



**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** Hands-on

#### Tuesday 17 October

**09:00-10:00** Can Mitochondria-ER coupling, bioenergetics and intracellular A $\beta$  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** Molecular imaging in the diagnosis of Alzheimer's disease and related disorders. Eduardo Savio (Uruguay).

**10:00-11:00** A Role for astrocytes in ALS. Patricia Cassina (Uruguay).

**11:00-11:30** Coffee break

**11:30-12:30** Astrocyte role in CNS damage and protection. Silvia Olivera (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** Citisinoids 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

**11:30-12:00** Neuronal protection by natural flavones against oxidative stress and its relationship with the molecular structure. Carolina Echeverry (Uruguay).

**12:00-12:30** 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**

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. Veronica 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 motivation. 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**

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

**10:00-11:00** Endocannabinoid-CB1R signaling control of Prefrontal Cortex plasticity. Kuei Y. Tseng (USA)

**11:00-11:30 Coffee break**

**11:30-12:00** Opioids and cannabinoids interactions. Xavier Nadal (Spain)

**12:00-12:30** Neurophatic pain and cannabinoids: mechanisms. Raquel Peyraube (Uruguay)

**12:30-14:30 Time free**

**14:30-15:10** Immunological system and cannabinoids. Leticia Cuñetti (Uruguay)

**15:15-15:45** Methods on cannabis extraction. Xavier Nadal (Spain)

**15:45-16:00 Coffee break**

**16:00-16:40** Pharmacognostic aspects of cannabis. Carlos García (Uruguay).

**16:40-17:10** Analysis of cannabinoids and cannabinoids similms in products and biological matrices and quality assurance of them. Eleuterio Umpiérrez (Uruguay)

**17:30-18:30** Closing by Raquel Peyraube and Cecilia Scorza (Uruguay).

### **Hands-on laboratory modules (October 16<sup>th</sup> to 25<sup>th</sup>)**

1) Experimental approaches to evaluate new therapies in Parkinson's disease.  
Prunell G/Costa G.

2) In vivo approaches to study the mechanism of action of drugs of abuse  
Scorza C/Fuentealba J/Tseng

3) Characterization of primary cultures from 3xTg Alzheimer's disease model through the use of microfluidic devices. Arredondo F/Dajas-BailadorF

4) Neurodegeneration and neuroprotection in culture (glia-neuron). Echeverry C/ Olivera S.

5) Effect of cocaine on sleep-awake cycle. Benedetto L/ TorteroloP

### **Foreign Faculty**

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