

SEROTONIN CLUB 2012
FACULTY OF MEDICINE, MONTPELLIER
July 10-12, 2012

PROGRAM

Tuesday JULY 10, 2012

7.00-9.00 AM Registration

7:30-8:45 AM Travel Award Breakfast/ Registration

9.00-9.15 AM *Theatrum anatomicum*

Welcome and Irvine Page lecture presentation

9.15-10.15 AM *Theatrum anatomicum*

IRVINE PAGE LECTURE: Elaine Sanders-Bush, Vanderbilt University School of Medicine, Nashville, USA
"A life-long journey with serotonin: Then, now and the future"

10.15-10.45 AM Coffee break

10.45 AM-12.45 PM *Theatrum anatomicum*

SYMPOSIUM 1

"Regulation of 5-HT neurochemistry and behavior by unsuspected "villains": Implications for psychiatric disorders and drug abuse."

Chair: Lynette C. Daws

University of Texas Health Science Center, San Antonio, USA

1. "Impact of feeding conditions on sensitivity to drugs acting on 5-HT and DA systems: Implications for drug abuse and psychotherapeutics."
Charles P. France, University of Texas Health Science Center, San Antonio, USA
2. "Serotonin transporter genotype and early life stress interactions in psychiatric disorders and addiction: Are organic cation transporters to blame?"
Lynette C. Daws, University of Texas Health Science Center, San Antonio, USA
3. "Peripheral immune system regulation of brain serotonin homeostasis."
Randy D. Blakely, Vanderbilt University, Nashville, USA
4. "The proaddictive effects of stress exposure are mediated by increased serotonin transporter function through kappa receptors activation of p38alpha MAPK in the ventral striatum."
Abigail Schindler, University of Washington, Seattle WA, USA
NIDA Travel Awardee

12.45-2.00 PM LUNCH (1.00-2.00 PM Business Meeting)

2.00-4.00 PM *Theatrum anatomicum*

SYMPOSIUM 2

"Putting the pieces together: Integrating dopamine, serotonin, reward and aversion."

Chair : John Neumaier, University of Washington, Seattle, USA

1. *"Striatal 5-HT₆ receptors: Opposing dopamine."*
John Neumaier, University of Washington, Seattle, USA
2. *"5-HT_{2A}R and 5-HT_{2C}R balance in decision-making and cocaine reward."*
Kathryn A. Cunningham, University of Texas Medical Branch, Galveston, USA
3. *"Affective and decision functions of serotonin and dopamine."*
Molly Cockett, University of Zurich, Switzerland
4. *"The influence of serotonin-1B receptors on cocaine-abuse related behaviors."*
Nathan Pentkowski, Arizona State University, Arizona USA
NIDA Travel Awardee

4.00-4.30 PM Coffee break

4:30-6:00 PM *Theatrum anatomicum*

FRONTIERS IN SEROTONIN RESEARCH: PIONEERS AND PRODIGIES

Chairs and discussants: Page and Rapport lecturers past and present

1. *Postnatal antidepressant treatment vs constitutive SERT deficiency produce opposing changes in presynaptic 5-HT_{1A} responses and emotion-related behavior in adolescent and adult mice.*
Stephanie Altieri, Pennsylvania State University, University Park, PA, USA
NIDA Travel Awardee
2. *Decynium-22 enhances SSRI-induced antidepressant effects in mice: Uncovering new targets to treat depression.*
Deana Apple, University of Texas Health Science Center, San Antonio TX, USA
NIDA Travel Awardee
3. *Autoinhibition in dorsal raphe is mediated by local release of serotonin.*
Daniel Huereca, Wayne State University School of Medicine, Detroit, MI, USA
NIDA Travel Awardee
4. *Synergistic suppression of cocaine-evoked elevations in motility and cortical serotonin 5-HT_{2C} receptor (5-HT_{2CR}) expression by combined administration of a selective 5-HT_{2AR} antagonist plus a 5-HT_{2CR} agonist.*
Sarah Swinford, University of Texas Medical Branch, Galveston, TX, USA
NIDA Travel Awardee
5. *Schizophrenia-like disruption of sensory gating by serotonergic stimulation in rats: comparison with dopamine and NMDA receptors.*
Shane Thwaites, University of Melbourne, Australia
NIDA Travel Awardee

