Program
Dear Colleagues,

On behalf of the International Regulatory Peptide Society, the International Neuropeptide Society/Society for Biologically Active Peptides, the Summer Neuropeptide Conferences, the European Neuropeptide Club and the Groupe Français des Peptides et des Protéines, we would like to invite you to Rouen (Normandy, France) from July 12\textsuperscript{th} to 14\textsuperscript{th}, 2016 to participate to the RegPep2016. The venue of the RegPep2016 will be the Law Faculty, a beautiful new building located in downtown Rouen, on the bank of the Seine River, within walking distance from the Place du Vieux-Marché (where Joan of Arc was burnt alive in 1431) and the famous Cathedral, painted by Claude Monet.

An International Scientific Program Committee has evaluated the Symposium proposals that we have collected and has established and exciting program that will favor translational research. Sessions will thus address both basic and clinical issues. Participation of clinicians and private companies is encouraged. Basic research will also be well represented with some sessions addressing for instance evolutionary aspects. Coming to RegPep2016, you will be able to learn about the most recent advances on peptides that regulate cell, tissue or organ functions in physiological or pathological conditions.

The scientific program will comprise a Lay-public Conference, 3 Plenary Lectures, 20 Symposia with 80 State-of-the-Art Lectures, 32 Free Oral Communications selected from the abstracts, 12 Communications from Young Investigators and 2 Poster Sessions. The social events, included in the registration fee of all participants and accompanying persons, will comprise a get-together party on Tuesday July 12\textsuperscript{th}, a visit of Rouen Museums (this summer, Rouen will accommodate a unique Impressionism festival) and a Banquet Dinner on Wednesday July 13\textsuperscript{th}, and a visit of Rouen plus a firework display on the Seine River on Thursday July 14\textsuperscript{th}. Travel awards for young investigators (graduate students and postdoctoral fellows) will be available. Some satellite meetings will be organized before the RegPep2016 (July 11\textsuperscript{th}) and an optional excursion to Etretat will be proposed after the meeting (July 15\textsuperscript{th}). We very much hope that you will be able to join us for this major international meeting on bioactive peptides in Rouen in 2016. At this meeting, you will also meet old friends and colleagues, and initiate new relationships with others working in fields similar to your own.

In the meantime, if there is anything that we can do to help you attend the Congress; please do not hesitate to contact us directly at david.vaudry@univ-rouen.fr.

David Vaudry

Chairman, Local Organizing Committee
Please find website link for the program here.
List of Plenary Lectures

**July 12th AM – 08:45 - 09:45**
1. Jens Rehfeld (University of Copenhagen): ‘CCK – from local gut hormone to ubiquitous messenger system’

**July 14th AM – 08:45 - 09:45**
2. To be announced

**July 14th PM – 15:30 - 16:30**
1. To be announced

List of Symposia

**July 12th AM – 10:15 - 12:15**
1. New insights on neuropeptides in obesity and metabolic disorders
2. Cardiovascular peptide hormone GPCRs: new insights into ligand-receptor interactions and implications for drug discovery
3. Evolution of neuropeptides
4. Peptidergic regulation of the immune system

**July 12th PM - 16:30 - 18:30**
5. Cationic host defence (antimicrobial) peptides and the immune system: mechanisms of immunomodulation and translational applications
6. Peptide GPCRs: A growing ambition as oncotarget
7. Neuropeptides in Brain Circuits Underlying Stress Perception and Response
8. In silico approaches to peptide identification and design

**July 13th AM - 10:15 - 12:15**
9. Role of peptides in stress-related modulation of visceral pain
10. Role of neuropeptides in the progression of tumours of the nervous system
11. Novel peptides with therapeutic potential from non-mammalian vertebrates
12. Apelin, from pharmacological strategies to clinical developments

**July 13th PM - 13:30 - 15:30**
13. Therapeutic potential of PACAP/VIP neuropeptide family and related peptides in neurodegenerative and neuropsychiatric diseases
14. Peptides and microbes
15. Gastrointestinal Peptides and their Receptors
16. Hypocretins/orexins in arousal, stress, reward and cognition

**July 14th AM - 10:15 - 12:15**
17. Neuropeptidomics: from mass spectrometry to discovery
18. Perspectives of Skin Regulating Peptides and Their Application in Dermatology
19. Peptide hormone-reactive immunoglobulins in normal and pathological conditions
20. Neuropeptides, inflammation, and auto-immunity

Please find the website link for the symposia [here](#)
1. « New insights on neuropeptides in obesity and metabolic disorders»

July 12th AM – 10:15 - 12:15

Chairpersons

Sebastien G. Bouret
Inserm U1172 Lille, France

Laura Dearden
University of Cambridge, UK

Short description
In the midst of a staggering obesity epidemic, there is a need to better understand the mechanisms and factors involved in the development of this pathological condition. Our current knowledge of the biological processes that underlie hunger and satiety is relatively recent. Classical lesion experiments and more recent studies using conditional gene targeting methods have shown that appetite, energy balance, and metabolism are carefully regulated by the central nervous system and involves highly plastic complex neuropeptide and peptide hormone systems regulated on a daily basis and modulated from development to ageing.

