



# *RegPep25* *Scientific Program*

*American University, Washington D.C.*  
*June 23-27, 2025*

*25<sup>th</sup> International Symposium on Regulatory Peptides*

*Photo: Sandra González*





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# Program Organizing Committee (POC) IRPS Executive Committee RegPep25

## **Meeting organizers:**

### **Colin Saldanha**

Director, Center of Neuroscience and Behavior  
(CNB) American University, Washington D. C., USA

**Limei Zhang**, IRPS President

**Lee Eiden**, IRPS Treasurer

**Vito Hernández**, IRPS Secretary

**Terry Davidson**,

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Ki Goosens (USA)

Dave Grattan (New Zealand)

Marisela Morales (USA)

Bill Wisden (UK)

Patricia Joseph-Bravo (Mexico)

**International  
Regulatory  
Peptide Society  
Incorporated**

Bethesda, MD, 20814

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[regpep.org](http://regpep.org)



**Journal of Neuroendocrinology**



**Pre-RegPep25 special event**  
**Five Generations of Research Celebrating 50 years of RegPep**  
**Constitution Hall, AU**

Discussion leader: **Greti Aguilera and Ruud Buijs**

- 08:00 – 08:45 **Dick Swaab** (Netherlands Institute for Neuroscience, KNAW, Amsterdam, The Netherlands, IRPS DM)  
“Neuropeptide pioneers”
- 08:45 – 09:30 **John Furness** (University of Melbourne, Australia, IRPS DM)  
“Gut peptides from the beginning and looking to the future”
- 09:30 – 10:30 **RegPep pioneers roundtable**: panelists TBC.
- 10:00 – 12:00 **RegPep young investigator symposium (YIS)**  
Co-Chairs: **Alan Kania** (Germany) & **Rebeca Mendez** (USA/Mexico)  
**YIS1:** **Lei Xiao** (Fudan University, China)  
“Diversity and complexity of the hypothalamic oxytocinergic system in neurons, circuits and functions”  
**YIS2:** **Alan Kania** (University of Heidelberg, Germany)  
“Oxytocin signaling in the nucleus incertus: implications for trans-ventricular brain state modulation”  
**YIS3:** **Rebeca Mendez** (U. Penn, Philadelphia, USA & Mexico)  
“Circadian regulation of vagal glucose sensing and insulin secretion by the CART”  
**YIS4:** **Luis Paiva** (Pontific Catholic University of Chile, Chile)  
“Nerve growth factor (NGF) as a modulator of reproductive and neuroendocrine peptides”  
**YIS4:** **Aleksandra Trenk** (Jagiellonian University, Krakow, Poland)  
“Divergent neuromodulatory roles of relaxin-3 and oxytocin in the ventral dentate gyrus”  
**YIS5:** **Mario Zetter** (UNAM/LaSalle University, Mexico)  
“Adult neurogenesis and migration in magnocellular AVP system”

**RegPep25 Inaugural Ceremony**

**Constitution Hall, American University**

- 14:00 - 14:15 Welcome from the AU-CNB and introduction of RegPep25 by the Co-Chairs
- 14:00 - 15:00 **PL1:** Inaugural Plenary Lecture 1: **Michael Greenberg** (Harvard University, USA)  
2023 Brain Prize Laureate  
Introduced by **Lee Eiden** (RegPep25 Co-Chair)  
“Sensory experience-dependent regulation of neuropeptides in learning and memory”
- 15:00 - 15:15 Interlude 1
- 15:15 - 16:00 **PL2:** Inaugural Plenary Lecture 2: **Zhou-Feng Chen** (Shenzhen Bay Laboratory, China)  
Introduced by **Luis de Lecea** (IRPS DM)  
“Neuropeptide coding of itch, pain and touch”
- 16:00 - 16:15 Interlude 2
- 16:15 - 17:00 **PL3:** Lay lecture: **Colin Saldanha** (Director, Center for Neuroscience and Behavior, AU, USA)  
Introduced by **Limei Zhang** (RegPep25 Co-Chair)  
“A day in the life: Peptides and the integration of biological function”

- 17:00 - 21:00 **Welcome Reception & Poster Presentation**  
**Mary Graydon Center, AU**

