

4th

SCIENTIFIC MEETING / Training School of the European GnRH Network

BUDAPEST
March 6-9
2016

Co-sponsored by the
Hungarian Academy of Sciences (MTA) and the
European Cooperation in Science and Technology
(EU COST ACTION BM1105)



GnRH Network

 **cost**
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

PROGRAM

	March 6, Sunday	March 7, Monday	March 8, Tuesday	March 9, Wednesday
9 ⁰⁰				
10 ⁰⁰		Symposium 1. Migration of GnRH Neurons 09:00-10:30	Symposium 3. Life Cycles and Cross-talk between Reproduction and Metabolism 09:00-10:30	Symposium 5. Hormones and Brain Plasticity 09:00-10:30
11 ⁰⁰		Coffee Break 10:30-10:50	Coffee Break 10:30-10:50	Coffee Break 10:30-10:50
12 ⁰⁰		Symposium 2. Pubertal Disorders 10:50-12:20	Symposium 4. PCOS 10:50-12:20	Symposium 6. Pituitary 10:50-12:20
13 ⁰⁰		Lunch 12:20-13:40	Lunch 12:20-13:40	Closing of the Conference 12:20-12:35
14 ⁰⁰	COST BM 1105 Management Committee Meeting (MC members only) 13:00-16:40	Selected Oral Presentations (O1-4) 13:40-14:40	Poster Session 2. 13:40-15:40	
15 ⁰⁰		Coffee Break 14:40-15:00		
16 ⁰⁰		Poster Session 1. 15:00-17:00		
17 ⁰⁰	Opening of the GnRH Network Meeting 16:40-17:00		Selected Oral Presentations (O5-12) 16:00-18:00	
18 ⁰⁰	Plenary Lecture 1. 17:00-18:00	Plenary Lecture 2. 17:00-18:00		
19 ⁰⁰	Welcome reception 19:00-	Buffet dinner (facultative) – Fortuna Restaurant 18:30-20:30	Buffet dinner (facultative) – Fortuna Restaurant 19:00-22:00	
20 ⁰⁰		Guided Tour and Organ Concert in Matthias Church 20:30-22:00		

ABOUT COST ACTION BM1105: *GnRH Deficiency: Elucidation of the Neuroendocrine Control of Human Reproduction*

This funded project developed a European consortium (Leader: Prof. Nelly Pitteloud, Lausanne, Switzerland) of clinical investigators, geneticists and fundamental scientists interested in reproduction and GnRH biology. The overall aims of the Action are to identify genes and mechanisms responsible for sexual maturation by studying patients with GnRH deficiency (including congenital hypogonadotropic hypogonadism), to inform and validate the human research studies by corresponding research in animal and cellular model systems and to translate the scientific findings into improved patient care, including genetic counseling. This action started in April 2012 and will last until April 2016.

Previous Meetings

The past successful Scientific Meetings/Training Schools of the Consortium have been held in:

Prato, Italy (2013)

This Training School was jointly funded by COST Action BM1105, FENS-IBRO, and Monash University (Melbourne, Australia). This meeting was organized by Vincent Prévot (France), Nelly Pitteloud (Switzerland), and Iain Clarke (Australia). The school was intended to give to young scientists interested in learning about neuroendocrinology the opportunity to interact with renowned scientists and stimulate student discussions. Topics ranged from the genetic and molecular basis of neuroendocrine diseases, brain-endocrine interactions, to the role of metabolism and seasonal/circadian rhythms in reproduction. The program was well-received by students and was rated 4.5 out of a possible 5.

Berlin, Germany (2014)

The Scientific Meeting and Training School was organized by Ulrich Boehm (Germany), Vincent Prévot (France) and Nelly Pitteloud (Switzerland). This joint Scientific Meeting and Training School was intended to give to young scientists interested in reproduction, neuroendocrinology and GnRH biology the opportunity to interact with leaders in the fields of kisspeptin neuron biology, regulation of GnRH neuron circuits, transcriptional repression and mechanisms of synaptic vesicle release and regulatory secretion. Participants rated this meeting 4.6 out of a possible 5.

Prato, Italy (2015)

This combined scientific meeting and training school focused on translational research in the field of puberty, reproduction and GnRH biology. The program

was organized by Iain Clarke (Australia), Vincent Prévot (France), and Nelly Pitteloud (Switzerland) and hosted at the Monash University Prato Center. The program included topics such as hormone pulsatility, early life origins of future metabolic/reproductive disorders, olfaction, hypothalamic inflammation, pituitary development and stem cells, hypothalamic inflammation, energy balance and reproduction and epigenetics. This meeting was rated 4.8 out of 5 by participants.

For more information about these meetings, visit:

http://www.gnrhnetwork.eu/hhn_home/hhn-cost/hhn-meetings.htm



INVITATION

Dear Colleagues,

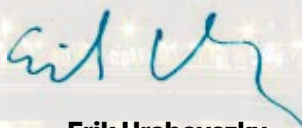
On behalf of the organizers, it is my pleasure to invite you to participate at the **4th Scientific Meeting/Training School of the European GnRH Network**, which will be organized in **Budapest, Hungary** between **March 6-9, 2016**. The same congress venue in the Buda Castle district will also host the last management committee (MC) meeting of EU COST action BM1105 on the 6th of March.

The **4th Scientific Meeting/Training School of the European GnRH Network** will follow a series of successful Conferences/Training Schools organized in the frame of EU COST action BM1105: 'GnRH Deficiency: Elucidation of the Neuroendocrine Control of Human Reproduction' (http://www.gnrhnetwork.eu/hhn_home). The organizers make an attempt to pave the way for the continued interaction and collaboration of basic neuroscientists, clinical endocrinologists, bioinformaticians and clinical geneticists of the reproductive field and to create a tradition to gather annually.