6.30-8.30 PM **POSTER SESSION**, *Salle Dugès* with wine and cheese

Wednesday JULY 11, 2012

8.00-9.00 AM *Theatrum anatomicum*

Maurice RAPPORT LECTURE: Ewan Mylecharane, University of Sydney, Australia
"Serotonin and the Australian connection: the science and the people"

9.00-11.00 AM *Theatrum anatomicum*

SYMPOSIUM 3

“Serotonergic neurons and adaptive responses to emergency situations: A focus on autonomic and nociceptive systems.”

Chair : **Véronica Fabre**

Université Pierre et Marie Curie-Paris 6, Paris, France

1. *“Involvement of lateral paragigantocellular serotonergic cells in nociceptive and cardiovascular processing.”*
Jean-François Bernard, Université Pierre et Marie Curie-Paris 6, Paris, France
2. *“Regulation of breathing by medullary raphe serotonergic neurons in conscious or anesthetized rodents.”*
Patrice Guyenet, University of Virginia School of Medicine, Charlottesville, USA
3. *“Central chemoreception by serotonin neurons of the raphe.”*
George B. Richerson, The University of Iowa, Iowa City, USA
4. *“Inducible, repeatable and specific inhibition of serotonergic neurons in vivo reveals their essential roles in mammalian physiology and behavior.”*
Susan Dymecki, Harvard Medical School, Boston, USA

11.00-11.30 AM Coffee break

11.30 AM-1.30 PM *Theatrum anatomicum*

SYMPOSIUM 4

“Multiple facets of serotonin: placenta, blood, bone connection.”

Chair: **Francine Côté**, CNRS UMR 8142, Hôpital Necker, Paris, France

1. *“Vital source of serotonin: The placenta.”*
Cathy Vaillancourt, Université de Québec, Laval, Canada
2. *“Key function of serotonin in erythrocyte production and survival.”*
Edouard Kouassi, Université de Montréal, Montréal, Canada
3. *“Serotonergic system and bone cells : New paracrine autocrine pathways.”*
Corinne Collet, Hôpital Lariboisière, Paris, France
4. *“Serotonin receptor 5-HT_{2B} potentiates interferon- γ production by activating T lymphocytes.”*
Marie-Eve Koué, University of Montréal, Montréal, Canada
NIDA Travel Awardee

1.30-2.30 PM LUNCH

2.30-4.30 PM *Theatrum anatomicum*

SYMPOSIUM 5

“Serotonin transporter redux 2012.”

Chair: **Kathryn A. Cunningham**, University of Texas Medical Branch, Galveston, USA

1. *“A Novel Approach for Defining the Role of Serotonin in Drug Action: SERT Ile172Met Mice.”*
Randy D. Blakely, Vanderbilt University, Nashville, USA

2. *"Role of PIP2 and PLC in mediating amphetamine-evoked alterations in SERT function."*
Harald Sitte, Medical University of Vienna, Vienna, Austria
3. *"SERT as a therapeutic target for cocaine dependence."*
F. Gerard Moeller, University of Texas Health Science Center at Houston, Houston, USA
4. *"Examining the interaction between 5-HT_{1B} receptors and SERT."*
Yusha (Katie) Liu, University of Washington, Seattle, USA
NIDA Travel Awardee

4.30-5.00 PM Coffee break

5.00-7.00 PM *Theatrum anatomicum*

SYMPOSIUM 6

"Serotonin in the cardiovascular system: New findings on an old transmitter."

