



ISN
International Society
for Neurochemistry

4th ISN Latin American School of Advanced Neurochemistry

“BRAIN PATHOLOGIES AND NATURAL PRODUCTS”

October 16th to 28th, 2017.

Instituto de Investigaciones Biológicas Clemente Estable.
Montevideo, URUGUAY.

Program

Module I: Neurodegenerative Diseases

Monday 16 October

09:00-09:15 Welcome and Opening by Directors of the School. Federico Dajas and Cecilia Scorza (Uruguay).

09:15-10:00 Mental diseases and natural products: molecules and mechanisms. Federico Dajas (Uruguay).

10:00-11:00 Alzheimer's Disease: A Complex Multifactorial Disorder. Laura Morelli (Argentina).

11:00-11:30 Coffee break

11:30-12:30 Cognitive neuroscience and human neurodegeneration: Translational perspectives. Lucas Sedeño (Argentina).

12:30-14:30 Lunch break

14:30-19:00 CUDIM visit and Eduardo Savio's talk: Molecular imaging in the diagnosis of Alzheimer's disease and related disorders (Uruguay).

Tuesday 17 October

09:00-10:00 Can Mitochondria-ER coupling, bioenergetics and intracellular A β be linked together in a common disease pathway with potential for a targeted therapy in Alzheimer? Laura Morelli (Argentina).

10:00-11:00 miRNAs and neuron connectivity: implications for Alzheimer Disease. Federico Dajas-Bailador (United Kingdom).

11:00-11:30 Coffee break

11:30-12:30 Progressive neurological dysfunction originating early in life. Mario Herrera-Marchitz (Chile).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Wednesday 18 October

09:00-10:00 A Role for astrocytes in ALS. Patricia Cassina (Uruguay).

10:00-11:00 Astrocyte role in CNS damage and protection. Silvia Olivera (Uruguay).

11:00-11:30 Coffee break

11:30-12:30 Neuronal protection by natural flavones against oxidative stress. Carolina Echeverry (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Thursday 19 October

09:00-10:00 Proteostasis impairment in neurodegenerative diseases. Claudio Hetz (Chile).

10:00-11:00 Pathophysiology of Alzheimer's Disease. Rob Williams (United Kingdom).

11:00-11:30 Coffee break

11:30-12:00 Pathophysiology of Parkinson's Disease. Giselle Prunell(Uruguay).

12:00-12:30 Cytosinoids derivatives in Parkinson Disease. Andrés Abin Carriquiry (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Friday 20 October

09:00-10:00 Integration of signals at the axon growth cone: local protein translation and degradation. Federico Dajas-Bailador (United Kingdom).

10:00-11:00 Flavanol inhibition of amyloid beta and tau pathology: a dietary intervention for Dementia. Rob Williams (United Kingdom).

11:00-11:30 Coffee break

11:30-12:30 Modulation of cellular defenses as a putative mechanism involved in quercetin neuroprotection. Florencia Arredondo (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Saturday 21 October

09:00-10:15 Students work presentation

10:15-10:45 Coffee break

10:45-12:30 Students work presentation

Sunday 22 October

Free

Module II: Mood and substance abuse disorders

Monday 23 October

09:00-10:00 Antidepressant molecules of natural origin. Federico Dajas (Uruguay).

10:00-11:00 Updates in depression neurobiology and treatment. Samia Joca (Brazil).

11:00-11:30 Coffee break

11:30-12:30 Antidepressant-like properties of natural products. Thereza de Lima (Brazil).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Tuesday 24 October

09:00-10:00 Antidepressant-like properties of natural products: mechanisms Thereza de Lima (Brazil)

10:00-11:00 Melanin concentrating hormone (MCH), role in sleep and depression. Pablo Torterolo (Uruguay).

11:00-11:30 Coffee break

11:30-12: Melanin-Concentrating Hormone in the Dorsal Raphe and Locus Coeruleus nuclei: role in depressive-like behaviors. Jessika Urbanavicius (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Wednesday 25 October

09:00-10:00 Targeting cannabinoids as new treatment options in depression: preclinical evidence. Samia Joca (Brazil).

10:00-11:00 Mechanisms underlying Prefrontal Maturation during Adolescence. Kuei Y. Tseng (USA).

11:00-11:30 Coffee break

11:30-12:30 Ibogaine and addiction. Ignacio Carrera (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Hands-on

Thursday 26 October

09:00-10:00 Timing is everything when Cannabinoids meet your Frontal Lobe. Kuei Y. Tseng (USA).