As before, the Program Committee will invite round the world experts for the Plenary Lectures and Symposia from the areas of basic neuroendocrine science, clinical and pediatric endocrinology, bioinformatics and clinical genetics. Student Trainees attending the meeting are encouraged to apply for Travel Grants by submitting an abstract which summarizes their work. Applications will be assessed by the Program Committee on the basis of scientific excellence. Some students will be offered an opportunity for oral presentation. Students as well as other registered attendees will be able to present their work at poster sessions.

The Buda Congress Hall of the Hungarian Academy of Sciences which serves as the Congress Venue is located in the neighborhood of famous touristic attractions, offering pleasant cultural and social programs to the attendees for the evenings.

We are looking forward to an exciting and successful conference. As the local organizers of the conference, we wish you an enjoyable stay in Budapest!



Erik Hrabovszky

Chair of Local Organizing
Committee

ORGANIZERS

Program Committee:

Vincent Prévot (Chair)
Nelly Pitteloud
Andrew Dwyer

Paolo Giacobini
Manuel Tena-Sempere
Erik Hrabovszky

Local Organizers:

Erik Hrabovszky (Chair)
Imre Kalló
Katalin Skrapits

Zsuzsanna Bardóczy
Flóra Bálint

Organizing Agency



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Congress Website

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Attila Kovács
E-mail: kovacs.attila@koki.mta.hu

GENERAL INFORMATION

Getting to the conference venue

The conference venue (GPS: 47.503692, 19.029982) is located in the Buda Congress Hall of the Hungarian Academy of Sciences: 28 Országház St., Budapest 1st (Castle) District:



<http://www.lgk.mta.hu/teremberles/index.html#kapcsolat>
(Google Map)

Walking

For all those not staying in the castle district, the congress venue can be reached by a 15-25 min walk uphill from the bank of the Danube river. Multiple different steps can be chosen. The end of the route touches touristic attractions such as the Fisherman's Bastion, Matthias Church and Dísz tér.

Public transportation

The venue is 3 stops away from Széll Kálmán tér with buses 16, 16A or 116.

Taxi

Taxis have permission to drive in the castle district.

Driving

Entering the castle district by car requires special permission. For all those who come to Budapest by car, please contact the organizers for parking tips.

Recommended hotels will be located at walking distance from the congress venue. For those using public transportation, use the following route planner:
<http://futar.bkk.hu/?map=13/47.501/19.053&layers=SVB>

Internet Service

Free WiFi Internet Service is available

Dates

March 6, 2016 (Sunday) – March 9, 2016 (Wednesday)

Language

The official language of the conference is English.

Registration desk

Opening hours:

March 6, 2016	12:00 – 19:00	March 8, 2016	8:00 – 18:45
March 7, 2016	8:00 – 18:45	March 9, 2016	8:00 – 14:00

Scientific program

The program includes two plenary lectures, six thematic symposia, two sessions with short oral presentations and two poster sessions

Presenter Resources

Poster presenters: Poster boards are 1.0 m wide and 2.0 m high (Portrait format). Material for poster mounting (adhesive tape) will be provided on site.

Symposium Speakers and Plenary Lecturers: Projectors, laptop computers and presenters will be available for powerpoint presentations. Speakers are also allowed to use their own laptop computer. (For special needs, please contact the organizers.)

Accommodations

Recommended Hotels within Walking Distance of the Congress Venue:

Art'otel Budapest by Park Plaza

This hotel at 15-min walk to the congress venue offers excellent services. We have received a special conference rate which will be guaranteed until February 1, 2016. Direct reservation is available through the above link.

Mercure Hotel

Burg Hotel

Hotel Castle Garden

Carlton Hotel Budapest

Best Western Hotel Orion

Santico Art Hotel and Hostel

Private Apartments in and around the Castle District

Meals

Registration fees include coffee, tee, refreshments and snacks during the coffee breaks, lunches, welcome reception and social/cultural programs during the conference.

Registration fees

Guest Speakers	Student Trainees	Early Regular	Late Regular	On-Site Regular
Dec. 10, 2015- Jan. 25, 2016	Dec. 10, 2015- Feb. 1, 2016	Dec. 10, 2015- Feb 1, 2016	Feb. 2, 2016- Feb. 26, 2016	March 6, 2016- March 9, 2016
0 €	170 €	220 €	280 €	320 €

EU COST action BM1105 expires in April 2016. Therefore, this program can not provide full funding for similar conferences any longer. The leadership of the European 'GnRH network' is actively seeking new financial strategies and

resources to be able to organize this meeting/Training School each year and has ongoing applications for funding by relevant scientific organizations and for sponsorship by industrial sponsors/exhibitors.

All attendees (including members of the COST Network and Students who sign up for the Training School) will be required to pay a modest Registration Fee. This will cover the entry to the scientific program and also the costs of coffee breaks, lunches and social/cultural programs which will be made available free of charge for everyone. To keep the expenses of Student Trainees as low as possible, the organizers offer i) reduced registration fee, ii) economical housing solutions and iii) Travel Grants. The invited Symposium Speakers and Plenary Lecturers are asked to register in the 'Guest Speaker' category and will be exempt from paying for the registration.

Public Transport

Public transport in Budapest is well-organized. Trams, buses and metro trains operate without conductors. Tickets must be purchased in advance at tobacco shops, newsstands, metro stations or at vendor machines at some tram and bus stops. Weekly and Tourist (valid for 3 day) passes allowing free travel on all means of transportation within the city limits can be bought at the major metro stations only.