Tuesday, June 24, 2025

- 7:00 - 8:00 Breakfast (buffet), Terrace Dining Room

| Room A (Scientific session SS)   | Room B (Scientific session SS)  |
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| <b>SS1: Relaxin Family Peptides: From Brain Circuits to Therapeutic Frontiers</b><br><br>Chair: <b>Juan Marugan</b> (NCATS, NIH, USA)<br><br>08:00 - 08:05 Introduction<br><br>08:05 - 08:30 <b>Akhter Hossain</b> (Melbourne, Australia)<br>"RXFP4 and INSL5, physiological roles and therapeutic implications"<br><br>08:30 - 08:55 <b>Irina AgoulNIK</b> (Florida, USA)<br>"INSL3 and its receptor RXFP2"<br><br>08:55 - 09:20 <b>Francisco Olucha-Bordonau</b> (Castellón, Spain)<br>"Connectivity of relaxin-3 projections related to cognitive and emotional processes"<br><br>09:20 - 09:45 <b>Ross Bathgate</b> (Australia)<br>"Therapeutic targeting of the relaxin receptor, RXFP1"<br><br>09:45 - 09:50 General discussion/conclusion | <b>SS2: Neuropeptidergic Control of Reproduction and Beyond: Insights from Kisspeptin and Oxytocin Circuits</b><br><br>Chair: <b>Mike Lehman</b> (USA)<br><br>08:00 - 08:05 Introduction<br><br>08:05 - 08:30 <b>Martin Kelly</b> (Oregon, USA)<br>"The Role of Hypothalamic Arcuate Kisspeptin Neurons as the Gatekeepers of Fertility"<br><br>08:30 - 08:55 <b>Michael Lehman</b> (Ohio, USA)<br>"KNDy neurons of the hypothalamus: an update of their roles in health and disease"<br><br>08:55 - 09:20 <b>Vito Hernandez</b> (UNAM, Mexico)<br>"Kisspeptin Signaling Beyond Reproduction: Chemoanatomical Characterization and Functional Insights"<br><br>09:20 - 09:45 <b>Ryoichi Teruyama</b> (Louisiana State Univ, Baton Rouge, USA)<br>"Sexually dimorphic oxytocin system in the CNS"<br><br>09:45 - 09:50 General discussion/conclusion |

### Short break

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| <b>SS3: Neuropeptides and Social Motivation: Circuits Shaping Sex Behavior, and Choice</b><br><br>Chair: <b>David Keller</b> (Germany)<br><br>10:00 - 10:05 Introduction<br><br>10:05 - 10:30 <b>Aras Petrulis</b> (GSU, USA)<br>"Vasopressin in the lateral septum drives sex-specific social interest"<br><br>10:30 - 10:55 <b>Mario Gil</b> (Texas, USA)<br>"Social and Sexual Behaviors Regulated by AVP and OT in Rodent Forebrain and Midbrain"<br><br>10:55 - 11:20 <b>David Keller</b> (University of Cologne, Germany)<br>"Complementary roles of neurotensin and somatostatin cells in the lateral septum in regulating sex-dependent social interactions and feeding behavior"<br><br>11:20 - 11:45 <b>Ki Goosens</b> (Icahn School of Medicine at Mount Sinai, USA)<br>"Regulation of complex decision-making by ghrelin"<br><br>11:45 - 11:50 General discussion/conclusion | <b>SS4: Neuropeptides and Emotional Brain States: From Circuit Salience to Synaptic Precision</b><br><br>Chair: <b>Francesco Ferraguti</b> (Austria/Italy)<br><br>10:00 - 10:05 Introduction<br><br>10:05 - 10:30 <b>Norbert Hajos</b> (IN, USA)<br>"VIP-containing midbrain input to central amygdala controls contextual fear memory formation"<br><br>10:30 - 10:55 <b>Claudia Schmuckermair</b> (U. Innsbruck, Austria)<br>"Control of salience detection by VIPergic insular interneurons: implications for anxiety in Autism Spectrum Disorders"<br><br>10:55 - 11:20 <b>Limei Zhang</b> (UNAM, Mexico)<br>Neuropeptide in fast synaptic transmission: molecular and ultrastructural features of subcortical peptidergic synapse<br><br>11:20 - 11:45 <b>Anna Blasiak</b> (Jagiellonian University, Krakow, Poland)<br>"Interplay of relaxin-3 and oxytocin systems in shaping ventral hippocampus neuronal activity - possible involvement in anxiety control in rat and human"<br><br>11:45 - 11:50 General discussion/conclusion |
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- 12:00 - 13:00 Lunch (buffet), Terrace Dining Room

- 13:00 – 13:45 **PL4: Dayu Lin** (New York University, USA) introduced by **Dave Grattan**  
"The neural mechanisms underlying the rise and fall of maternal aggression"

### Short break

- 14:00 – 16:00 **KS1: Keynote symposium 1.** Chair: **Limei Zhang** (IRPS President)  
**Wilson Campton** (Deputy director of NIDA, NIH, USA)  
"Harnessing GLP-1 agonists to understand and treat addictions"  
**William Wisden** (Imperial College, London, UK)  
"The impact of molecular neurobiology on modern neuroendocrinology"  
**Luis de Lecea** (Stanford School of Medicine, USA)  
"Neuropeptides and control of behavioral states"

### Short break

- 16:10 – 17:30 **Workshop on translational aspects of peptide GPCRs.** Chair: **Bob Millar**  
**Bob Millar** (University of Pretoria, South Africa)  
"Rescue of mutant peptide GPCRs in the HPG axis with small molecules: a more viable therapy than gene editing"  
**Terry Moody** (NIH, USA)  
"Leveraging receptor visualization to cancer treatment: bombesin and theragnostics"  
**Mary Lee** (VA, Washington DC, USA)  
"GLP-1R agonists and sodium glucose transport inhibitors in treatment of dementia"



Wednesday, June 25, 2025

- 7:00 - 8:00 Breakfast (buffet), Terrace Dining Room

| Room A (Scientific session SS)   | Room B (Scientific session SS)   |
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| <b>SS5: Peptides Involved in Energy Regulation</b><br><br>Chair: <b>Jean-Louis Charli</b> (Mexico)<br><br>08:00 - 08:05 Introduction<br><br>08:05 - 08:30 <b>Jean-Louis Charli</b> (UNAM, Mexico)<br>"The TRH degrading ectopeptidase and energy homeostasis"<br><br>08:30 - 08:55 <b>Patricia Joseph-Bravo</b> (UNAM, Mexico)<br>"Sex-dependent regulation of TRH and thyroid axis by food, cold, exercise and stress-related energy demands"<br><br>08:55 - 09:20 <b>Margarita Curras-Collazo</b> (UC Riverside, USA)<br>"CCK-AR-expressing Vagal Sensory Afferents of the Gut-Brain Axis Contribute to Pro-inflammatory IL-6 Response to LPS"<br><br>09:20 - 09:45 <b>Lucila K. Elias</b> (Uni. Sao Paulo, Ribeiro Preto, Brazil)<br>"Neuroendocrine regulation of energy homeostasis"<br><br>09:45 - 09:50 General discussion/conclusion | <b>SS6: Neuropeptidergic Integration of Emotion, Fear, and Social Behavior</b><br><br>Chair: <b>Joanna Dabrowska</b> (USA)<br><br>08:00 - 08:05 Introduction<br><br>08:05 - 08:30 <b>Hala Harony-Nicolas</b> (Mount Sinai, New York City, USA)<br>"Brain circuits of social behavior with a focus on social recognition memory and the role of oxytocin on neuronal activity and behavior"<br><br>08:30 - 08:55 <b>Eric G. Krause</b> (Georgia State University, USA)<br>"The integration of interoceptive signals and behavioral responses via oxytocin receptors"<br><br>08:55 - 09:20 <b>Zhihua Gao</b> (Zhejiang University, China)<br>"The role of oxytocin in emotional control"<br><br>09:20 - 09:45 <b>Joanna Dabrowska</b> (Rosalind Franklin Univ., USA)<br>"Vasopressin and oxytocin integrate interoceptive signals and fear memory in extended amygdala"<br><br>09:45 - 09:50 General discussion/conclusion |

