul Taylor from the UK, she obtained a RCUK-CONACyT- Newton Grant.
- She has mentored 17 undergraduate thesis students, 5 Masters, and 5 PhD students.

Featured Scientist’s Secrets:

**Best trainee advice she's received:** In order to do good science, good research, you need to have a great tolerance to frustration; pain is inevitable, but stress in controllable. Do pure science simply for the pleasure to fulfill the human curiosity.

**What she loves about her work:** Elena is a passionate Scientist, and considers working in Science a privilege. “We get paid to play. My work is a kind of lifestyle, I cannot take it away from my mind.” She gets excited with results, or when the papers and grants are accepted. She cherishes presenting her work at scientific meetings. She particularly enjoys teaching and mentoring students. “Teaching is like planting seeds that probably you will never see to grow, but you know that one day they will flourish.”

**And when she isn’t sciencing, Elena is...** a mother of two: Andrea 12 and Ricardo 10 years old. They and her husband Eduardo are the most important part of her life. She loves her work, but she believes that family is the core of the society from which we come from, and her parents are the living example of it. Her parents have supported her throughout her life. Being raised within a loving family has helped her find happiness and given her a well-balanced life or “positive programming”, as she calls it. In addition, Elena enjoys photography and has published a book of pictures and stories entitled “Luz y Tinta, fotos para leer,” meaning “Light and Ink, pictures to be read”. She also likes running.
DOHaD Associated Groups:

Don’t forget to join your favorite Associated DOHaD group!

DOHAD ANZ Annual Conference: The Society held its Annual Conference in Adelaide, June 23-24, 2016. 2nd Meeting of the Ibero-American DOHaD Chapter: The IA DOHaD Chapter Annual Meeting is in Sao Luis Brazil, in conjunction with the 5th international Symposium on Metabolic Programming and Stress.

The 5th Annual Meeting of the Japan Society for Developmental Origins of Health and Disease (DOHaD-Japan) was held in July at the National Center for Child Health and Development in Tokyo Japan.

The French Speaking DOHaD Society is interested in members joining from any global region that speaks French. See their website for more details:
The Ibero-American DOHaD Chapter held its second meeting in conjunction with the 5th International Symposium on Metabolic Programming and Stress, in Sao Luis Brazil and had great success with international visitors from Australia, Canada, and the USA.

WE HAVE TWO NEW ASSOCIATED GROUPS!

The Canadian DOHaD Chapter was recently officially recognized with over 170 members. DOHaD Canada will hold its first annual meeting in association with the Canadian National Perianal Research Meeting, Feb 14-17, 2017 in Montebello Quebec. Find them here: http://dohad.utoronto.ca/

The DOHaD Pakistan Affiliate Group: The DOHaD Pakistan Affiliate Group was recently officially recognized, and will hold its first meeting on Jan 14, 2017, Stress Response and Conditioning: Impact on Maternal and Generation Health" sponsored by the Aga Khan University Pakistan. For further information contact Nuruddin Mohammed, email: nuruddin.mohammed@aku.edu

Interested in forming your own group? Visit our website for a template application, or contact DOHaD Administration at dohad@mrc.soton.ac.uk
Journal of Developmental Origins of Health and Disease

Impact factor data for 2015 are now in we are delighted to say that J DOHaD is at 1.733 for 2015 up from 2014 0.750. Congratulations to Mike Ross and his team that have worked hard keeping our Journal successful and also to you, the membership for submitting, publishing and citing our excellent papers!

The quality of our published papers is such that our Impact Factor should continue to rise. For those of you not fully aware of the process, Impact Factor is determined by the number of citations (references) made by other journals in a given year (eg, 182 citations in 2015 to articles published in both 2013 and 2014) divided by the number of articles published in the preceding two-year window (eg, 105 articles published in 2013 and 2014). Editorials, Reviews, and Original Articles all count towards this metric.

We encourage the membership to acknowledge when appropriate the excellent quality and breadth of both our reviews and original reports for both submissions to J. DOHaD and other relevant journals.

REMEMBER: Membership of the DOHaD Society gives you *FREE ACCESS* to J DOHaD online. Soon after joining the Society, you will receive login details for J DOHaD.