Taxis

We suggest that you use only **yellow taxis** equipped with a taximeter. All taxis in Budapest work at fixed tariffs. Főtaxi (+36/1-2 222 222) is the service provider for Liszt Ferenc Airport and their cars are equipped with credit card reader POS terminal so you can pay with credit card (VISA, Mastercard, AMEX) as well as cash! Airport to downtown costs about 6000-7000Ft (≈20-23€).

Parking

Parking in the central districts of Budapest is available upon payment. You need to purchase a parking ticket from the vending machines on the streets. Only HUF coins are accepted. Entering the castle district requires special permission.

Notice for Drivers (Zero Alcohol)

Drivers should be aware that there is a zero tolerance of blood alcohol level while driving in Hungary.

Health and Safety

Emergency telephone numbers in Hungary:

Ambulance: 104

Police: 107

Fire Department: 105

Insurance

The Organizing Committee cannot assume responsibility for injuries or losses occurring to persons or personal belongings during the Conference. Participants are therefore advised to travel with a valid insurance package.

Electricity

Electricity in Budapest is the European standard 220 Volt with the two round prongs and generally recessed sockets.

Currency

The official currency in Hungary is Forint (1€≈310 Ft). Although most places including small shops accept Visa and Mastercard, this is not necessary. We recommend to be prepared for paying with the Hungarian currency to avoid unforeseen inconveniences.

DETAILED PROGRAM

Sunday, 6th of March 2016

13:00 – 16:40

Management Committee meeting

(for invited MC and MCs members and Core WG leaders only; Chair: Nelly Pitteloud)

SCIENTIFIC MEETING/TRAINING SCHOOL – DAY 1 OF 4:

16:40

Opening of the GnRH Network Meeting

(Co-chairs: Nelly Pitteloud, Vincent Prévot, Erik Hrabovszky)

17:00 – 18:00

Opening Lecture: I. Rodriguez (Switzerland)

Olfactory receptors: from genes to behavior

End of Scientific Program

19:00

Welcome Reception

Monday 7th of March 2016

SCIENTIFIC MEETING/TRAINING SCHOOL – DAY 2 OF 4:

9:00 – 10:30

Symposium 1: Migration of GnRH neurons

(Chair: Nelly Pitteloud)

P. Giacobini (France): 3D imaging and whole-brain clearing provide novel insight onto the development of GnRH neurons in humans

C. Dodé (France): Genetics of Kallmann syndrome

M.A. Basson (UK): Genetic interactions in CHARGE syndrome

10:30 – 10:50

Coffee Break

10:50 – 12:20

Symposium 2: Pubertal disorders

(Chair: Mehul Dattani)

J. Young (France): Reproductive phenotypes, ovarian peptides and ovarian morphology in women with nIHH/Kallmann: new insights

N. Pitteloud (Switzerland): Next generation sequencing to discover novel genes in congenital hypogonadotropic hypogonadism

N. De Roux (France): Human Genetics of complex neurodevelopmental disorders, an innovative way to characterize new mechanisms of GnRH deficiency

12:20 – 13:40 Lunch

13:40 – 14:40 Selected Oral Presentations (O1-4)

(Chair: Erik Hrabovszky)

S. Pekic Djurdjevic et al. (Serbia): Phenotype-genotype analysis in patients with GnRH deficiency in a single center

C.A. Cornil et al. (Belgium): A role for membrane estrogen receptor alpha in the sexual differentiation of kisspeptin neurons?

S. Trova et al. (Italy): The involvement of the GnRH System in mediating Olfactory Bulb physiological plasticity

O. Hoa et al. (France): The gonadotroph-vascular unit and its role in the pre-ovulatory LH surge in mouse models

14:40 – 15:00 Coffee Break

15:00 – 17:00 Poster Session 1 (all posters)

17:00 – 18:00 Plenary Lecture: JR Perry (UK): Using population genetics studies to inform the aetiology of reproductive ageing and its links to broader health

End of Scientific Program

20:30 – 22:00 Cultural Program: Guided Tour and Organ Concert in Matthias Church

J.S. Bach: *B-minor prelude*
Herzlich tut mich verlangen – choral prelude

B-minor fugue

L. Boellmann: *Prière*

L. Vierende: *Carillon de Westminster*

Artist: Bertalan Hock (chief organist of Matthias Church)

Tuesday 8th of March 2016

SCIENTIFIC MEETING/TRAINING SCHOOL – DAY 3 OF 4:

9:00 – 10:30 Symposium 3: Life cycles and cross talk between reproduction and metabolism

(Chair: Manuel Tena-Sempere)

H. Dardente (France): Calendar cells and circannual cycle

D. Hazlerigg (Norway): Maternal photoperiod programmes offspring reproductive development via the fetal pituitary

C. Fekete (Hungary): Fasting induced neuronal plasticity in the hypothalamic paraventricular nucleus

10:30 – 10:50 Coffee Break

10:50 – 12:20 Symposium 4: PCOS

(Chair: Paolo Giacobini)

S. Franks (UK): Polycystic ovary syndrome: a common endocrine disorder with complex aetiology

I. Cimino (France): Novel role for anti-Müllerian hormone in the regulation of GnRH neuron excitability and hormone secretion

J. Visser (The Netherlands): Animal models and PCOS

12:20 – 13:40 Lunch

13:40 – 15:40 Poster Session 2 (all posters)

15:40 – 16:00 Coffee Break

16:00 – 18:00 Selected Oral Presentations

(Chairs: Vincent Prévot and Nicolas deRoux)

S.R. Howard et al. (UK): The search for disease-causing mutations in self-limited delayed puberty

