Inauguration Day Program

(August 1st, 2022)

Lay Lecture
The brain after acute stress
Marian Joels

Opening Lecture
A long research and translational arc to CGRP-based treatment of migraine
Peter Goadsby (2021 Brain Prize Laureate)

Victor Male Lecture
Pain: The descending control of itch and pain
Xiaoke Chen

Department of Biology at Stanford University, USA

Closing Day Program

(August 5th, 2022)

Neuroscience Special Lecture
Interaction of amyloid beta oligomers and α-3-GABAA receptors in locus coeruleus neuronal excitability and Alzheimer’s pathology
Jerome Swaney (University of Portsmouth, UK)

Closing Lecture
Manipulating social hierarchy in rodents: how brain circuits create collective behavior
Hailan Hu (Zhejiang University, China)

Closing Ceremony – RegPep25 announcement
RegPep24: Tuesday August 2nd, 2022

Keynote symposium 1 (KS1) Chair: Prof. Luis de Lecea

KS1-1: Tallie Z. Baram: Danette Shepard Professor of Neurological Sciences and Director, Conte Center, University of California at Irvine, CA, USA

- Adaptation of CRH stress circuitry during early life adversity
- Regulation of feeding behavior and energy homeostasis by melanocortin and agouti peptides

KS1-2: Roger Cone: Mary Sue Coleman Director & Research Professor, University of Michigan Life Sciences Institute; Vice Provost and Director, U-M Biosciences Initiative; Fellow of National Academy of Science, USA

- Neuropeptide Y as a therapeutic agent in age-related disorders: from a neurodegenerative disease to progeria

KS1-3: Claudia Cavadas: Professor and Director Institute of Interdisciplinary Research, Vice-Rector at University of Coimbra, Portugal

- Neurotrophin and neurotrophin receptor background and significance
- Still more to learn about the brain oxytocin system in the context of socio-emotional behaviour

Coffee and cookies break (Wallace & Monument rooms divided)

S1. OT and VP: Circuits and behavior

Co-chairs: Valery Grinevich, Germany
Vito Hernández, México

S1-1. Lei Xiao: Fudan University, China. Morpho-electric properties and diversity of oxytocin neurons in mouse paraventricular nucleus of hypothalamus

S1-2. Quirin Krabichler: Heidelberg University Germany. Viral tool-based mapping of inputs and outputs of hypothalamic vasopressin neurons in the rat

S1-3. Amelie Soumier: Center national de la recherche scientifique, France. 3D mapping of oxytocin and vasopressin neuronal ontogenesis in the mouse brain

S1-4 Vito S. Hernández: School of Medicine, UNAM, México. Vasopressin and stress adaptation

S1-5 Mario A. Zetter: School of Medicine, UNAM, México. Vasopressin acts as a synapse organizer in limbic regions by boosting PSD95 and GhaA1 expression.

S2. NPY-from neuropeptide to drug candidate

Chair: Esther Sabban, USA

S2-1. Esther Sabban: Professor of Biochemistry and Molecular Biology, New York Medical College; (ex)President of the Catecholamine Society USA: Preclinical studies in a PTSD model with intranasal NPY in males and females

S2-2 Contributed talk: TBA

S2-3. Peter Holzer: Professor and Dean for Doctoral Studies; Head of the Research Unit of Translational Neurogastroenterology, Medical University of Graz, Austria.

NPY in gut-brain communication

S2-4. Aleksander Mathé: Senior Professor of Psychiatry, Clinical Neuroscience, Karolinska Institutet, Stockholm Sweden: The journey of NPY for mood disorders

Coffee and cookies break (Wallace & Monument rooms divided)

S3. Peptides and the Gut

Chair: Duan Chen, Norway

S3-1. Duan Chen: Professor, Department of Clinical and Molecular Medicine Faculty of Medicine and Health Sciences, NTNU Norway: Gastrin: an unfinished chapter

S3-2. Jianwei Zhou: Professor, Nanjing Medical University China: Discovery of JWA gene and development of JWA peptide-based therapies for gastric cancer and Parkinson’s disease