Register on the J DOHaD website to receive e-mails alerting you to new issues and table of contents

If you have not activated your *free subscription/members subscription* to JDOHAD or forgotten your login details please contact your regional Customer Services department:

http://journals.cambridge.org/action/contactUs

Have you seen these latest papers?? Do you cite papers from your Society’s Journal in your own work? Here is a snapshot of the latest J DOHaD publications...

**Birth characteristics and all-cause mortality: a sibling analysis using the Uppsala birth cohort multigenerational study**

*S. Juárez, A. Goodman, B. De Stavola and I. Koupil*

This paper investigates the association between perinatal health and all-cause mortality for specific age intervals, assessing the contribution of maternal socioeconomic characteristics and the presence of maternal-level confounding. Our study is based on a cohort of 12,564 singletons born between 1915 and 1929 at the Uppsala University Hospital. We fitted Cox regression models to estimate age-varying hazard ratios of all-cause mortality for absolute and relative birth weight and for gestational age. We found that associations with mortality vary by age and according to the measure under scrutiny, with effects being concentrated in infancy, childhood or early adult life. For example, the effect of low birth weight was greatest in the first year of life and then continued up to 44 years of age (HR between 2.82 and 1.51). These associations were confirmed in within-family analyses, which provided no evidence of residual confounding by maternal characteristics. Our findings support the interpretation that policies oriented towards improving population health should invest in birth outcomes and hence in maternal health.

**Aerobic capacity as a mediator of the influence of birth weight and school performance**

*A. García-Hermoso*

Low birth weight is associated with cognitive impairments persisting into adolescence and early adulthood. The purposes of this study was two-fold: to analyse the association between birth weight (BW) and school performance, and to determine the influence of adolescent aerobic capacity and muscular strength on the association between BW and school performance in children at 12–13 years. The study included 395 children (50.4% boys, aged 12–13 years). Self-reported BW was evaluated. We measured school performance (mean of the grades obtained in language and mathematics) and two physical fitness tests (aerobic capacity and muscular strength). Analysis of variance was used to analyse the differences in school performance...
according to BW categories (\(\leq 2500\), 2500–3500 and \(\geq 3500\) g). Linear regression models fitted for mediation analyses examined whether the association between BW and school performance was mediated by aerobic capacity and/or muscular strength. Higher BW was associated with better school performance independent of current body mass index. These differences disappeared after controlling for aerobic capacity, which also mediated the association between BW and school performance (13.4%). The relationship between BW and school performance seems to be dependent on aerobic capacity fitness. Our results are of importance because the consequences of BW tend to continue into childhood, and current physical fitness of the children may potentially be modified to improve school performance.

**Prenatal maternal mental health and fetal growth restriction: a systematic review**

A. J. Lewis, E. Austin and M. Galbally

Maternal mental disorders during pregnancy are associated with a range of adverse health outcomes for offspring. This systematic review examines studies reporting on the relationship between maternal depression, anxiety or stress during pregnancy and fetal growth measured during pregnancy using ultrasound biometry. A systematic search of PsycINFO, Medline, Scopus, Web of Science and Embase was conducted and 1575 records were identified, with nine studies meeting inclusion criteria gathering data from over 7000 participants. All studies measured depression, six examined anxiety and depression, and five examined all three exposures. The majority measured symptoms rather than clinically diagnosable disorder. Studies consistently reported significant associations between maternal mental health, particularly anxiety symptoms, and reduced fetal head growth. Other fetal growth parameters showed inconsistent findings. A number of studies suggest that cortisol dysregulation associated with maternal mental health may play a role in fetal growth restriction. However, heterogeneity in the timing of growth measurement, assessment measures used for mental health and inconsistencies in adjustment for confounders, limits the synthesis and interpretation of findings. Future studies should consider differences in the timing, intensity and duration of mental health symptoms over pregnancy and should employ diagnostic assessment of mental disorders. Fetal growth should be repeatedly measured and further work is needed to establish the biological mechanisms involved.

**Council Elections coming up in 2017: get involved!**

Would you like to contribute to the Society in a meaningful way, interact regularly with other members, and help your Society reach its objectives and aims? You can do this by joining the Society Council!