10:00-11:00 Cortico-striatal mechanism involved in amphetamine sensitization. José Fuentealba (Chile).

11:00-11:30 Coffee break

11:30-12:30 Cortical-subcortical interactions altered by psychostimulants: from neuro-enhancement to addiction. Verónica Bisagno (Argentina).

12:30-14:30 Lunch break

14:30-19:00 Hands-on and preparation of oral presentation

Friday 27 October

09:00-10:00 Therapeutic profile of nootropics. Verónica Bisagno (Argentina).

10:00-10:30 Adulterants in drugs of abuse. Cecilia Scorza (Uruguay).

10:30-11:00 Coffee break

11:00-11:30 Cocaine and caffeine interaction in reward. José Pedro Prieto (Uruguay).

11:30-12:30 Cocaine and caffeine interaction in sleep behavior. Pablo Torterolo (Uruguay).

12:30-14:30 Lunch break

14:30-19:00 Oral presentations of hands-on activities.

20:00 Closing dinner

Saturday 28 October

Mini-symposium “Phytoplant Research”: an update of clinical benefit and risks of medical Cannabis

09:00-10:30. Special lecture. Endocannabinoids system and potential pharmacological targets. Lumir Hanus (Israel). (English translation)

10:30-11:15 Endocannabinoid-CB1R signaling control of Prefrontal Cortex plasticity. Kuei Y. Tseng (USA).

11:15-11:45 Coffee break

11:45-12:30 Opioids and cannabinoids interactions. Xavier Nadal (Spain).

12:30-13:15 Neurophatic pain and cannabinoids: mechanisms. Raquel Peyraube (Uruguay)

13:15-15:00 Free time

15:00-15:40 Immunological system and cannabinoids. Leticia Cuñetti (Uruguay).

15:40-16:20 Methods on cannabis extraction. Xavier Nadal (Spain).

16:20-16:40 Coffee break

16:40-17:20 Pharmacognostic aspects of cannabis. Carlos García (Uruguay).

17:20-18:00 Analysis of cannabinoids and cannabinoids similis in products and biological matrices and quality assurance of them. Eleuterio Umpiérrez (Uruguay).

18:00-18:45. Closing by Raquel Peyraube, Cecilia Scorza and Stefan M. Meyer (Phytoplant Research SL)

Hands-on laboratory modules (October 17th to 25th)

1) Experimental approaches to evaluate new therapies in Parkinson´s disease.

Responsible: Giselle Prunell and Gustavo Costa.

Collaborators: Camila Mohuape

Location: Department of Neurochemistry, IIBCE

2) In vivo and ex vivo approaches to study the mechanism of action of drugs of abuse

Responsible: Cecilia Scorza, José Fuentealba, Kuei Y. Tseng

Collaborators: Jose Pedro Prieto, Jessika Urbanavicius, Ximena López, Juan Andrés Abin Carrriquiry

Location: Department of Experimental Neuropharmacology and Platform of analytical services, IIBCE

3) Characterization of primary cultures from Alzheimer´s disease model through the use of microfluidic devices.

Responsible: Florencia Arredondo, Federico Dajas-Bailador, Robert Williams

Collaborators: Diego Carvalho, Victoria Boix

Location: Department of Neurochemistry, IIBCE

4) Neurodegeneration and neuroprotection in culture (glia-neuron).

Responsible: Carolina Echeverry, Silvia Olivera.

Collaborators: Gabriel Otero

Location: Department of Neurochemistry and Department of Integrative Neuroscience, IIBCE

5) Effect of cocaine on sleep-awake cycle.

Responsible: Luciana Benedetto, Pablo Torterolo

Collaborators: Mayda Rivas, Joaquín González, Florencia Peña, Alicia Costa, Santiago Castro Matías Cavelli

Location: Department of Physiology, School of Medicine, Universidad de la República.