This symposium will give an overview of novel neural mechanisms governing regulation of various neuropeptidergic systems involved in feeding behavior. It will also present recent advances in the neurobiology of obesity, e.g. using transgenic approaches as well as classical behavioral, electrophysiological, and optogenetic approaches. The selected speakers are world-class experts in the field of neurobiology of obesity and metabolic disorders and will cover diverse research fields from neuroendocrinology to behavior, to name a few.

Confirmed speakers

Suzanne Appleyard
College of Vet Med WSU, USA
Satiety peptide signals in the brainstem

Serge Luquet
University of Paris Diderot-Paris 7, France
Hypothalamic agouti-related peptide-neurons control peripheral substrate utilization and nutrient partitioning

Sophie Steculorum
Max Planck Institute for Metabolism Research, Germany
Novel regulator of agouti-related peptide neurons

Jean-Louis Nahon
IPMC UMR 7275 CNRS/UNS, France
Brain inflammation-driven obesity and MCH network signaling

A 5th speaker will be selected from the submitted abstracts
2. « Cardiovascular peptide hormone GPCRs: new insights into ligand-receptor interactions and implications for drug discovery »

July 12th AM – 10:15 - 12:15

Chairpersons

David Chatenet
Institut National de la Recherche Scientifique Armand Frappier - Quebec, Canada

Jérôme Leprince
University of Rouen, France

Short description

G protein-coupled receptors (GPCR) play a critical role in cardiac physiology and pharmacology and therefore, they are among the most widely studied signaling systems in the heart. While over 200 GPCRs have been identified in the heart, only a few of them, including the β-adrenergic, the angiotensin, and the endothelin receptors, have been targeted for therapeutic intervention. Despite these successes, cardiovascular diseases (CVDs) continue to impose enormous health (around 20 million people die every year from CVDs) and financial burdens (almost 300 billion dollars per year) worldwide. Discovery of additional components (GPCR or GPCR complexes) or a better understanding of the molecular mechanisms (interactions ligand-receptor) involved in the control of cardiac activity, in healthy and failing hearts, may provide a mechanistic basis for improving CVD treatment and thus life expectancy. The symposium will cover new aspect of ligand-receptor interaction, i.e. biased agonism, and will describe new tools aimed at deciphering this new GPCR pharmacology ultimately highlighting new drug discovery concept.

Confirmed speakers

Terry Hébert
McGill University - Montréal, Québec, Canada
Assessing allostery in GPCR heterodimers using conformational biosensors

Sudarshan Rajagopal
Duke University Medical Center - Durham NC, USA
Biased Agonism – How to quantify it? And what does it mean?

Bernard Mouillac
CNRS UMR5203- INSERM U1191 - Université de Montpellier, France
Structural insights into biased agonism of the antidiuretic hormone vasopressin V2 receptor subtype

A 4th and 5th speaker will be selected from the submitted abstracts
3. « Evolution of neuropeptides»
July 12th AM – 10:15 - 12:15

Chairpersons

Hervé Tostivint
CNRS UMR 7221 Paris, France

Short description
This symposium will highlight the recent discoveries that have been made in the field of comparative endocrinology/neuroendocrinology. A special focus will be put on the identification of novel neuropeptides that have members in both protostomes and deuterostomes. This includes aspects related to genomics, bioinformatics, biochemical and physiological studies that point to the earliest functions of these peptides.