S3-3 Chun-Mei Zhao: Professor, Department of Clinical and Molecular Medicine, Norwegian University of Science and Technology Norway: Repurposing peptide-based drugs for treatment of gastric cancer: a proof of concept

S3-4. Predrag Sikiric: Professor, Department of Pharmacology, School of Medicine, University of Zagreb, Croatia; Honorary Doctor of the University of Pécs, Hungary: Stable gastric pentadecapeptide BPC 157-background and significance

S4. Peptide Interactions

Chair: Greti Aguilera, Scientist Emeritus, NIH, USA

S4-1. Patrick M. Sexton: NHMRC Senior Principal Research Fellow, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Australia: Understanding the structure, ligand-binding and function of family B G Protein-coupled receptors

S4-2. Marisela Morales: Branch Chief, NIDA/NIH USA: Co-transmission and peptide action in the CNS

S4-3. Jeff Jones: Dept. Biology, Texas A&M University USA: VIP and circadian regulation in the SCN

S4-4. Annette D. de Kloet: Assistant Professor, Center for Integrative Cardiovascular and Metabolic Disease, University of Florida, USA: Angiotensin-vasopressin interactions and blood pressure regulation

S4-5. Becky Conway-Campbell: Systems Neuroendocrinology, Medical School, Uni. Bristol UK: Nefastin-AVP interactions in feeding behavior

S3 Sandwich + chips and fruit lunch and posters viewing + DB

Coffee and cookies break (Wallace & Monument rooms merged)

Theme discussion. Panelists: plenary & keynote speakers

PL3: Inga Neumann: Professor, Chair of Department of Behavioural & Molecular Neurobiology, University of Regensburg, Germany

Still more to learn about the brain oxytocin system in the context of socio-emotional behaviour
**Keynote Symposium 2 (KS2) Chair: Prof. Geert de Vries**

**KS2-1: Andries Kalsbeck:** Professor and head of the Hypothalamic Integration Mechanisms group at the Netherlands Institute for Neuroscience (NIN), The Netherlands  
- **Vasopressin neurons in the suprachiasmatic nuclei (SCN): critical signalling inside and outside the biological clock**

**KS2-2: Bice Chini:** Senior research scientist, Institute di Neuroscience, Italian National Research Council, Milan, Italy  
- **Oxytocin receptor in neurodevelopmental disorders: sex and age-dependent regional distribution and modulation**

**KS2-3: Patrik Rorsman:** Professor and Fellow of Royal Society, Radcliffe Department of Medicine, Oxford University UK  
- **Electrophysiology of islet cells – implications for metabolism and diabetes**

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**Coffee and cookies break (Wallace & Monument rooms divided)**

**S5. Neurohormone regulation of homeostasis and social behaviour**  
*Chair: Dora Zelena, Hungary*

**S5-1 Matthew Paul:** Department of Psychology, University at Buffalo SUNY, Buffalo, NY, USA: Social development and vasopressin

**S5-2 Alexa Veenema:** Professor, Neurobiology of Social Behavior Laboratory, Department of Psychology & Neuroscience Program, Michigan State University, USA: Neural circuitry of social play: involvement of oxytocin and vasopressin

**S5-3 Dora Zelena:** Professor, Department of Physiology, Medical School, University of Pécs, Hungary: Vasopressinergic influence on disturbed sociability in autism and schizophrenia

**S5-4 Abimael Gonzalez-Hernandez:** Neurobiology Institute, UNAM Mexico: The role of oxytocinergic neurotransmission in pain processing at trigeminal level

**S5-5 Andrés Quintanar-Stephano:** Professor, Universidad Autonoma de Aguascalientes, Mexico: V1a-V2 receptor blockade reverts liver damage and fibrosis in rats with protracted liver disease

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**S6. Neuropeptides as theranostics and in cancer**  
*Chair: Robert P. Millar, South Africa*

**S6-1 Robert P. Millar:** Director Centre for Neuroendocrinology, University of Pretoria, South Africa: Rescue of function in human mutant peptide GPCRs with cell permean small molecules: a more viable approach than gene therapy