S. Narayanaswamy et al. (UK): Interactions of KNDy (kisspeptin, neurokinin B and dynorphin) neuropeptides potently stimulates LH pulsatility and gonadotrophin release in healthy male volunteers

C. Vanacker et al. (France) Calcium-dependent exocytosis in GnRH neurons is required for sexual maturation and body weight homeostasis but not hypothalamic targeting in female mice

C. Anckaerts et al (Belgium): Impact of female hormones on functional brain networks: an in vivo MRI study in ovariectomized mice

A.H. Duittoz et al. (France): Modeling calcium signaling in GnRH neurons by a Piecewise Deterministic Markov Process (shotnoise) reveals the existence of an external component that synchronizes intracellular calcium

G. Papadakis et al. (Switzerland): Mutations in BMP4 gene network are associated with Kallmann syndrome

J. Bakker et al. (Belgium): The influence of sex hormones vs sex chromosomes on the sexual differentiation of the human brain

I. Bassi et al. (Italy): Zebrafish as Congenital Hypogonadotropic Hypogonadism(CHH) model system for the study of prokineticin receptor 2 (PROKR2) mutations on GNRH3 neuronal development

End of Scientific Program

Wednesday 9th of March 2016

SCIENTIFIC MEETING/TRAINING SCHOOL – DAY 4 OF 4:

9:00 – 10:30

Symposium 5: Hormones and brain plasticity

(Chair: Ulrich Boehm)

J.A. Chowen (Spain): Stress, Metabolism and Reproduction

E. Hrabovszky (Hungary): Transcriptome analysis reveals the reorchestrated peptidergic signaling of the hypothalamic

arcuate nucleus during pubertal development and sex steroid negative feedback

W. Dhilló (UK): Kisspeptin and hypothalamic amenorrhea

10:30 – 10:50 Coffee Break

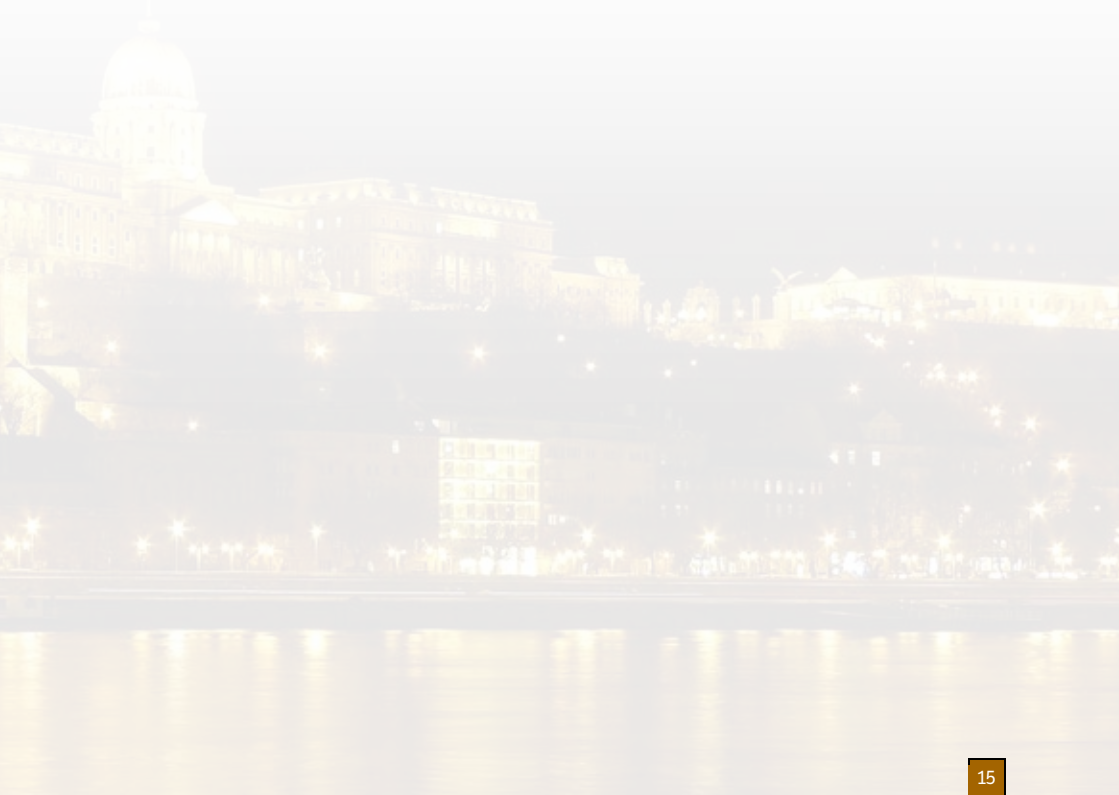
10:50 – 12:20 Symposium 6: Pituitary
(Chair: Mohamad Maghnie)

M.T. Dattani (UK): Congenital hypopituitarism: new genes, new phenotypes

M. Korbónits (UK): Pituitary Adenomas – novel aspects of genetic origin

C. Andoniadou (UK): Functions of pituitary stem cells in turnover and disease

12:20 – 12:35 Closing of the Meeting



THE ORGANIZERS OF THE MEETING HIGHLY APPRECIATE
THE GENEROUS SUPPORT OF THE FOLLOWING SPONSORS



MTA - Hungarian Academy of
Sciences

GnRH Network



COST - European Cooperation in
Science and Technology



ESPE - European Society
for Paediatric Endocrinology



BSN - British Society
for Neuroendocrinology



SNE - Société de
Neuroendocrinologie



GEDEON RICHTER

RG - Gedeon Richter Plc.,
Hungary



Zeiss - Carl Zeiss Technika Kft.,
Hungary



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MERCK - Sigma-Aldrich Kft.,
Hungary