Chair : **Luc Maroteaux**, Hôpital Pitié-Salpêtrière, INSERM U839, Paris, France

Co-Chair : **Stephanie Watts**, Michigan State University, East Lansing, USA

1. *"The serotonin transporter (SERT) in blood pressure regulation."*
Stephanie Watts, Michigan State University, East Lansing, USA
2. *"The 5-HT₄ serotonin receptor: Physiological and pathophysiological roles in the heart ventricle."*
Finn Olav Levy, University of Oslo, Oslo, Norway
3. *"Role of serotonin and 5-HT₂ receptors in cellular processes involved in cardiac valve remodeling."*
Laurent Monassier, Faculté de Médecine, Strasbourg, France
4. *"Refining the serotonergic contribution to central chemosensitivity."*
Rachael Brust, Harvard Medical School, Boston, USA
NIDA Travel Awardee

7.10 PM Departure for Banquet

Thursday JULY 12, 2012

8.30-10.30 AM *Theatrum anatomicum*

SYMPOSIUM 7

"New roles of 5-HT₆ receptor in neuro-developmental and cognitive processes."

Chair : **Joël Bockaert**, University of Montpellier, Montpellier, France

Co-Chair: **Mark Millan**, Institut de Recherches Servier, Croissy sur, Seine, France

1. *"Developmental role of the 5-HT₆ receptor in neuronal migration."*
Alexandre Dayer, Geneva University Hospital, Geneva, Switzerland
2. *"Proteomic analysis of the 5-HT₆ receptor complex: Identification of a new signaling pathway underlying modulation of cognition by 5-HT₆ ligands."*
Phillippe Marin, University of Montpellier, Montpellier, France
3. *"Functional role of 5HT₆ receptor in the neuro-developmental cognitive deficits seen in schizophrenia."*
Kevin C.F. Fone, Univ. Nottingham Medical School, Nottingham, UK

4. *"Effect of the 5-HT₆ receptor antagonist, SB-399885, on cognition, hippocampal cell proliferation and protein expression in the neurodevelopmental model of schizophrenia."*

Madeleine King, University of Nottingham, Nottingham, UK
NIDA Travel Awardee

8.30-10.30 AM *Salle des actes*

SYMPOSIUM 8

"The 5-HT₃ receptor system : Therapeutic potential and advantages from novel ligands."

Chair: **Nicholas Barnes**, University of Birmingham Medical School, Birmingham, UK

Co-Chair : **Beate Niesler**, University of Heidelberg, Heidelberg, Germany

1. *"The therapeutic potential of targeting individual 5-HT₃ receptor subtypes."*
Beate Niesler, University of Heidelberg, Heidelberg, Germany
2. *" The therapeutic potential of 5-HT₃ receptor partial agonists."*
Nick Moore, AMRI Inc, Albany, USA.
3. *"Tickling the 5-HT₃ receptor; molecular studies and therapeutic potential of allosteric 5-HT₃ receptor ligands."*
Nicholas Barnes, University of Birmingham Medical School, Birmingham, UK
4. *" The native serotonin 5-HT_{5A} receptor: Electrophysiological characterization in rodent cortex and 5-HT_{1A}-mediated compensatory plasticity in the knockout mouse."*
Nathalie Goodfellow, University of Toronto, Canada
NIDA Travel Awardee

10.30 AM-11.00 AM Coffee break

11.00 AM-1.00 PM *Theatrum anatomicum*

SYMPOSIUM 9

"Recent advances in understanding the interaction between the glutamatergic and serotonergic systems."