### Short break

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| <b>SS7: Neuropeptides and Hormonal Networks in Cardiovascular and Renal Function</b><br><br>Chair: <b>Teresa Morales</b> (UNAM, Mexico)<br><br>10:00 - 10:05 Introduction<br><br>10:05 - 10:30 <b>Eric Lazartigues</b> (Louisiana, USA)<br>"miRNA targeting for the renin-angiotensin system"<br><br>10:30 - 10:55 <b>Paul Marvar</b> (Washington DC, USA)<br>"The Brain Angiotensin System: Connecting Cognition, Stress, and Cardiovascular Disease"<br><br>10:55 - 11:20 <b>Andrea Godino</b> (Argentina)<br>"Early life programming of osmoregulatory responses-emphasis on the vasopressin-angiotensin system"<br><br>11:20 - 11:45 <b>Teresa Morales</b> (Mexico)<br>"Prolactin Dysregulation in a Mice Model of Kidney Disease"<br><br>11:45 - 11:50 General discussion/conclusion | <b>SS8: Neuropeptides and the Architecture of Sleep: Circuits, Clocks, and Cognitive Health</b><br><br>Chair: <b>Bill Wisden</b> (Imperial College, London, UK)<br><br>10:00 - 10:05 Introduction<br><br>10:05 - 10:30 <b>Ruud Buijs</b> (UNAM, Mexico)<br>"Vasopressin as neurotransmitter of the biological clock signals the rest period in physiology and activity"<br><br>10:30 - 10:55 <b>Kyoko Tossell</b> (Imperial College, London, UK)<br>"Role of prefrontal cortex somatostatin neurons directing top-down control of sleep preparatory behavior and sleep"<br><br>10:55 - 11:20 <b>Jason Rihel</b> (UCL, UK)<br>"Zebrafish as a model system to study role of galanin in regulating sleep homeostasis".<br><br>11:20 - 11:45 <b>Sara Calafate</b> (Portugal)<br>"Early alterations in the MCH system link aberrant neuronal activity and sleep disturbances in a mouse model of AD"<br><br>11:45 - 11:50 General discussion/conclusion |
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- 12:00 - 13:00 Lunch (buffet), Terrace Dining Room

- 13:00 – 13:45 **PL5: Scott Kanoski** (USC, USA Viktor Mutt Lecturer) Introduced by Terry Davidson  
Presenter: Terry Davison (USA)  
"Peptide control of energy balance"

### Short break

- 14:00 – 16:00 **KS1: Keynote symposium 1** Chair: **Colin Saldanha** (Director, CNB, AU)  
**Rae Silver** (Columbia University, USA)  
"Circadian rhythms and the portal pathways of circumventricular organs"  
**Susan Wray** (NIH, USA)  
"LHRH Secretion: Why so many modulators?"  
**David Grattan** (Otago University, New Zealand)  
"What Prolactin teaches us about the evolution of peptide physiology "

### Short break

**16:15 – 17:00 Round table: Peer Review & Scientific Publication:  
An Open Discussion  
(Co-Chaired: Tom Cunningham & Lee Eiden)**

Free evening (Speakers gathering and young investigators gathering)



Thursday, June 26, 2025

- 7:00 - 8:00 Breakfast (buffet), Terrace Dining Room

Room A (Scientific session SS)

**SS9: Control of peptides regulating appetitive drives and energy homeostasis**

Chair: **Andras H. Leko** (Hungary)

08:00 - 08:05 Introduction

08:05 - 08:30 **Denise Belsham** (UT, Canada)  
"Neuropeptide regulation by hypothalamic microRNAs"

08:30 - 08:55 **Maria Garcia-Robles** (University of Concepción, Chile)  
"Neurobiology of Glia-Neuron Interactions in the Hypothalamus: Diets, Feeding Behavior, and Neurogenesis"

08:55 - 09:20 **Andras Leko** (Semmelweis Univ., Hungary)  
"Sexually dimorphic effects of GHSR in diet-induced obesity"

09:20 - 09:45 **John Furness** (Florey Institute, Australia)  
"Roles of the ghrelin receptor: investigation of its mechanism in reversing agonist action at the D2 dopamine receptor"

09:45 - 09:50 General discussion/conclusion

Room A (Scientific session SS)