Confirmed speakers

Pascal Favrel
University of Caen - CNRS UMR 7208, France
The pacific oyster: an emerging model for comparative neuroendocrinology

Isabel Beets
University of Leuven, Belgium
Evolutionary conserved neuropeptide signaling and behavioral modulation in C. elegans

Olivier Mirabeau
Institut Curie - Inserm U830 Paris, France
Molecular evolution of peptidergic signaling systems in bilaterians

Dan Larhammar
Uppsala University, Sweden
Extraordinary multiplicity of neuropeptides and receptors at the origin of vertebrates: Examples from the NPY, CRH and somatostatin systems

A 5th speaker will be selected from the submitted abstracts
4. « Peptidergic regulation of the immune system»
July 12th AM – 10:15 - 12:15

Chairpersons

Barbara Kofler
Paracelsus Medical University - Salzburg, Austria

Peter Holzer
Medical University of Graz, Austria

Short description
The increase of inflammatory diseases has fostered research to the neurogenic component in inflammation. The major symptoms of inflammation – pain, redness and swelling – leave no doubt that the activation of the nervous system contributes to the development of inflammatory diseases. Both the skin and the mucosa (airways, respiratory system) possess a dense network of sensory nerve fibers, which are found mainly at smooth muscles, endocrine elements, vessels and epithelia, and express and release a range of neuropeptides. Under normal circumstances this system is controlled by the nervous system. In the pathophysiological state, however, a close relationship between neural stimuli and immunological responses exists. Involvement of macrophages, T and B lymphocytes, natural killer cells, neutrophils, eosinophils and mast cells has been demonstrated. Thereby the classical classification of neuropeptides, regulatory peptides, cytokines and chemokines regarding their function is becoming more and more indistinct from each other.

The symposium will give an overview of different (neuro)peptidergic systems involved in the innate and adaptive immune system. The selected speakers are internationally recognized experts in the field and will cover diverse research fields from innate immunity including first line immune defence by antimicrobial peptides to immunology and inflammation.

Confirmed speakers

Elena Gonzalez-Rey
Institute of Parasitology and Biomedicine "López-Neyra" - Granada, Spain
Fine-tuning of the immune response with neuropeptides

Zsuszanna Heyles
University of Pécs, Hungary
LPS- and smoking-induced inflammatory mechanisms

Susanne Brunner
Paracelsus Medical University - Salzburg, Austria
Contribution of the galanin system to innate immunity and inflammation

Jonathan Thompson
Anaesthesia & Critical Care - Leicester Royal Infirmary - Leicester, UK
Nociceptin/Orphanin FQ system as a target in sepsis

A 5th speaker will be selected from the submitted abstracts
5. «Cationic host defence (antimicrobial) peptides and the immune system: mechanisms of immunomodulation and translational applications»

July 12th PM – 16:30 - 18:30

Chairpersons

Neeloffer Mookherjee
University of Manitoba Winnipeg, Canada

Donald Davidson
University of Edinburgh, Scotland

Short description

Cationic host defence peptides (CHDPs) are essential in the control of infections (antimicrobial) and resolution of inflammation. Research in the last decade has made it clear that CHDPs impacts both innate and adaptive immunity, and play a critical role in immune homeostasis. The functional diversity of CHDPs with their ability to activate the immune system while simultaneously controlling inflammation has captured the interest of biomedical researchers. There are complex molecular mechanisms that govern the multifunctional capabilities of CHDPs. The focus of this symposium will be to discuss the role of CHDPs in immunity and how that impacts different biological processes such as infection control, inflammation, wound healing, the microbiome and even sterility. Recent research in this area has expanded to include the development of peptidomimics of CHDPs as potential antimicrobial and immunomodulatory therapies. This symposium will therefore explore the fundamental biology and transformative translational applications of CHDPs.

Confirmed speakers

Pieter S. Hiemstra
Leiden University Medical Center, The Netherlands
Cationic host defence peptides in chronic respiratory diseases: regulation of expression and airway inflammation

Julia Dorin
Western General Hospital of Edinburgh, Scotland
Modulation of innate immune responses by human ß-defensins

Robert W. Hancock
University of British Columbia - Vancouver, Canada
Innate defence regulator peptides as immunomodulatory therapy

Donald Davidson
University of Edinburgh, Scotland
Antiviral function of host defence peptides against respiratory viruses

A 5th speaker will be selected from the submitted abstracts
6. «Peptide GPCRs: A growing ambition as oncotarget»
July 12th PM – 16:30 - 18:30

Chairpersons

Daniel Fourmy
University of Toulouse, France

Hélène Castel
University of Rouen, France

Short description

G protein-coupled receptors (GPCRs) are the largest family of proteins involved in signal transduction across membranes and one of the most important pharmaceutical drug target classes. Despite this, it is rather surprising that the clinical practice of cancer treatment includes only a few drugs that act on GPCR-mediated signaling, including molecules acting on GnRH receptor to reduce testosterone levels and reduce prostate cancer cell growth or a synthetic somatostatin receptor agonist, octreotide, prescribed for cancer treatment/imaging. However, abnormal expression of GPCRs, their ligands and/or G proteins is directly observed in cancer cells of various origins that use GPCRs signaling to directly stimulate growth, induce angiogenesis, inhibit apoptosis, promote spreading/metastasis and induce immune responsiveness. In particular, peptides and their GPCRs, their G-protein coupling mechanisms and related signaling pathways in hypoxic and angiogenic tumoral context, remain poorly studied and understood. This symposium aims highlighting new role of peptide hormones in cancer, uncommon signaling pathways and new therapeutic strategies.