Chair: **Mark A. Geyer**, University of California, San Diego, La Jolla, USA

Co-Chair : **Adam Halberstadt**, University of California, San Diego, La Jolla, USA

1. *"Antipsychotic signaling in a 5HT_{2A}-mGlu₂ receptor heterocomplex."*
Javier Gonzalez-Maeso, Mount Sinai School of Medicine, New York, USA
2. *"Is RNA editing relevant for serotonergic transmission in the cortex in health and disease?"*
Dan Urban, University of Chapel Hill, Chapel Hill, USA
3. *"Interactive effects of 5-HT_{2A} and mGlu₅ receptors on behavior in mice."*
Adam Halberstad, University of California, San Diego, La Jolla, USA
4. *" Higher-order interactions of GABA and glutamate axons in the rat dorsal raphe nucleus visualized by array tomography."*
Mariano Soiza-Reilly, Harvard Medical School, Boston, USA
NIDA Travel Awardee

11.00 AM-1.00 PM *Salle des Actes*

SYMPOSIUM 10

“Molecular genetics of serotonin neuron development, physiology and pharmacology.”

Chair : **Evan Deneris**, Case Western Reserve University, Cleveland, USA

1. *“Contribution of serotonin_{1A} auto and heteroreceptors to depression and antidepressant response.”*
David Leonardo, Columbia University, New York, USA
2. *“Transcriptional control of serotonin neurons across the lifespan.”*
Evan Deneris, Case Western Reserve University School of Medicine, Cleveland, USA
3. *“Rape neuron development and its perturbations by altered transcription and receptor deletion.”*
Sheryl Beck, Children’s Hospital of Philadelphia, Philadelphia, USA
4. *“Shaping patterns of serotonin neurotransmission via feedback circuits.”*
Kathryn Commons, Harvard Medical School, Boston, USA

1.00-2.00 PM LUNCH

2.00-3.00 PM BUSINESS MEETING FOR ALL REGISTERED

3.00-5.00 PM *Theatrum anatomicum*

SYMPOSIUM 11

“From ligand functional selectivity to brain region selectivity: Differential pharmacological targeting of serotonin system.”

Chair **Adrian Newman-Tancredi** : NeuroAct Communication, Castres, France

Co-Chair : **Umberto Spampinato**, Université Victor Seglan Bordeaux2, Centre Recherche Inserm U862, Bordeaux, France

1. *“Biased agonism at serotonin 5-HT_{1A} receptors : Preferential postsynaptic activity for improved therapy of CNS disorders.”*
Adrian Newman-Tancredi, NeuroAct Communication, Castres, France
2. *“Agonist-directed signaling at 5-HT_{2A} receptors in cortex.”*
Laura M. Bohn, The Scripps Research Institute, Jupiter, USA
3. *“Central 5-HT_{2B} receptors exert a differential control of mesocorticolimbic and nigrostriatal dopamine pathway activity: An in vivo microdialysis study in the rat.”*
Umberto Spampinato, Université Victor Seglan Bordeaux2, Centre Recherche Inserm U862, Bordeaux, France
4. *“Characterization of serotonin neurons in the Raphe based on molecular and electrophysiological identity.”*
Sebastian Fernandez, INSERM, Paris, France
NIDA Travel Awardee

3.00-5.00 PM *Salles des Actes*

SYMPOSIUM 12

“Ovarian sex steroids and serotonin function.”

Chair: **Alan Frazer**, University of Texas Health Science Center, San Antonio, USA

1. *"Estrogen receptor GPR30 mediates desensitization of serotonin_{1A} receptor signaling."*
Nancy Muma, University of Kansas School of Pharmacy, Lawrence, USA
2. *"Influences of sex hormones and diminished central nervous 5-HT synthesis rate on impulse control related to reward and punishment processing in young adult females."*
Katrin Helmbold, RWTH Aachen University, Germany
NIDA Travel Awardee
3. *"Estradiol modulation of 5HT_{1A} and 5-HT_{2A} receptors and SERT in brain of female hemiparkinsonian monkeys after long-term ovariectomy."*
Thérèse Di Paolo, Faculty of Pharmacy, Laval University, Canada
4. *"Serotonin transporter function: Interaction among ovarian steroids and antidepressants."*
Alan Frazer, University of Texas Health Science Center, San Antonio, USA

4.00 PM Closing Remarks and Farewell