Foreign Faculty

Verónica Bisagno. Institute of Pharmacological Research (ININFA), University of Buenos Aires-CONICET, Buenos Aires, Argentina. vbisagno@ffyb.uba.ar

Federico Dajas-Bailador. School of Life Sciences. Queen´s Medical Centre, University of Nottingham, United Kingdom. F.Dajas-Bailador@nottingham.ac.uk

Thereza de Lima. Department of Pharmacology, Center of Biological Sciences, Federal University of Santa Catarina, Florianópolis, Brazil. thereza.lima@ufsc.br

José Fuentealba. Department of Pharmacy, School of Chemistry, Pontificia Universidad Católica de Chile, Santiago de Chile, Chile. fuentealbaevans@gmail.com

Lumir Hanus. Institute for Drug Research, School of Pharmacy, Faculty of Medicine, Hebrew University, EinKerem Campus, Jerusalem, Israel. lumirh@ekmd.huji.ac.il

Mario Herrera-Marschitz. Molecular and Clinical Pharmacology Program, Institute of Biomedical Sciences, University of Chile, Santiago de Chile, Chile. mh-marschitz@med.uchile.cl

Claudio Hezt. Laboratory of Cellular Stress and Biomedicine, School of Medicine, University of Chile, Santiago de Chile, Chile. chetz@hsph.harvard.edu

Samia Joca. School of Pharmaceutical Sciences of Ribeirão Preto (FCFRP) University of São Paulo, Ribeirão Preto, Brazil. samiaj@usp.br

Laura Morelli. Laboratory of Amyloidosis and Neurodegeneration. Instituto Leloir, IIBA-CONICET, Buenos Aires, Argentina. Imorelli@leloir.org.ar

Xavier Nadal. Phytoplant Research S.L.x.nadal@phytoplant.es

Lucas Sedeño. Laboratory of Experimental Psychology and Neuroscience, Institute of Cognitive Neurology. Buenos Aires, Argentina. lucas.sedeno@gmail.com

Kuei Y. Tseng, Department of Anatomy & Cell Biology, College of Medicine, University of Illinois at Chicago, USA. tsengky@uic.edu

Robert Williams, Department of Biology & Biochemistry, University of Bath, United Kingdom. R.J.Williams@bath.ac.uk

Local Faculty

Juan Andrés Abin Carriquiry. Department of Neurochemistry, IIBCE. Montevideo, Uruguay. ja.abin@gmail.com

Florencia Arredondo. Department of Neurochemistry, IIBCE. Montevideo, Uruguay. florarredondou@gmail.com

Luciana Benedetto. Department of Physiology. School of Medicine, Universidad de la República, Montevideo, Uruguay. benedettoluciana@gmail.com

Ignacio Carrera. Department of Organic Chemistry, School of Chemistry, Universidad de la República, Montevideo, Uruguay. nachito.carrera@gmail.com

Patricia Cassina. Department of Histology and Embriology, School of Medicine, Universidad de la República, Montevideo, Uruguay. pcassina@fmed.edu.uy

Leticia Cuñetti. Department of Pharmacology and Therapeutics, School of Medicine. Universidad de la República, Montevideo, Uruguay. lcunetti@gmail.com

Federico Dajas. Department of Neurochemistry, IIBCE. Montevideo, Uruguay. fdajas@gmail.com

Carolina Echeverry. Department of Neurochemistry, IIBCE. Montevideo, Uruguay.
caroliecheverry@gmail.com

Carlos García. Department of Organic Chemistry, School of Chemistry, Universidad de la República, Montevideo, Uruguay. carlosga@fq.edu.uy

Patricia Lagos. Department of Physiology. School of Medicine, Universidad de la República, Montevideo, Uruguay. plagos@fmed.edu.uy

Silvia Olivera. Department of Integrative Neuroscience, IIBCE. Montevideo, Uruguay.
solivera2011@gmail.com

Raquel Peyraube. 4cdc Consulting, Montevideo, Uruguay. rpeyraube@icloud.com

José Pedro Prieto. Department of Experimental Neuropharmacology, IIBCE, Montevideo, Uruguay.
jose.ppp@gmail.com

Giselle Prunell. Department of Neurochemistry, IIBCE. Montevideo, Uruguay.
gisellefprunell@gmail.com

Eduardo Savio. Uruguayan Center of Imagenology (CUDIM), Montevideo, Uruguay.
eduardo.savio@ cudim.org

Cecilia Scorza. Department of Experimental Neuropharmacology, IIBCE, Montevideo, Uruguay.
cscorza@iibce.edu.uy

Pablo Torterolo. Department of Physiology. School of Medicine, Universidad de la República, Montevideo, Uruguay. ptortero@fmed.edu.uy

Eleuterio Umpierrez. Unit of Environment, Drugs and Doping, Polo Tecnológico de Pando, School of Chemistry, Universidad de la República, Montevideo, Uruguay. eleuterioumpierrez@gmail.com

Jessika Urbanavicius. Department of Experimental Neuropharmacology, IIBCE, Montevideo, Uruguay. jessikau@gmail.com

Organizers:

