

**XXVII Congreso Anual de la Sociedad Argentina  
de Investigación en Neurociencias.**

**1-5 Octubre, 2012. Huerta Grande, Córdoba,  
ARGENTINA**



**SAN**

**SOCIEDAD ARGENTINA DE  
INVESTIGACIÓN EN NEUROCIENCIAS**

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**COURSE ORGANIZING COMMITTEE:**

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Jóvenes Investigadores en Neurociencias de Cuyo (NeuroCuyo) Mendoza, Argentina. **Carolina Ayala**

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**SAN Course:** "Sculpting the Architecture and Physiology of the Brain: Hormones have a lot to Say!". Endocrine implications for developmental programming, reproduction and behavior

**COURSE PROGRAM**

**Day 1 – Monday, October 1<sup>st</sup>  
Developmental Programming**

**08:00-09:00** Registration

**09:00-10:30** Lecture I: *Principles of Neuroendocrinology.* **Tony M. Plant**, Department of Obstetrics, Gynecology and Reproductive Sciences, University of Pittsburgh School of Medicine and Magee Womens Research Institute, Pittsburgh, USA.  
This first lecture is intended to provide students knowledge of the basic concepts underlying the field of neuroendocrinology and therefore serve as a platform for more detailed consideration to further develop specific topics throughout the course.

**10:30-11:00** Coffee break

**11:00-12:30** Lecture II: *Impact of steroids during development: Sexual differentiation of the brain.* **María Julia Cambiasso**, Instituto de Investigación Médica Mercedes y Martín Ferreyra, INIMEC-CONICET-Universidad Nacional de Córdoba. Córdoba, Argentina  
The main aim of this lecture is to examine the organizing effects of gonadal steroids on the Central Nervous System. Focus will be on the establishment of sex differences on neuron physiology and growth.

**12:30-14:00** Lunch

**14:00-15:30** Lecture III: *Neuroendocrinology around the World.* **Janete A. Anselmo-Franci**, Faculdade de Odontologia, Universidade de Sao Paulo; Riberão Preto, Brasil.  
Neuroendocrinology is one of the main topics in neuroscience research; the INF is in charge of the diffusion of the activities related to it all around the world. It will be interesting to know how these activities are carried on and how students are able to participate in them.

Neurochemistry and Neuropharmacology

**Poster Number 157 / Session II**

### **Transgenic *C. elegans* as a model of congenital myasthenic syndromes**

Ignacio Bergé, Guillermina Hernando, Cecilia Bouzat

*Instituto de Investigaciones Bioquímicas Bahía Blanca. UNS-CONICET*

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The free living nematode *Caenorhabditis elegans* is a model for the study of human neurological diseases and drug testing. Our goal is to establish *C. elegans* as a model of slow-channel congenital myasthenic syndromes, which are originated by gain-of-function mutations in nicotinic receptor subunits. We introduced a mutation in the 9' position of the M2 domain of UNC-38 (V9'S), an essential alpha-type subunit of muscle levamisole-sensitive nicotinic receptor (L-AChR), and generated transgenic worms that express the mutant subunit in muscle. Single-channel recordings from isolated muscle cells show a dramatic increase (about 10-fold) in the open duration of L-AChR channels. Single openings appear, in contrast to wild-type channels, grouped into long activation periods. Macroscopic currents are 3-fold smaller than wild-type currents and do not decay in the presence of ACh. The functional changes of L-AChR in the mutant worm mimic those observed in vertebrate AChRs carrying the equivalent mutation. Our results reveal a high degree of conservation of functional roles of amino acids between *C. elegans* and human AChRs, thus opening doors for studying other gain-of-function mutations associated to slow-channel syndromes.