DETAILED PROGRAM

PLENARY LECTURES

PL 1. Olfactory receptors: from genes to behavior

Ivan Rodriguez

Laboratory of Neurogenetics, Department of Genetics and Evolution, University of Geneva
(Opening lecture)

PL 2. Using population genetics studies to inform the aetiology of reproductive ageing and its links to broader health

John Perry

MRC Epidemiology Unit, Institute of Metabolic Science, Box 285, Addenbrooke's Hospital

SYMPOSIA

S1/1. 3D imaging and whole-brain clearing provide novel insight onto the development of GnRH neurons in humans

Paolo Giacobini

Inserm, Laboratory of Development and Plasticity of the Neuroendocrine Brain, Jean-Pierre Aubert Research Centre, U1172, Lille 59045, France

S1/2. Genetics of Kallmann syndrome

Catherine Dodé¹ and Jean-Pierre Hardelin²

¹*Hôpital Cochin, Laboratoire de biologie et génétique moléculaire, Paris, France;*

²*Département de neurosciences, Institut Pasteur, Paris, France*

S1/3. Genetic interactions in CHARGE syndrome

M. Albert Basson

King's College London

S2/1. Reproductive phenotypes, ovarian peptides and ovarian morphology in women with nHH/Kallmann: new insights

Jacques Young

Reproductive Endocrinology Department, Bicêtre Hospital, F-94275, Le Kremlin Bicêtre, France. Univ Paris Sud

S2/2. Next generation sequencing to discover novel genes in congenital hypogonadotropic hypogonadism

Nelly Pitteloud

Centre Hospitalier Universitaire Vaudois (CHUV) and University of Lausanne, Switzerland

S2/3. Human Genetics of complex neurodevelopmental disorders, an innovative way to characterize new mechanisms of GnRH deficiency

Nicolas de Roux

Inserm U1141. Paris Diderot University. Hopital Robert Debré. Paris. France

S3/1. Calendar cells and circannual cycle

Hugues Dardente^{1,2,3,4}

¹INRA, UMR85 Physiologie de la Reproduction et des Comportements, F-37380 Nouzilly, France; ²CNRS, UMR7247, F-37380 Nouzilly, France; ³Université François Rabelais de Tours, F-37041 Tours, France; ⁴IFCE, F-37380 Nouzilly, France

S3/2. Maternal photoperiod programmes offspring reproductive development via the fetal pituitary

Sáenz de Miera C^{1,2}, Bothorel B¹, Birnie M², Simonneaux V¹, Hazlerigg D^{2,3}

¹Institut des Neurosciences Cellulaires et Intégratives, University of Strasbourg, France; ²School of Biological Sciences, University of Aberdeen, United Kingdom. ³Department of Arctic and Marine Biology, University of Tromsø, Norway; david.hazlerigg@uit.no

S3/3. Fasting induced neuronal plasticity in the hypothalamic paraventricular nucleus

Csaba Fekete

Department of Endocrine Neurobiology, Institute of Experimental Medicine, Hungarian Academy of Sciences

S4/1. Polycystic ovary syndrome: a common endocrine disorder with complex aetiology

Stephen Franks

Institute of Reproductive & Developmental Biology, Imperial College London, Hammersmith Hospital, London W12 0NN, UK

S4/2. Novel role for anti-Müllerian hormone in the regulation of GnRH neuron excitability and hormone secretion

Irene Cimino

University of Cambridge, Metabolic Research Laboratories, Addenbrooke's Hospital, Cambridge CB2 0QQ, United Kingdom

S4/3. Animal models and PCOS

Jenny A. Visser

Dept. of Internal Medicine, Erasmus MC, Rotterdam, The Netherlands

S5/1. Stress, Metabolism and Reproduction

Julie A. Chowen

Hospital Infantil Universitario Niño Jesús, Instituto de Investigación Biomédica la Princesa, CIBER de Obesidad y Nutrición (CIBEROBN), Madrid, Spain

S5/2. Transcriptome analysis reveals the reorchestrated peptidergic signaling of the hypothalamic arcuate nucleus during pubertal development and sex steroid negative feedback

Erik Hrabovszky

Laboratory of Endocrine Neurobiology, Institute of Experimental Medicine, Hungarian Academy of Sciences, Budapest, 1083 Hungary

S5/3. Kisspeptin and hypothalamic amenorrhea

Waljit Dhillon

Imperial College London

S6/1. Congenital hypopituitarism: new genes, new phenotypes

Mehul Dattani

Genetics and Genomic Medicine Programme, UCL Institute of Child Health London

S6/2. Pituitary Adenomas – novel aspects of genetic origin

Márta Korbonits

Department of Endocrinology Barts and the London School of Medicine Queen Mary University of London

S6/3. Functions of pituitary stem cells in turnover and disease

Cynthia L. Andoniadou

Department of Craniofacial Development and Stem Cell Biology, King's College London

Selected oral presentations (also presented at poster sessions)

O1; P1. Phenotype-genotype analysis in patients with GnRH deficiency in a single center

Pekic DS^{1,2}, Xu C³, Dwyer A³, Cassatella D³, Doknic M^{1,2}, Miljic D^{1,2}, Stojanovic M^{1,2}, Petakov M^{1,2}, Pitteloud N³, Popovic V^{1,2}

¹Department of Neuroendocrinology, Clinic for Endocrinology, Diabetes and Diseases of Metabolism, University Clinical Center, Belgrade, Serbia; ²School of Medicine, University of Belgrade; ³Endocrinology, Diabetes and Metabolism Service of the Centre Hospitalier Universitaire Vaudois (CHUV), du Bugnon 46, Lausanne 1011, Switzerland

O2; P2. A role for membrane estrogen receptor alpha in the sexual differentiation of kisspeptin neurons?