Confirmed speakers

Corinne Bousquet
Inserm U1037 Toulouse, France
Deciphering the antitumoral potential of somatostatin receptor signal

Daniel Fourmy
University of Toulouse, France
GPCR internalization: new platforms of cell signaling

Justo Castano
University of Córdoba, Spain
The truncated splice variant of somatostatin receptor subtype 5, sst5TMD4: A hallmark of endocrine cancers?

Hélène Castel
University of Rouen, France
The chemokine vasoactive peptide Urotensin II: The dark face of chemokine and angiogenic factors in glioma

A 5th speaker will be selected from the submitted abstracts
Short description
This symposium focuses on the neuropeptides corticotropin releasing hormone (CRH), pituitary adenylate cyclase-activating polypeptide (PACAP), and neuropeptide Y (NPY). While other neuropeptides are certainly involved in the physiology and pathophysiology of stress, these three are paradigmatic for the field of translational focusing of neuropeptide-neuropeptide receptor interaction in neuropsychiatric disorders associated with stress, including major depression (MD), post-traumatic stress disorder (PTSD), and generalized anxiety disorder (GAD) for several reasons. These are: i) all three peptides act at multiple loci within the hypothalamus, extended amygdala, and hippocampus to mediate stress responding, ii) all three peptides’ receptors may signal differently at different cellular sites within the brain, iii) all three have been sufficiently studied with both traditional and cutting-edge neuroscience biotechniques that they are beginning to yield translationally actionable insights into their role(s) in stress responding, and the likely outcomes of drug engagement with their receptors with respect to both therapeutic targets and predicted off-target (i.e. non-therapeutic) effects that administration of antagonists (for PACAP and CRH) or agonists (for NPY) might be predicted to generate upon drug administration, first in animal models and then in the clinic. The speakers in this symposium are veteran neuropharmacologists, endocrinologists and neuroscientists, and combinations of the above, with a vast experience in grappling with the promises and pitfalls of neuropeptides and their receptors as stress-related transmitters and potential drug targets. We anticipate that their interaction at Regulatory Peptides 2016 will efficiently shed light rather than heat on this important subject for those in attendance, with clear and definite implications for translational neuropeptide research in other arenas being highlighted during Regpep 2016.

Confirmed speakers

Lee E. Eiden
NIMH-IRP, Bethesda Maryland, USA
PACAPergic cell signaling, and cellular circuitry, mediating mammalian responses to psychogenic and systemic stressors

Tallie Z. Baram
University of California at Irvine, USA
The complex effects of modern-life stress on learning and memory: role of hippocampal CRH

Valery Grinevich
University of Heidelberg, Germany
CRH signaling in stress-induced inhibition of reproductive physiology

Esther Sabban
New York Medical College, USA
Single prolonged stress rodent model reveals a role for NPY as a mediator, and a therapeutic target, in PTSD

A 5th speaker will be selected from the submitted abstracts
8. « In silico approaches to peptide identification and design »
July 12th PM – 16:30 - 18:30

Chairpersons

Martin Zacharias
Physik-Department T38 – Technische Universität München - Garching, Germany

Pierre Tufféry
In Silico Peptide Design - INSERM UMR-S 973, Université Paris Diderot Paris, France

Short description
In silico approaches for the identification and design of candidate therapeutic peptides, even if not having reached yet the degree of maturity of those developed for chemicals, have made significant progress in the recent years. Methods to assist the rational discovery, identification, optimization of candidate peptides are the subject for the development of new in silico approaches, or the subject for the fine tuning of protocols developed for proteins. The aim of the proposed symposium is to increase the awareness of recent progress of in silico peptide protocols for experimental researchers in the peptide and neuropeptide area and to provide an overview of the ongoing work in the field of in silico peptide protocols, and to invite contribution on topics such as peptide identification from genomic information, peptide structure prediction, peptide-protein interactions, binding site identification, docking, peptide dynamics, peptide screening, peptide functional properties, peptide aggregation and amyloid formation.