**S6-2 Helene Castel:** Institute for Research and Innovation in Biomedicine (IRIB), University of Rouen Normandy, INSERM U1239: Urotensin II-based local hydrogel trap leads to immune control associated with improved survival and cognitive functions in a mouse model of glioblastoma resection

**S6-3 Corinne Bousquet:** INSERM UMR-1037, Cancer Research Center of Toulouse (CRCT) FRA: Somatostatin modulation of cancer-associated fibroblasts: normalization of tumorigenicity of pancreatic cancer

**S6-4 Mike Sathenge:** Professor of Nuclear Medicine, University of Pretoria, South Africa: Radiolabeled labeling of peptides for diagnosis and therapy of metastatic prostate cancer

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**Sandwich + chips and fruit lunch and posters viewing + DB**

**S7. Ghrelin and Catestatin-Crossing Many Barriers**  
*Chair: Patrick Sexton, Australia*

**S7-1 Mitchell Ringuet:** Dept. Anatomy and Physiology, The University of Melbourne, Victoria, Australia: Ghrelin receptor, GHSR1a: emerging evidence as a GPCR modulator

**S7-2 Ki Goosens:** Department of Psychiatry, Friedman Brain Institute, Center for Affective Neuroscience, Icahn School of Medicine at Mount Sinai, USA: The ghrelin system as a driver of heterogeneity in psychiatric disease

**S7-3 Sebastian G.B. Furness:** School of Biomedical Sciences, Faculty of Medicine, University of Queensland, Australia: GHSR1a and other peptide-ligated GPCRs involved in metabolic signaling

**S7-4 Sushil K. Mahata:** Professor, School of Medicine, UCSD, USA: Catestatin regulation of gastric emptying and gastrointestinal motility

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**S8. PACAP in Central and Peripheral Regulation**  
*Chair: Lee Eiden, USA*

**S8-1. Sarah Gray:** Northern Medical Program, Canada Research Chair in Integrative Physiology of Diabetes, University of Northern British Columbia, Canada: PACAP expression in central and peripheral neuronal networks regulating adipose tissue

**S8-2 Sunny Z. Jiang:** Section on Molecular Neuroscience, NIMH-IRP, NIH, USA: Distinct PACAPergic circuits mediate endocrine and behavioral responses to stress

**S8-3 Valentina Sabino:** Laboratory of Addictive Disorders, Department of Pharmacology and Psychiatry, Boston University School of Medicine, Boston, USA: Microcircuits in the central amygdala regulating anxiety

**S8-4 Margarita Currás-Collazo:** Department of Molecular, Cell and Systems Biology, University of California Riverside, USA: Thyroid Supplementation Reverses the Abnormal Social and Oxytocin Phenotype Produced by Developmental PBDE Exposure in a Sex-Dependent Manner

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**Coffee and cookies break (Wallace & Monument rooms merged)**

**Theme discussion. Panelists: plenary & keynote speakers**

**PL4: Masashi Yanagisawa:** Director, International Institute for Integrative Sleep Medicine, University of Tsukuba, Japan: Deciphering the mystery of sleep - from the discovery of orexin to forward genetics in mice
Keynote symposium 3 (KS-3) Chair: Prof. Javier Stern

KS3-1: Alan Watts: Professor of Biological Sciences, Physiology and Biophysics, College of Letters, Arts and Sciences, University of Southern California, USA

• Brain Neuropeptidergic Networks and the Control of Energy Balance

KS3-2: William Wisden: Professor and Chair in Molecular Neuroscience, Faculty of Natural Sciences, Department of Life Sciences, Imperial College London, UK

• Peptides and sleep-promoting circuitry

KS3-3: Francesco Ferraguti: Professor of Neuropharmacology, Head of Department of Pharmacology, Medical University of Innsbruck, Austria, President of the Austrian Neuroscience Association, Austria

• Metabotropic glutamate receptors’ role in cortical peptide expressing interneurons

Coffee and cookies break (Wallace & Monument rooms divided)