Taziaux M¹, Ceuleers MA¹, Arnal JF², Lenfant F², Cornil CA¹

¹GIGA Neurosciences, University of Liege, Liège, Belgium; ²Inserm U1048-I2MC- Equipe 9, Institut des Maladies Métaboliques et Cardiovasculaires, Toulouse, France

O3; P3. The involvement of the GnRH System in mediating Olfactory Bulb physiological plasticity

Trova S^{1,2}, Pellegrino G^{1,3}, Schellino R^{1,2}, Oboti L⁵, Giacobini P^{3,4}, Peretto P^{1,2}

¹Department of Life Sciences and Systems Biology, University of Turin, Via Accademia Albertina 13, 10123 Torino, Italy; ²Neuroscience Institute Cavalieri Ottolenghi (NICO), Regione Gonzole 10, Orbassano, 10043 Torino, Italy; ³INSERM, Laboratory of Development and Plasticity of the Postnatal Brain, Jean-Pierre Aubert Research Center, Unité 837, Lille, France; ⁴School of Medicine, UDSL, Lille, France; ⁵Center for Neuroscience Research, Children's National Health System, Washington, D.C., USA

O4; P4. The gonadotroph-vascular unit and its role in the pre-ovulatory LH surge in mouse models

Hoà O, Lafont C, Guillou A, Samper P, Fontanaud P, Mollard P

Institut de Génomique Fonctionnelle, Team "Réseaux et rythmes dans les glandes endocrines", CNRS UMR5203, INSERM U1191, Université de Montpellier, France

O5. The Search for Disease-Causing Mutations in Self-Limited Delayed Puberty

Howard SR¹, Guasti L¹, Poliandri A¹, Ruiz-Babot G¹, Mancini A¹, David A², Storr HL¹, Metherell LA¹, Sternberg MJE², Cabrera CP^{3,5}, Warren HR^{4,5}, Barnes MR^{3,5}, Quinton R⁶, de Roux N^{7,8,9}, Young J^{10,11,12,13}, Guiochon-Mantel A^{10,11,12}, Wehkalampi K¹⁴, André V¹⁵, Gothilf Y¹⁶, Cariboni A^{15,17}, Dunkel L¹

¹Centre for Endocrinology, William Harvey Research Institute, Barts and the London School of Medicine and Dentistry, Queen Mary University of London, London, UK; ²Centre for Integrative Systems Biology and Bioinformatics, Department of Life Sciences, Imperial College London, London, UK; ³Centre for Translational Bioinformatics, William Harvey Research Institute, Barts and the London School of Medicine and Dentistry, Queen Mary University of London, London, UK; ⁴Department of Clinical Pharmacology, William Harvey Research Institute, Barts and The London School of Medicine, Queen Mary University of London, London, UK; ⁵NIHR Barts Cardiovascular Biomedical Research Unit, Queen Mary University of London, London, UK; ⁶Institute of Genetic Medicine University of Newcastle-upon-Tyne Newcastle-upon-Tyne United Kingdom; ⁷Unité Mixte de Recherche 1141, Institut National de la Santé et de la Recherche Médicale, Paris, France; ⁸Université Paris Diderot, Sorbonne Paris Cité, Hôpital Robert Debré, Paris, France; ⁹Laboratoire de Biochimie, Assistance Publique-Hôpitaux de Paris, Hôpital Robert Debré, Paris, France; ¹⁰Univ Paris-Sud, Le Kremlin Bicêtre, F-94276, France; ¹¹INSERM UMR-1185, Le Kremlin Bicêtre, F-94276,

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O6; P6. Interactions of KNDy (kisspeptin, neurokinin B and dynorphin) neuropeptides potently stimulates LH pulsatility and gonadotrophin release in healthy male volunteers

Narayanawamy S¹, Prague JK¹, Jayasena CN¹, Papadopolou D¹, Mizamtsidi M¹, Shah AJ¹, Bassett P², Comninou AN¹, Abbara A¹, Bloom SR¹, Veldhuis JD³ and Dhillon WS¹

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O7; P7. Calcium-dependent exocytosis in GnRH neurons is required for sexual maturation and body weight homeostasis but not hypothalamic targeting in female mice

Vanacker C^{1,2,3}, Duquenne M^{1,2,3}, Messina A^{1,2,3}, Mazur D^{1,2,3}, Hrabovszky E⁴, Pfrieger FW⁵, Giacobini P^{1,2,3}, Prevot V^{1,2,3}

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O8; P8. Impact of female hormones on functional brain networks: an in vivo MRI study in ovariectomized mice

Anckaerts C¹, Hinz R¹, Langbeen A², Shah D¹, Vanacker C³, Prevot V³, Verhoye M¹, Van der Linden A¹

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O9; P9. Modeling calcium signaling in GnRH neurons by a Piecewise Deterministic Markov Process (shotnoise) reveals the existence of an external component that synchronizes intracellular calcium

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O10; P10. Mutations in BMP4 gene network are associated with Kallmann syndrome

Papadakis G¹, Cassatella D¹, Dwyer AA¹, Niederlander N¹, Acierno JS¹, Xu C¹, Sykiotis GS¹, Hirsch HJ², Bonomi M³, Persani L³, Müller T⁴, Sidis Y¹, Pitteloud N¹

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O11; P11. The influence of sex hormones vs sex chromosomes on the sexual differentiation of the human brain