**SS10: PACAP signaling across systems: from stress circuits to metabolic control**

Co-Chair: **Jessica Barsson & Lee Eiden** (USA)

08:00 - 08:05 Introduction

08:05 - 08:30 **Arun Anantharaman** (University of Toledo, USA)  
"Mechanisms for PACAP-induced depolarization leading to chromaffin cell secretion"

08:30 - 08:55 **Sarah Gray** (Univ. Northern British Columbia, Canada)  
"PACAP in peripheral ganglia and role in the regulation of metabolism"

08:55 - 09:20 **Jessica Barson** (Drexel University, USA)  
"PACAP in the paraventricular nucleus of the thalamus: Relationship with ethanol drinking and dependence"

09:20 - 09:45 **Sunny Jiang** (NIMH, USA)  
"Novel prefrontal cortico-hypothalamic PACAPergic projection modulates CRH neurons in PVN"

09:45 - 09:50 General discussion/conclusion

Short break

**SS11: PTH2 and Catestatin: Novel peptidergic modulators of brain and behavior**

Chairs: **Arpad Dobolyi** (Hungary)

10:00 - 10:05 Introduction

10:05 - 10:30 **Gina Puska** (Univ. Veterinary Medicine, Hungary)  
"PTH2 (TIP39) plays a role in the control of maternal behavior"

10:30 - 10:55 **Lukas Anneser** (Friedrich Miescher Inst. for Biomed. Research., Switzerland)  
"There are other fish in the sea: Social density encoding by the neuropeptide PTH2"

10:55 - 11:20 **Arpad Dobolyi** (Eotvos Lorand Univ., Hungary)  
"Single nucleus sequencing of the human arcuate nucleus: insights into the role of PTH2 in prolactin secretion"

11:20 - 11:45 **Sushil Mahata** (UCSD, USA)  
"Chromogranin A deficiency and catestatin supplementation improve tauopathy and cognitive functions in PS19 Mice"

11:45 - 12:00 General discussion/conclusion

**SS12: Neuropeptides in mood disorders: mechanisms linking emotion, sex, and brain state**

Chair: **Tom Cunningham** (USA)

10:00 - 10:05 Introduction

10:05 - 10:30 **Tom Cunningham** (Texas A&M, USA)  
"Sex Differences in Vasopressin in an animal model of hyponatremia"

10:30 - 10:55 **Jing Lu** (University of Zhejiang, China)  
"Hypocretin & receptor regulate neuroplasticity and cognitive function in depressed model"

10:55 - 11:20 **Hiroe Hu** (NIH, USA)  
"Arginine vasopressin and mood disorders"

11:20 - 11:45 **Aimin Bao** (Zhejiang University, China)  
"The role of oxytocin in bipolar disorder: from animal model to postmortem human brain"

11:45 - 12:00 General discussion/conclusion

- 12:00 - 13:00 Lunch (buffet), Terrace Dining Room

- 13:00 - 13:45 **PL6: Vincent Prevot** (INSERM, France) Introduced by **Ruud Buijs**  
"A role for GnRH in the control of cognition... and more?"

Visit to the **Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center**, Chantilly, Virginia

Conference dinner (19:00-23:00)



## Founders Room School of International Service AU

- 08:00-8:45 SL1 Neuroscience Special Lecture sponsored by JNE/BSN

**Xiao-Ke Chen** (Stanford University, USA)

Introduced by **Francesco Ferraguti** (Innsbruck, Austria)

“Descending peptidergic control of chronic mechanical pain”

## IRPS General Assembly (09:00-10:00)

- 10:00-10:45 SL-2 Neuroscience Special Lecture sponsored by IBRO

**Hugo Tejada** (NIMH-IRP, NIH, USA)

Presenter: **Susan Wray** (NIH, USA)

“Prefrontal cortical neuropeptidergic control of threat processing and circuit function”

### Closing Lecture (10:45-11:30)

**Dick Swaab**

(Netherlands Institute for Neuroscience, KNAW, Amsterdam, The Netherlands)

Presenter: **Ruud Buijs** (UNAM, Mexico)

“Dead brains tell lively stories”

**Farewell lunch and group photo**

