Inaugural Ceremony
Cottrell Lecture Theatre
Welcome (15:00-15:15)
Research and public health: The university and the world
Malcolm MacLeod
Senior Deputy Principal, University of Stirling

Inaugural Plenary Lecture (15:15-16:00)
Peptidergic regulation of glucagon secretion: implication for diabetes pathophysiology and therapy
Patrik Rorsman
Radcliffe Department of Medicine, Oxford University, UK

Musical Interlude (16:00-16:15)
Victor Mutt Lecture (16:15-17:00)
Peptidergic descending control of pain
Xiaoke Chen
Department of Biology, Stanford University, CA, USA

Musical Interlude (17:00-17:15)
Lay Lecture (17:15-18:00)
The brain after acute stress
Marian Joëls
Faculty of Medical Sciences, Groningen, The Netherlands

Musical Postlude (18:00-18:15)
Welcome Reception and Dinner (18:30-21:30)
Abbeycraig Hall
Keynote symposium 1 (KS1: 08:00-10:00): Chair: Luis de Lecea, USA. Room: Wallace Monument
KS1-1: Tallie Z. Baram, University of California at Irvine, CA, USA:
   - Plasticity of the CRH stress circuitry to early-life adversity
KS1-2: Limei Zhang, National Autonomous University of Mexico, Mexico
   - Placing neuropeptide signaling within glutamate/GABA contexts: extrahypothalamic synapses of magnocellular vasopressin neurons and their connections to behavioral circuits
KS1-3: Duan Chen, Norwegian University of Science and Technology, Norway
   - Peptides and the gut: the unfinished story of gastrin

Coffee and cookies break (10:00-10:30)

Symposium 1: ISN sponsored young investigator symposium: Oxytocin and Vasopressin: Circuits and Behavior
Chair by Vito S. Hernandez, México
10:30-12:30: Room: Wallace
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: A novel transgenic arginine vasopressin (AVP)-IRE2-Cre rat line: Characterization, mapping of connectivity, and recording of neuronal activity
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: Oscar R. Hernández-Pérez, CIATEJ, Jalisco, México. Differential activation of arginine-vasopressin receptor subtypes in distinct amygdaloid subdivisions modulating emotional responses in the rat by arginine-vasopressin
S1-5 Mario Zetter, School of Medicine, National Autonomous University of México: Vasopressin acts as a synapse organizer in limbic regions by boosting PSD95 and GluA1 expression

Box lunch and posters viewing + DB supported by IBRO+JNE (12:30-13:30) (Room Silver Glen)

Symposium 2.
Critical Pathways for Peptide-based Drug Development: Recent Progress
Chair by: Esther Sabban, USA
10:30-12:30: Room Erskine Fintry
S2-1 Esther Sabban, New York Medical College; USA: Preclinical studies in a PTSD model with intranasal NPY in males and females
S2-2 Youssef Anouar, INSERM U1239 & Normandy University Rouen, France: The antioxidant selenoprotein T mimetic, PSELT, exerts a potent neuroprotective effect in PD after intranasal administration
S2-3 Peter Holzer, Otto Loewi Research Centre, Medical University of Graz, Austria: NPY in gut-brain communication
S2-4. Chun-Mei Zhao, 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

Coffee and cookies break (Wallace & Monument rooms merged) (15:30-16:00)

Symposium 3.
Novel Aspects of Neuropeptides and Behaviour
Chair by: Arpad Dobolyi, Hungary
13:30-15:30: Room: Wallace
S3-1. 1 Arpad Dobolyi, Department of Physiology and Neurobiology, Eotvos Lorand University, Budapest, Hungary: A new peptidergic thalamo-preoptic pathway promoting positive valence physical contact
S3-2 Tim Viney, Department of Pharmacology, University of Oxford, UK: Neuropeptides and rhythmic neuronal firing in brain networks
S3-3 Chun-Xia Yi, Amsterdam University Medical Centre, Department of Endocrinology and Metabolism, The Netherlands: Regulatory peptides and microglial immunometabolism in hypothalamic regulation of feeding behaviour
S3-4 Kristof Laszlo, Neuroscience Center, University of Pécs, Hungary: Intramygdaloid oxytocin reduces anxiety in valproate induced autism rat model

Symposium 4.
Peptide Interactions
Chair by: Greti Aguilera, USA
13:30-15:30: Room Erskine Fintry
S4-1. Marisela Morales, NIDA/NIH, USA: Fast and slow co-transmission and their role in reward and cocaine-seeking behavior
S4-2. Annette D. de Kloet, University of Florida, USA: Angiotensin-vasopressin interactions and blood pressure regulation
S4-3 Jeff Jones, Texas A&M University, USA: Circadian neurons in the paraventricular nucleus entrain and sustain daily rhythms in glucocorticoids
S4-4. Becky Conway-Campbell, Medical School, University of Bristol, UK: Phase-shifting the circadian glucocorticoid profile induces disordered feeding behavior by dysregulating hypothalamic neuropeptide gene expression.