S9. Neuropeptides, stress and sex differences
Chair: Tallie Z. Baram, USA
S9-1 Joanna Dabrowska: Center for the Neurobiology of Stress Resilience and Psychiatric Disorders, Rosalind Franklin University of Medicine and Science, North Chicago, USA: It takes three to dance - neuropeptidergic modulation of the BNST activity and fear processing by oxytocin, vasopressin, and CRF
S9-2 Gil Levkovitz: Professor, Department of molecular and cellular Biology, Weizmann Institute of Science, Israel. What makes some individuals fitter than others: The developmental underpinnings of stress resilience
S9-3 Javier Stern: Distinguished University Professor, Director of Center for Neuroinflammation and Cardiometabolic Diseases, College of Arts & Sciences, Georgia State University, USA: Novel intercellular communication modalities mediated by hypothalamic neuropeptides in health and disease states
S9-4 Geert de Vries: Chair and Regents Professor, College of Arts & Sciences, Georgia State University, USA: Development and function of sex differences in the brain seen from a vasopressin and oxytocin perspective

S10. Neuropeptides and Feeding: Homeostatic and Allostatic Aspects
Chair: John Furness, Australia
S10-1. Dave Grattan: Professor, Centre for Neuroendocrinology, School of Biomedical Sciences, University of Otago, New Zealand: Modulation of complex neuronal circuits by peripherally-derived peptide hormones
S10-2. Lijun Shang: Professor of Biomedical Science at the School of Human Sciences, London Metropolitan University, UK: Exendin signaling through GLP-2 in dorsomedial hypothalamus and control of food intake
S10-3 Carolina Eschobar: Professor, Department of Anatomy, School of Medicine, UNAM, Mexico: Peptides involved in food anticipation
S10-4 Ruud Bijls: Chair of the Department of Physiology, Institute of Biomedical Research, UNAM Mexico: Suprachiasmatic nucleus-driven Vasopressin release prepares for the inactivity period

Sandwich + chips and fruit lunch and posters viewing + DB

S11. The physiology and function of hypothalamic magnocellular neurons.
Chair: David Murphy (UK)
S11-1 Andre Mecawi: Department of Biophysics, São Paulo Medical School, Federal University of São Paulo, Brazil: Molecular control of neuropeptide production and secretion by magnocellular neurons
S11-2 Tom Cunningham: Interim Chair and Regents Professor, Physiology & Anatomy, The University of North Texas Health Science Center at Fort Worth, USA: Sex Differences in Neurohypophyseal Hormone Release in a Model of Dilutional Hyponatremia
S11-3 Ryoshi Teruyama: Department of Biological Sciences, Louisiana State University, Louisiana, USA, Sexually Dimorphic Expression of Oxytocin Receptors in the CNS
S11-4 Soledad Bárez-López: Bristol Medical School, University of Bristol, UK: Imaging the Hypothalamo-Neurohypophysial System

S12. Novel Neuropeptides and Behavior
Chair: Árpád Dobolyi, Hungary
S12-1 Arpad Dobolyi: Professor, Head of the Department of Physiology and Neurobiology, Eötvös Loránd University, Budapest, Hungary Head of the Laboratory of Molecular and Systems Neurobiology, Hungarian Academy of Sciences: Tuberin/fundibular peptide 39 pathways control aggressive behavior.
S12-2 Tim Viney: Department of Pharmacology, University of Oxford, UK: Neuropeptides and rhythmic neuronal firing in brain networks (tentative)
S12-3 Chun-Xia Yi: Principal Investigator, Amsterdam University Medical Centre, Location AMC, Department of Endocrinology and Metabolism, The Netherlands: Regulatory peptides and microglial immunometabolism in hypothalamic regulation of feeding behavior (tentative)
S12-4 Luís de Leca: Professor of Psychiatry and Behavioral Sciences, Stanford University, USA: Neuropeptide S: Five neuronal clusters, one function?

Coffee and cookies break (Wallace & Monument rooms merged)

Theme discussion. Panelists: plenary & keynote speakers

PL5: Jens F. Rehfeld, Professor of Clinical Biochemistry, University of Copenhagen, Denmark
The never-ending story of CCK