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O12; P12. Zebrafish as Congenital Hypogonadotropic Hypogonadism (CHH) model system for the study of prokineticin receptor 2 (PROKR2) mutations on GNRH3 neuronal development

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POSTERS

P13. Mutations in HS6ST1 Cause Self-Limited Delayed Puberty in addition to Idiopathic Hypogonadotropic Hypogonadism

Howard SR¹, Poliandri A¹, Storr HL¹, Metherell LA¹, Cabrera CP^{2,3}, Barnes MR^{2,3}, Wehkalampi K⁴, Gimelli J⁵, Ruhrberg C⁶, Cariboni A^{5,6}, Guasti L¹, Dunkel L¹

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P14. Cannabinoid Receptor 1 knockdown induces axonal misrouting of the GnRH neurons in zebrafish embryos

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P15. Changes in basal pituitary function with time in adult patients with congenital hypogonadotropic hypogonadism

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P16. The role WDR11 in hypogonadotropic hypogonadism

Lee JY, Kim YJ, Ataliotis P, Kim SH

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P17. Disruption of GnRH secretion in peripubertal female rat after early postnatal exposure to Bisphenol A and involvement of GPR151, a potential new GnRH regulator

Franssen D¹, Dupuis N², Gerard A¹, Hennuy B³, Hanson J², Bourguignon J-P¹, Parent A-S¹

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P18. Differential regulation of LH and FSH release by GnRH in a fish model

Golan M^{1,3,4}, Levavi-Sivan B², Mollard P^{1,3,4}

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P19. Involvement of endocannabinoids in the mediation of the effect of 17-estradiol suppressing fast neurotransmission onto GnRH neurons

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P20. T cell dependent B cell immune response induces delayed ERK1/2 phosphorylation via IL-10 in GnRH neurons in vivo

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P21. NO as a “volume transmitter” of neuroendocrine signals in the hypothalamic area

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P22. Estradiol exerts powerful impact on the hippocampal transcriptome in middle-aged, ovariectomized female rats: implications for neurogenesis, synaptic plasticity and neuroprotection

Sárvári M¹, Kalló I^{1,2}, Hrabovszky E¹, Solymosi N³, Rodolosse A⁴, Vastagh C¹, Auer H⁴, Liposits Z^{1,2}

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P23. Testosterone-induced changes in neuropeptide gene expression of the hypothalamic arcuate nucleus in orchidectomized male mice

Skrapits K, Molnár CS, Sárvári M, Vastagh C, Maurnyi C and Hrabovszky E
Laboratory of Endocrine Neurobiology, Institute of Experimental Medicine, Hungarian Academy of Sciences, Budapest, Hungary

P24. Morphological evidence supporting retrograde endocannabinoid signalling between GnRH neurons and their kisspeptin afferents in mice

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P25. Identification of differentially expressed genes encoding neurotransmitter receptors of GnRH neurons in proestrus

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P26. Glucagon-like peptide-1 excites firing and increases GABAergic miniature postsynaptic currents in gonadotropin-releasing hormone (GnRH) neurons of the male mice via activation of nitric oxide (NO) and suppression of endocannabinoid (EC) signaling pathways

Farkas I¹, Vastagh C¹, Hrabovszky E¹, Balint F^{1,3}, Skrapits K¹, Borsay BA², Herczeg L², Liposits Z^{1,3}

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P27. Illness perceptions and quality of life in women with congenital hypogonadotropic hypogonadism (CHH)

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P28. Xenoestrogens Ethinyl Estradiol and Zearalenone Cause Precocious Puberty in Female Rats via Central Kisspeptin Signaling

Ferenczi S¹, Kriszt R¹, Winkler Z¹, Polyák Á¹, Kuti D¹, Szőke Z², Mézes M³, Kovács KJ¹

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P29. Familial Hypogonadotropic Hypogonadism: A Portuguese series.

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P30. Transgenic zebrafish models to study the neurokinin B neuronal system

Ezion T, Levavi-Sivan B, Gothilf Y

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P31. NO sex without kiss: lordosis behavior depends on nitric oxide (NO) signaling downstream of kisspeptin neurons

Hellier V¹, Brock O¹, Candlish M², Piet R³, Herbison A³, Colledge W⁴, Prévot V⁵, Boehm U², Bakker J¹

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P32. Development of gonadotropin-releasing hormone-secreting neurons from human pluripotent stem cells

Lund C¹, Pulli K¹, Yellapragada V¹, Giacobini P^{3,4}, Lundin K⁵, Vuoristo S¹, Tuuri T⁵, Noisa P^{6*} and Raivio, T^{1,2*}

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P33. Reversal of Congenital Hypogonadotropic Hypogonadism in a man with Kallmann Syndrome and deafness caused by a SOX10 mutation

Maione L^{1,2,3}, Cartes A¹, Brailly-Tabard S^{2,3,4}, Guiochon-Mantel A^{2,3,4}, Bouligand J^{2,3,4} and Young J^{1,3,4}

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P34. A Novel Role for Anti-Müllerian Hormone in the Development of the GnRH System

Malone SA^{1,2}, Cimino I^{1,2}, Cassatella D³, Acierno J³, Xu C³, Messina A³, Prevot V^{1,2}, Pitteloud N³, Giacobini P^{1,2}

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P35. Developing zebrafish models to study disease genes and microRNA and their role in olfactory and GnRH development

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P36. From transcriptomic analysis to in vivo functional experiments: zebrafish as a model for studying GnRH system

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P37. The effect of hypothyroidism on the HPG axis and seasonal neuroplasticity in European Starlings (*Sturnus vulgaris*)

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P38. GnRH-positive neurons derived from human Embryonic Stem Cells (hESCs) and induced Pluripotent Stem Cells (iPSCs) of healthy individuals and patients with Kallmann Syndrome

Poliandri A, Miller D, and Dunkel L.