Theme discussion. Panelists: plenary & keynote speakers. (16:00-17:00)

Chen Institute Plenary Lecture (17:00-18:00): Room: Wallace Monument
Inga Neumann, University of Regensburg, Germany:
Still more to learn about the brain oxytocin system in the context of socio-emotional behaviour

Free evening
Keynote Symposium 2 (KS2: 08:00-10:00): Chair: Geert de Vries, USA, Room: Wallace Monument

KS2-1: Andries Kalsbeek, 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, CNR Neuroscience Institute, Vedano al Lambro, Italy.
• Oxytocin receptor in neurodevelopmental disorders: sex and age-dependent regional distribution and modulation

KS2-3: Patrick Sexton, Monash University, Australia
• Understanding the structure, ligand-binding and function of family B G Protein-coupled receptors

Coffee and cookies break (10:00-10:30)

Symposium 5
Neuropeptides and Regulation of Homeostasis and Allostasis
Chair: Robert Millar, South Africa
10:30-12:30: Room: Wallace

S5-1 Dave Grattan, University of Otago, New Zealand: Modulation of complex neuronal circuits by peripherally-derived peptide hormones

S5-2 Aras Petruleis, Georgia State University, USA: Sexually differentiated vasopressin pathways: connective architecture and role in social behavior

S5-3 Carolina Escobar, School of Medicine, UNAM, Mexico: Peptides involved in food anticipation

S5-4 Ruud Buiks, Institute of Biomedical Research, UNAM, Mexico: Suprachiasmatic nucleus-driven vasopressin release prepares for the inactivity period

Box lunch and posters viewing + DB supported by IBRO+JNE (12:30-13:30) (Room Silver Glen)

Symposium 6
Ghrelin and Related Peptides: Crossing Many Barriers
Chair: Patrick Sexton, Australia
10:30-12:30: Room Erskine Fintry

S6-1 Mitchell Ringuet, The University of Melbourne, Australia: Ghrelin receptor, GHSR1a: emerging evidence as a GPCR modulator

S6-2 Ki Goossens, Icahn School of Medicine at Mount Sinai, USA: The ghrelin system as a driver of heterogeneity in psychiatric disease

S6-3 Sebastian G.B. Furness, Faculty of Medicine, University of Queensland, Australia: The physiological role for modulation of transducer coupling at GHSR1a and other peptide-ligated GPCRs

S6-4 Sarah Melzer Medical University of Vienna. Neuropeptidergic modulation of fear memories in the auditory cortex

Coffee and cookies break (Wallace & Monument rooms merged) (15:30-16:00)

Symposium 7
The physiology and function of hypothalamic magnocellular neurons
Chair: David Murphy, UK
13:30-15:30: Room: Wallace

S7-1 André Mecawi, Federal University of São Paulo, Brazil: Dissecting the molecular profile of the hypothalamic magnocellular neurons: a MultiOMIC journey

S7-2 Tom Cunningham, The University of North Texas Health Science Center at Fort Worth, USA: Sex Differences in Neurohypophysial Hormone Release in a Model of Dilutal Hypotremia

S7-3 Ryoichi Teruyama, Louisiana State University, Louisiana, USA: Sexually Dimorphic Expression of Oxytocin Receptors in the CNS

S7-4 Soledad Bárez-López, Medical School, University of Bristol, UK: Shining light into the role of a non-visual opsin in the supraoptic nucleus

Symposium 8
PACAP and related peptides in central and peripheral regulation of stress responses
Chair: Lee Eiden, USA
13:30-15:30: Room Erskine Fintry

S8-1 Sarah Gray, University of Northern British Columbia, Canada: PACAP expression in central and peripheral neuronal networks regulating adipose tissue

S8-2 Sunny Z. Jiang, NIMH-IRP, NIH, USA: Prefrontal cortico-hypothalamic and parabrachio-extended amygdalar PACAPergic projections separately control HPA and food intake responses to psychogenic stress

S8-3 Arun Anantharam, University of Toledo, USA: PACAP and acetylcholine regulate distinct calcium responses and secretory outputs in chromaffin cells

S8-4 Vito S. Hernandez, UNAM, Mexico: PACAP co-expression in GABAergic or glutamatergic circuits and its relevance for behavioural adaptation

Theme discussion. Panelists: plenary & keynote speakers (16:00-17:00)

Plenary Lecture (17:00-18:00): Room: Wallace Monument
Luis de Lecea, Stanford University, USA
Neuropeptide S: Five neuronal clusters, one function?