Confirmed speakers

Ora Furman
The Hebrew University of Jerusalem, Israel
The use of Rosetta FlexPepDock and FlexPepBind protocols for the characterization, prediction, and manipulation of protein interactions: what we learned and where we are going

Philippe Derreumaux
Institut de Biologie Physico Chimique - CNRS UPR 9080 Paris, France
Folding peptides with atomistic and coarse-grained models

Denis Shields
University College Dublin - Belfield, Ireland
Opportunities and challenges in moving from computational prediction to experimental validation of peptide function

Maude Pupin
Université Lille 1 INRIA CNRS - Villeneuve d'Ascq, France
How to study nonlinear peptides? Presentation of Norine, a bioinformatics platform dedicated to nonribosomal peptides

A 5th speaker will be selected from the submitted abstracts
9. «Role of peptides in stress-related modulation of visceral pain»
July 13th AM – 10:15 - 12:15

Chairpersons

Yvette Taché
University of California Los Angeles, USA

Dervla O’Malley
University College Cork, Ireland

Short description
Stress plays an important role in modulating pain including in the development or intensity of irritable bowel syndrome manifestations of which visceral pain is a landmark. The corticotropin releasing factor (CRF) signaling is a key pathway in the underlying mechanisms of stress. The symposium will provide insight how CRF receptors in the brain and the gut contribute to the modulation of visceral pain and gut response in different experimental models of acute or chronic stress. Recent advances in peptides activating proteinase activated receptor 4 will be addressed. This symposium will provide better understanding of potential targets to alleviate stress-related visceral manifestations.

Confirmed speakers

Muriel Larauche
University of California Los Angeles, USA
Role of brain and peripheral peptides in the modulation of stress-related visceral pain: sex differences

Dervla O’Malley
University College Cork, Ireland
The role of CRF in the exacerbation of visceral pain in functional bowel disorders

Mulugeta Million
University of California Los Angeles, USA
Role of urocortins in stress related modulation of visceral responses

A 4th and 5th speaker will be selected from the submitted abstracts
10. « Role of neuropeptides in the progression of tumours of the nervous system »
July 13th AM – 10:15 - 12:15

Chairpersons

Jean-Marc Muller
University of Poitiers, France

James Waschek
University of California Los Angeles, USA

Short description
Several types of more or less aggressive tumors derive from tissues of the nervous system. Childhood or adult CNS tumors are for example astrocytoma, brain stem glioma, ependymoma, germ cell tumors and medulloblastoma. Neuroblastoma is the most frequent childhood tumor arising from the peripheral nervous system. Adult forms of brain tumors mostly derive from astrocytes. The highest grade of astrocytoma (grade IV) is represented by glioblastoma, a very aggressive type of cancer whose prognosis is still extremely poor. A number of bioactive peptides, for example NPY, Somatostatin, Substance P, VIP and PACAP have been demonstrated to play important roles in the progression of all these tumors of the nervous system. This symposium will give an overview of mechanisms implicated in the effects of different regulatory peptides in tumor proliferation, survival and invasion. It will also present novel therapeutic strategies aiming to target the receptors of these peptides.

Confirmed speakers

Corinne Chadéneau
University of Poitiers, France
Anti-tumor effect of VIP and analogs of PACAP in high-risk neuroblastoma cells and glioblastoma

Fabrice Morin
University of Rouen, France
Modulation of autophagic activity by chemotactic GPCRs controls the invasive potential of glioblastoma cells

Pawel Newiadowski
University of Warsaw, Poland
Interaction of PACAP with Sonic hedgehog reveals complex regulation of the hedgehog pathway by PKA

Annette G. Beck-Sickinginger
Leipzig University, Germany
Peptide-drug conjugation for cancer targeting

A 5th speaker will be selected from the submitted abstracts
11. « Novel peptides with therapeutic potential from non-mammalian vertebrates »
July 13th AM – 10:15 - 12:15

Chairpersons

J. Michael Conlon
University of Ulster, UK

Hubert Vaudry
University of Rouen, France

Short description
Translation research is the theme of the symposium and will address the importance of studies with non-mammalian vertebrates in drug discovery. The speakers will highlight (a) the role of peptides isolated from frog skin in combating the threat to public health posed by the emergence of multidrug resistant Gram-negative bacteria, (b) the potential of dogfish glucagon for development into agents to treat patients with Type 2 diabetes (c) the possibility of developing frog peptides into anti-cancer agents and drugs for treatment of sepsis and (d) examples of peptides and proteins from snake venom with anti-angiogenic, anti-cancer and other potentially therapeutically valuable properties.