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P39. Dissecting the role of FGF signalling in human pluripotent stem-cell-derived neural crest and GnRH neurons

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P40. Identification of a novel kisspeptin pathway in glial cells: A new contributing circuit for kisspeptin-driven control of puberty?

Romero-Ruiz A^{1,2}, Torres-Jiménez E^{1,2}, Chowen J^{3,4}, Roa J^{1,2,3}, Pinilla L^{1,2,3}, Colledge W.H⁵, Tena-Sempere M^{1,2,3}

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P41. Effects of gonadectomy and testosterone replacement on number of kisspeptin-ir and NKB-ir cells in the arcuate nucleus of the hypothalamus in obese and diabetic male rats

Dudek M¹, Rodak E¹, Ziarniak K¹, Kołodziejcki PA², Pruszyńska-Oszmałek E² and Sliwowska JH¹

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P42. Next generation sequencing in genetic analysis of hypogonadotropic hypogonadism

Šuput Omladič J¹, Obreza T¹, Pfeifer M^{2,3}, Dankovčíková A⁴, Avbelj SM^{1,2}, Trebušak Podkrajšek K^{1,2}, Battelino T^{1,2}

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P43. MicroRNA in the 12q locus showing strong post-natal variations of their expression in the hypothalamus are involved in synaptic activity and axon guidance

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P44. Expression of Kiss1 and GPR54 in the hypothalamic-pituitary-gonadal (HPG) axis and peripheral organs (fat, pancreas and liver) in obese and diabetic rats


Ziarniak K¹, Dudek M¹, Kołodziejcki PA², Pruszyńska-Oszmałek E², Sassek M², Nowak KW², and Sliwowska JH¹

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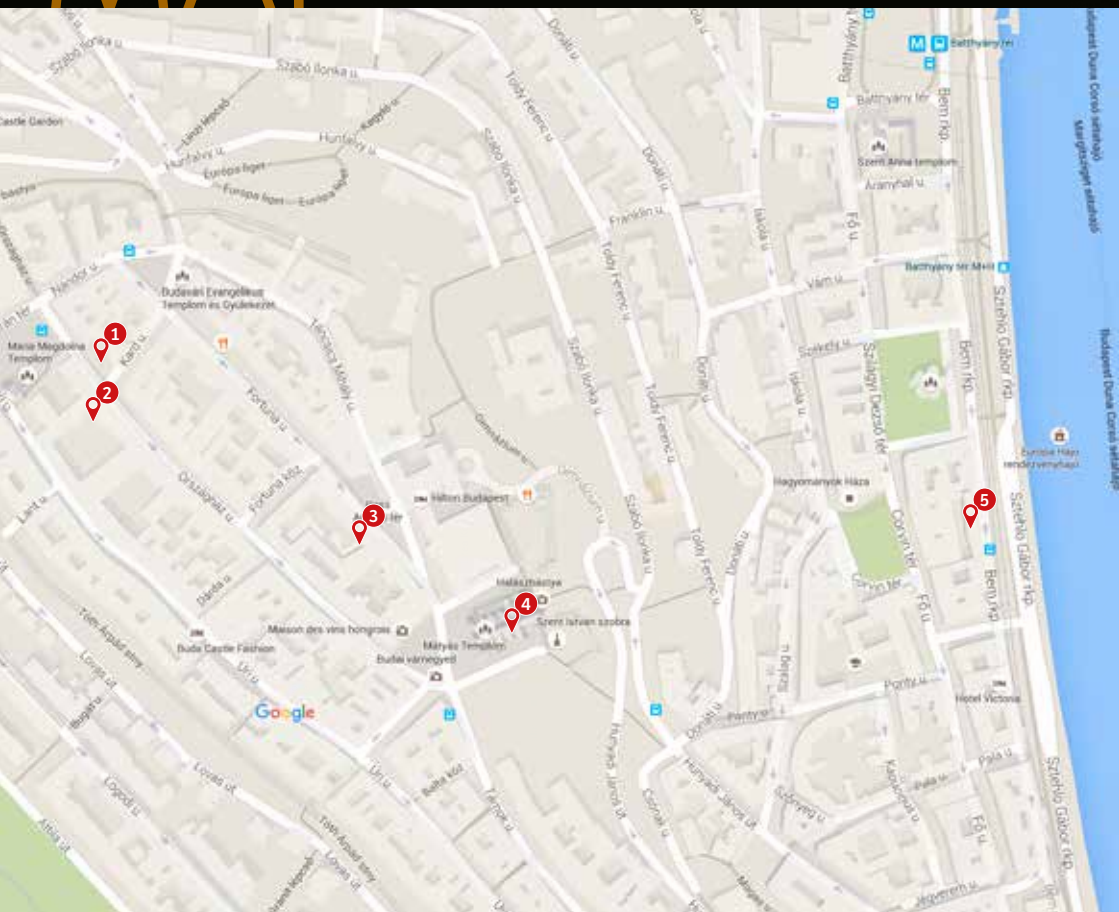
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Howard, Sasha	O5	Young, Jacques	S2/1
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A series of horizontal dotted lines for taking notes, overlaid on a background image of the Hungarian Parliament Building at night, illuminated with lights and reflected in the water.

MAP



1 MTA Vendégház
(Guesthouse of HAS)

3 Fortuna étterem
(Fortuna Restaurant)

2 MTA Budavári Díszterem
(Buda Congress Hall of the
Hungarian Academy of Science)

4 Mátyás templom
(Matthias Church)

5 Art'otel



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