Free evening
Keynote symposium 3 (KS-3: 08:00-10:00) Chair: Javier Stern, USA

KS3-1: Alan Watts: University of Southern California, USA
• Brain neuropeptidergic networks and the control of energy balance

KS3-2: William Wisden: Imperial College London, UK
• Peptides and sleep-promoting circuitry

KS3-3: Francesco Ferraguti: Department of Pharmacology, Medical University of Innsbruck, Austria
• Metabotropic glutamate receptors’ role in cortical peptide-expressing interneurons

Coffee and cookies break (10:00-10:30)

Symposium 9
Neuropeptides, stress and sex differences
Chair: Tallie Z. Baram, USA
10:30-12:30: Room: Wallace

S9-1 Joanna Dabrowska, Rosalind Franklin University of Medicine and Science, USA: It takes three to dance - neuropeptidergic modulation of the BNST activity and fear processing by oxytocin, vasopressin, and CRF

S9-2 Gil Levkowitz, Weizmann Institute of Science, Israel. What makes some individuals fitter than others: The developmental underpinnings of stress resilience

S9-3 Javier Stern, Georgia State University, USA: Novel intercellular communication modalities mediated by hypothalamic neuropeptides in health and disease states

S9-4 Geert de Vries, Georgia State University, USA: Development and function of sex differences in the brain seen from a vasopressin and oxytocin perspective

Symposium 10
Vasopressinergic regulation of social behavior
Chair: Dora Zelena, Hungary
10:30-12:30: Room: Erskine Fintry

S10-1 Matthew Paul, University at Buffalo SUNY, Buffalo, NY, USA: Social Development and Vasopressin: Investigations into the atypical social behavior of Brattleboro rats

S10-2 Alexa Veenema, Michigan State University, USA: Neural circuitry of social play: involvement of oxytocin and vasopressin

S10-3 Dora Zelena, University of Pécs, Hungary: Vasopressinergic influence on disturbed sociability in autism and schizophrenia

S10-4 Abimael Gonzalez-Hernandez, Neurobiology Institute, UNAM, Mexico: The role of oxytocinergic neurotransmission in pain processing at trigeminal level

JNE publication workshop (12:30-13:30) (Room Silver Glen)

Symposium 11
Molecular and structural biology of neuropeptides at their cognate GPCRs
Chair: John Furness, Australia (13:30-14:30)
13:30-14:30: Room: Wallace

S11-1 Robert P. Millar, University of Pretoria, South Africa: Rescue of function in human mutant peptide GPCRs with cell permeant small molecules: a more viable approach than gene therapy

S11-2 Helene Castel, 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

Symposium 12
Neurohypophysial hormone regulation in pathophysiological states
Chair: Quentin Pittman, Canada
13:30-14:30: Room: Wallace

S12-1 Andrés Quintanar-Stephano, Universidad Autonoma de Aguascalientes, Mexico: Vasopressin deficiency and V1a-V2 receptors blockade revert liver damage and fibrosis in rats with protracted liver disease: A new therapeutic approach?

S12-2 Margarita Currás-Collazo, University of California Riverside, USA: Maternal T4 supplementation normalizes deficient social behavior and reduced hypothalamic oxytocin content produced by perinatal exposure to PBDE

Visit to Stirling Castle (14:30-18:30)

Conference dinner (19:00-23:00)
River House
IRPS General Assembly (09:00-10:00)
Cottrell Lecture Theatre

IBRO Neuroscience Special Lecture (10:00-10:45)
Cottrell Lecture Theatre

Interaction of amyloid beta oligomers and alpha3-\(\text{GABA}_A\) receptors in locus coeruleus neuronal excitability and Alzheimer’s pathology

Jerome Swinny
University of Portsmouth, UK

Closing Lecture (10:45-11:30)

A long research and translational arc to CGRP-based treatment of migraine

Peter Goadsby
2021 Brain Prize Laureate
King’s College London, UK

Closing Ceremony (11:30-12:00)

Group Photo at Stirling University Campus