Confirmed speakers

Maria Luisa Mangoni
Sapienza University of Rome, Italy
Amphibian skin-derived peptides as new weapons against Pseudomonas aeruginosa infections

Finbarr O’Harte
University of Ulster, UK
Stable analogues of dogfish glucagon with GLP-1 and glucagon dual agonist activities and therapeutic potential for treatment of patients with Type 2 diabetes

Miodrag L. Lukic
University of Kragujevac, Serbia
Immunomodulatory peptides from frogs: implications for anti-inflammatory and anti-cancer therapy

Juan J. Calvete
Instituto de Biomedicina de Valencia, Spain
On the origin of neurotoxicity in Nearctic snakes: relevance for the development of a pan-American antivenom

A 5th speaker will be selected from the submitted abstracts
12. « Apelin, from pharmacological strategies to clinical developments»
July 13th AM – 10:15 - 12:15

Chairpersons

Philippe Valet
Université Paul Sabatier Toulouse, France

Jens Peter Gøtze
University of Copenhagen, Denmark

Short description
The G protein-coupled receptor APJ and its cognate ligand, apelin, are widely expressed throughout human body. They are implicated in different key physiological processes such as angiogenesis, cardiovascular functions, fluid homeostasis and energy metabolism regulation. On the other hand, this couple ligand-receptor is also involved in the development and progression of different pathologies including diabetes, obesity, cardiovascular disease and cancer. An increased number of publication are dedicated to the design of new Apelin receptor ligands either agonist or antagonist. Moreover there are growing evidences that apelin is efficient in humans through recent clinical trials. This symposium will be the opportunity to gather worldwide information regarding both pharmacological and clinical developements through selected speaker experts in the field of apelin and its receptor.

Confirmed speakers

Catherine Llorens-Cortes
CNRS UMR 7241 Paris, France
Insights into apelin receptor function and new drug development

Eric Marsault
University of Sherbrooke, Canada
Molecular engineering of apelin to modulate stability, signalling and cardiovascular functions

Isabelle Castan-Laurell
INSERM U1048 Toulouse, France
Proof of concept of apelin effect on insulin sensitivity in Human

Anthony Davenport
University of Cambridge, UK
Role of apelin, Elabela/Toddler and action of novel biased receptor agonists in the cardiovascular system

A 5th speaker will be selected from the submitted abstracts
13. « Therapeutic potential of PACAP/VIP neuropeptide family and related peptides in neurodegenerative and neuropsychiatric diseases »
July 13th PM – 13:30 - 15:30

Chairpersons

Illana Gozes
Tel Aviv University, Israel

Seiji Shioda
Hoshi University, Japan

Short description
From diverse parts of the globe, we shall provide news about the translational potential of VIP (vasoactive intestinal peptide), PACAP (pituitary adenylate cyclase activating polypeptide) and the VIP/PACAP regulated, ADNP (activity-dependent neuroprotective protein) and its snippet, drug candidate, NAP. We will cover spinal cord injury and brain ischemia, androgen receptor toxicity in spinal bulbar muscular atrophy (SBMA), Parkinson disease, Alzheimer’s disease, autism and schizophrenia. Novel drug candidates, stem cells and intricate gene regulation will be highlighted combining molecular, behavioral and translational neuroscience of regulatory peptides.

Confirmed speakers

Illana Gozes
Tel Aviv University, Israel
Regulated by VIP and PACAP: The autism mutated ADNP and NAP (davunetide) in research and development

Seiji Shioda
Hoshi University, Japan
Neuroprotection and molecular mechanism of brain ischemia and spinal cord injury by PACAP

Maria Pennuto
University of Trento, Italy
PACAP/PKA axis to attenuate the toxicity of polyglutamine-expanded androgen receptor

Nese Tuncel
Eskisehir Osmangazi University, Turkey
What type of cards are held by VIP for the future treatment of Parkinson’s disease

A 5th speaker will be selected from the submitted abstracts
14. « Peptides and microbes »
July 13th PM – 13:30 - 15:30

Chairpersons

Joerg Overhage
University of Karlsruhe, Germany

Olivier Lesouhaitier
University of Rouen, France

Short description
We are living in harmony with bacteria and in some cases the balance is disrupted. There is ample evidence that eukaryotic communication molecules including peptides are detected by bacteria and modify their physiology and virulence potential. These observations suggest that peptide hormones have additional effects on micro-organisms, in addition to their well characterized physiological effects in mammalian organisms. In parallel, micro-organisms release numerous peptides in order to protect themselves against both host defence compounds and other microbes that enter in competition with them. The goal of the symposium “peptides and microbes” is to show examples of the effect of peptides released by eukaryotic cells or micro-organisms on microbe adaptation into the infected host and how these findings can be used for developing novel therapeutic strategies.

Confirmed speakers

Oscar Kuipers
University of Groningen, The Netherlands
Designing and producing novel modified peptides for antimicrobial or hormonal bioactivity

Peter Nielsen
University of Copenhagen, Denmark
Antimicrobial peptide nucleic acid (PNA): Genetic antibiotics, synergy of two worlds

Joerg Overhage
University of Karlsruhe, Germany
Potential application of host defense peptides in the treatment of bacterial biofilms

Olivier Lesouhaitier
University of Rouen, France
C-type natriuretic peptide, a human hormone which prevents Pseudomonas aeruginosa biofilm formation through a specific human receptor-like target

A 4th and 5th speaker will be selected from the submitted abstracts
15. « Gastrointestinal Peptides and their Receptors »
July 13\textsuperscript{th} PM – 13:30 - 15:30

Chairpersons

**Joseph R. Pisegna**
University of California Los Angeles, USA

**Michael Wolfe**
Case Western Reserve University, USA

**Short description**
This symposium would focus on gastrointestinal peptides and their regulation of integrative physiology. Areas of potential focus in attracting abstracts to this session would be in the regulation of feeding, obesity, NAFLD, colitis and irritable bowel syndrome by gastrointestinal hormones. Other disease states would include peptic ulcer disease, neuroendocrine tumors and diabetes.

**Confirmed Speakers**

**Stephen A. Wank**
National Institutes of Health, USA
Identification of a novel gene mutation which causes familial small bowel carcinoids

**Juanita Merchant**
University of Michigan, USA
Murine model of gastrinoma, neuroendocrine tumor

**Michael Wolfe**
Case Western Reserve University, USA
Role of GIP on Metabolic Syndrome

**Joseph Pisegna**
University of California Los Angeles, USA
Role of High Protein Diet on Body Mass Composition and Hepatic Steatosis

A 5\textsuperscript{th} speaker will be selected from the submitted abstracts
16. «Hypocretins/orexins in arousal, stress, reward and cognition»
July 13th PM – 13:30 - 15:30

Chairpersons

Luis de Lecea
Stanford University School of Medicine, USA

Zhian Hu
Third Medical University - Chongqing, China

Short description
Hypocretins, also known as orexins, are excitatory neuropeptides secreted by neurons specifically located in lateral hypothalamus and perifornical areas. Hcrt axon fibers are extensively distributed in various brain regions and involved in a number of physiological functions, such as arousal, cognition, stress, appetite, and metabolism. Arousal is the most important function of Hcrt system as dysfunction of Hcrt signaling leads to narcolepsy. In addition to narcolepsy, Hcrt dysregulation is associated with important neural disorders, including addiction, depression, and anxiety. As a new class of Orexin receptor antagonists has been approved by the FDA for the treatment of insomnia, strategies targeted to orexin system (e.g., antagonists to orexin receptors, gene delivery, and cell transplantation) are likely to be applied to treat arousal disorders, including anxiety, depression and PTSD.

Confirmed speakers

Luis de Lecea
Stanford University School of Medicine, USA
Hypocretins in control of sleep transitions

Patricia Bonnavion
Free University of Brussels, Belgium
Hypocretin and leptin modulate stress

Zhian Hu
Third Medical University - Chongqing, China
Orexins, histamine and cognitive function

Veronique Fabre
University Pierre and Marie Curie - Paris, France
The role of hypocretin-serotonin interactions in sleep and mood regulation

A 5th speaker will be selected from the submitted abstracts
Neuropeptidomics, the study of the neuropeptide/hormone complement of a tissue, is of growing importance. The last few years have seen an increasing number of brain peptides reported each year. The acceleration of peptide discovery is due to striking technological advances in mass spectrometry that enable the peptidome to be characterized from ever smaller samples with increasing chemical detail. Recent sampling approaches allow neuropeptides to be characterized from an individual cell, peptide release to be measured from cultured neuronal networks and ex vivo brain slices, and the spatial distributions of unknown peptides to be measured via mass spectrometry imaging. This symposium will highlight the latest technology development and emerging applications of mass spectrometry-based neuropeptidomics, including novel sampling strategies, chemical characterization approaches, spatial mapping via mass spectrometry imaging, and functional studies of peptide release across a range of animal models.
18. « Perspectives of Skin Regulating Peptides and Their Application in Dermatology »
July 14th AM – 10:15 - 12:15

Chairpersons

Paul L. Bigliardi
National University Hospital, Singapore

Alex N. Eberle
University of Basel and Collegium Helveticum - Zurich, Switzerland

Short description
The skin as an endocrine organ is the source of various peptides that regulate skin function such as pigmentation, neurotransmitter release and host-defense reactions. Apart from skin cells, there are skin-resident microbes that also release peptides which are equally important for host-defense reactions. All these peptides have received renewed interest with regard to the development of potential novel peptide pharmaceuticals.

This session will give an overview about the state of the art of the physiological and functional role of skin regulating peptides as well as the application of the first skin peptide pharmaceuticals. Wound healing and the impact of opioid peptides in its regulation is another important aspect, followed by the topic of the mechanism of action of host-defense peptides in the skin. Finally, receptor-mediated targeting of melanoma cells and melanocytes with synthetic MSH peptides represents the basis for the application of specific photodynamic therapy of pigmentary disorders. The selected speakers are well-known experts in the field of peptides in dermatology and they will cover some highlights in this fascinating and novel field.

Confirmed speakers

Thomas A. Luger
University of Münster, Germany
Functional roles of skin-derived peptides – state of the art

Mei Bigliardi-Qi
Institute of Medical Biology, Singapore
Opioid peptides affect epidermal homeostasis and wound healing

Alex N. Eberle
University of Basel and Collegium Helveticum - Zurich, Switzerland
MSH-based targeting of skin melanocytes and melanoma cells for specific photodynamic therapy

A 4th and 5th speaker will be selected from the submitted abstracts
19. « Peptide hormone-reactive immunoglobulins in normal and pathological conditions »
July 14th AM – 10:15 - 12:15

Chairpersons

Tomas Hökfelt
Karolinska Institutet, Sweden

Akio Inui
Kagoshima University, Japan

Short description
It is generally assumed that peptide hormones in the circulation are transported by large proteins. It appears that the role of such peptide carrier molecules can be played by immunoglobulins (Ig). In fact, during the last decade it has been established that peptide-hormone reactive IgG and other Ig classes of natural autoantibodies (autoAbs) are ubiquitously present in humans and rodents. Several studies have been undertaken to understand the origin and regulation of such autoAbs production as well as their possible involvement in peptide-hormone signaling in normal and pathological conditions. The obtained results show that IgG may protect peptide hormones from degradation by plasma enzymes and that they may modulate activation of peptide receptors. Stress and intestinal inflammation were shown to affect plasma levels of peptide-reactive autoAbs and several microbial proteins have been identified as possible antigenic source of autoAbs cross-reactive with peptide hormones. The variable nature of IgG molecules underlies the finding of different affinity kinetics parameters of peptide-reactive IgG in humans and animals associated with modulation of peptide signaling. Significant correlations between peptide-reactive Ig characteristics and behavioral parameters were reported for pathological conditions including eating and sleep disorders, aggressive behavior, anxiety and depression. Thus, detection and targeting of peptide hormone-reactive Ig appears as a new diagnostic and therapeutic approach for several neuropsychiatric disorders.

Confirmed speakers

Csaba Adori
Karolinska Institutet, Sweden
Screening for peptide reactive IgG in sleep disorders

Sergueï Fetissov
University of Rouen, France
Role of immunoglobulins in peptidergic signaling

Henning Vaeroy
Akershus University Hospital, Norway
ACTH-reactive IgG in stress and aggression

Gregory Lambert
TargEDys, France
New diagnostic and therapeutic opportunities for eating disorders

A 5th speaker will be selected from the submitted abstracts
20. « Neuropeptides, inflammation, and auto-immunity »
July 14th AM – 10:15 - 12:15

Chairpersons

Alain Couvineau
INSERM U1149 Paris, France

Yossan-Var Tan
University of Rouen, France

Short description
Inflammation is a coordinated process designed by evolution to eliminate pathogens and enable healing. However, this is carefully orchestrated in the sense that when it is no longer necessary, it must be actively terminated to avoid tissue damage and/or auto-immunity. Can we find modulators outside the immune system?

The proposed symposium will address this issue and illustrate the multifaceted function of peculiar neuropeptides/peptides enabling a dialogue between the immune and nervous systems. Indeed, it will gather three speakers who will provide remarkable examples on how they can efficiently regulate the immune response during inflammatory and/or auto-immune pathologies.

Confirmed speakers

Rosa P. Gomariz
Universidad Complutense de Madrid, Spain
VIP and their receptors as biomarkers in rheumatic diseases

Catalina Abad
University of Rouen, France
Therapies for multiple sclerosis: VIP/PACAP receptor analogs

Nassima Messal
INSERM U1149 Paris, France
Anti-inflammatory properties of the neuropeptide orexin in ulcerative colitis: a new promising therapeutical molecule

A 4th and 5th speaker will be selected from the submitted abstracts
Usefull links

To get information regarding the program and the list of invited speakers, please click here.

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