There are a number of Council positions that are coming up for election in 2017. Council members participate in the running of the Society (on behalf of you – the members!) including Workshop funding allocation, World Congress Programmes and outreach. Council meetings occur quarterly, via teleconference and positions are held for 3 years. In the event that there is more than one nomination for any position, the membership will vote on the best candidate. If only one nomination occurs for a position, the decision will be made at Council.

**Criteria are:** all nominees must be DOHaD Society members that are actively pursuing research and activities in DOHaD. You can nominate yourself or have someone nominate you for any of these positions. Simply log into your members page on our website and download the nomination form! Nominations are due **MAY 30 2017** and elected officials will be announced at the 2017 AGM at the World Congress in Rotterdam, October 2017.

The 2017 positions available are:

### Basic science
- **Clinical Sciences (2 positions)**
- **European rep**
- **North American rep**
- **Pacific Rim**
- **President**

### Public health and policy
- **Secretary**
- **Student rep (2 positions)**
- **Treasurer**
- **Trustee (4 positions)**
2016/3

Workshop Update!

II European Summer School on Nutrigenomics.

The second European Summer School on Nutrigenomics was held from 5 to 9 September 2016 at the University of Camerino, Italy. At the event organized by Prof. Rosita Gabbianelli, from the School of Pharmacy of the University of Camerino, have participated 85 students, young researchers and nutritionists coming from 23 European and non-European countries. Many students were enabled to join the Summer School based on support from the DOHaD Society. More than 20 internationally renowned speakers explained the various aspects related to nutrition and how diet affects the intestinal microbiota to promote health. It is well known that the diet affects the individual health status; an important role is played by the gut microbiota that modulates the onset of numerous metabolic and neurodegenerative disorders.

The Summer School was opened with the keynote lectures of Professor Omry Koren from the Bar-Ilan University (Israel) and prof. Michal Muller from the University of East Anglia, Norwich (U.K) who explained the correlation between gut microbiota and the health status and how the microbiota can be modified by the diet. During the Summer School, a different topic was approached every day, such as the modulation of the microbiota by nutrients, the correlation between diet and microbiota and the onset of intestinal tract diseases, metabolic and neurodegenerative disorders. A strong focus was on the relationship between early life diet, microbiota, and long-term health.

Particularly interesting were the scientific reports of prof. Harry Flint from Aberdeen university, who described the metabolic consequences induced by the fermentation of plant foods in the colon. Very interesting were also the reports of prof. Roberto Berni Canani from the University Federico II of Naples (Italy), who talked on the intestinal microbiota as a target for the treatment of food allergies, the talk of Dr. Torsten Plösch from the University Medical Center Groningen (Netherlands) who explained the correlation between nutrition in early life and the microbiota and the talk of prof Filip Scheperjans from Helsinki University Hospital (Finland) who talked on the correlation

DOHaD WORKSHOPS: We can support you!

Planning a workshop? – apply for support from the DOHaD Society – see website for details. Workshop support applications from Developing Countries are needed.

Apply today!

Need support in planning your next DOHaD workshop? Look no further, your Society will support you, and the support has just increased! If you are applying from a Developing Country you can receive up to £1500 and developed country applicants can receive up to £750 to help you put on the best workshop you can. Simply fill out the application at https://dohadsoc.org/members-area/workshop-support/ and submit it to the DOHaD office dohad@mrc.soton.ac.uk.
between microbiota and the onset of Parkinson’s disease. All Summer School participants have followed with great interest the various reports and have had a chance at the end of each session to interact with the speakers. This was even more supported by daily round table discussion where the students had time to receive summarizing overviews. The final evaluation of this second edition of the Summer School has been very positive; we will soon start to plan the third edition of the Camerino Summer School in 2018.

Workshop on DOHaD and SDGs: Moving to early implementation in Africa. Stellenbosch, South Africa

Under the Stellenbosch Institute for Advanced Study’s Health in Transition strategic theme (http://stias.ac.za), several Fellows were invited to be in residence during September to work on the DOHaD agenda in Africa. Fellows included - Abdallah Daar (Convenor; Canada), Dorairajan Balusubramanian (India), Peter Byass (Sweden), Elizabeth Kimani-Murage (Kenya), Andrew Macnab (Canada); Shane Norris (South Africa) and Chittaranjan Yajnik (India). To kick off a multi-year initiative, a workshop was held in Stellenbosch (South Africa) from 21 to 23 September 2016. In addition to the Fellows, 20 experts were invited from East, North, West and Southern Africa and from other countries to review where DOHaD is today, help identify short and long-term research questions, and think through implementation and advocacy programmes. Furthermore, representatives from the World Health Organization and Department of Health of South Africa attended the workshop. In particular, the objectives of the workshop were to: (i) identify mentors for young DOHaD African scientists; (ii) help build a network of young scientists working in DOHaD and related fields; (iii) formulate a research agenda for DOHaD in Africa; and (iv) begin building an African Chapter of the International Society of DOHaD. In the long run, the aim is to improve the lives of people in Africa by increasing awareness, building a stronger evidence base from the continent, changing behaviour, and impacting policy. A consensus declaration from this workshop will be published in an international journal.
Funding opportunity

The Horizon Prize for the Birth Day will be awarded to a solution that best demonstrates a reduction in maternal and/or newborn morbidity and mortality and/or stillbirths during facility-based deliveries. This solution will need to be novel, safe and scalable. Details for the award of the prize will be specified in the rules for this contest published at its launch in the first quarter of 2016. Find it here: https://ec.europa.eu/research/horizonprize/index.cfm?prize=birthday

Recent and Upcoming Workshops and Conferences you might be interested in....

The new DOHaD Affiliated Society of Pakistan is holding an international meeting with Maternal Fetal Medicine and Neonatal Health, Departments of Obstetrics and Gynaecology and Paediatrics, Aga Khan University, Karachi. The title of the Conference is "Stress Response and Conditioning: Impact on Maternal and Perinatal Health" following the conceptual framework of DOHaD. This meeting will be held on January 14th, 2017 at the Aga Khan University, Karachi, Pakistan. https://www.aku.edu/events

The first DOHaD Canada meeting will be held in conjunction with the Canadian National Perinatal Research Meeting, in Montebello Quebec, Feb 14th 2017 (CNPRM Feb 14- 17, 2017). Drs Stephane Bourque (university of Alberta) and Ian Weaver (Dalhousie University) are co-chairing the DOHaD Canada meeting. For more information on CNPRM see http://www.cnprm.org/.
IUNS-ICN 21st International Congress of Nutrition: from science to nutrition security
Buenos Aires, Argentina, October 23-27, 2017
www.iuns-icn2017.com

Other opportunities

Call for Papers “Model Systems for the Study of Integrative Physiology: The Rebirth of Translational Biology” by American Journal of Physiology Please find details at this link.

http://www.the-aps.org/mm/Publications/Journals/AJP-Regu/Special-Calls/Model-Systems-for-the-Study-of-Integrative-Physiology.html

The submission deadline is May 1, 2017.

Advertisement for DOHaD Society Membership

Tell your colleagues about the advantages to becoming a DOHaD member. Please post the attached advert in your Department and increase our Society exposure.

Looking for work?

DOHaD-related positions

Have a DOHaD-related position that you want to advertise in the Newsletter? Please email the DOHaD Office dohad@mrc.soton.ac.uk with the details and we will post it for you here in the Newsletter.

Newsletter Contributions

We want to hear from you!

Send comments, and material for future newsletters to Deb Sloboda sloboda@mcmaster.ca or to the DOHaD office dohad@mrc.soton.ac.uk

All previous newsletters are available in the members’ area of the DOHaD Society website www.dohadsoc.org
WHY JOIN?

FREE JOURNAL SUBSCRIPTION
Your membership gives you a FREE subscription to the online Journal of Developmental Origins of Health and Disease.

TRAVEL AWARDS
Members can apply for travel awards to attend DOHaD World Congresses.

WORKSHOP SUPPORT
As a member you are eligible to apply for financial support for workshops, meetings and conferences.

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You will receive a reduced registration rate at the Biennial World Congress meetings.

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Look online! (free or £20)

APPLY ONLINE TODAY!

This international scientific society is a registered charity which promotes research into the developmental origins of health and disease. We now know that a poor start to life, including impaired growth and excessive adiposity, is associated with increased risk of non-communicable diseases throughout the life course.

Research into DOHaD involves scientists from around the world. The DOHaD Society promotes cohesion and shared knowledge between multidisciplinary groups spanning policymakers, clinicians and basic scientists.