

**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**

**SAN2012 ORGANIZING COMMITTEE:**

**Juan Belforte**

Facultad de Medicina, Universidad de Buenos Aires-Buenos Aires.

**Sebastian Garcia**

Universidad de Mendoza-Mendoza.

**Mario Perello**

Instituto Multidisciplinario de Biología Celular-La Plata.

**Victoria Pisano**

Instituto de Investigación Médica Mercedes y Martín Ferreyra-Córdoba.

**Patricia Setton**

Instituto de Química y Fisicoquímica Biológica y Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires-Buenos Aires.

**Noelia Weisstaub**

Facultad de Medicina, Universidad de Buenos Aires-Buenos Aires.

**COURSE ORGANIZING COMMITTEE:**

Jóvenes Investigadores en Neurociencias de Córdoba, (JIN) Córdoba, Argentina. **Franco Mir and Evelin Cotella**

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

**XXVII Congreso Anual de la Sociedad Argentina de  
Investigación en Neurociencias  
1-5 Octubre, 2012. Huerta Grande, Córdoba, ARGENTINA**

**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; Ribeirão 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.

## "Ranwell Caputo" Lecture

Thursday, 18:00-19:00

### **Deciphering the function of neurotransmitter-gated ion channels: From the molecular to the animal level**

Cecilia Bouzat

Instituto de Investigaciones Bioquímicas de Bahía Blanca.  
UNS/CONICET. Bahia Blanca. Argentina.

Pentameric neurotransmitter-gated ion channels mediate rapid communication in the nervous system, and include nicotinic (AChR), GABA, glycine and 5-HT<sub>3A</sub> receptors. They are implicated in important physiological functions, in neurological disorders and they are targets of therapeutic drugs. Receptors are also present in non-neuronal cells and are highly conserved in nematodes, where they are targets of antiparasitic drugs. By combining mutagenesis, cell-expression, patch-clamp recordings and in silico studies we identified key regions involved in the functional connection between agonist binding and channel opening and we defined sites and mechanisms of drugs affecting receptor activation. This information provides a foundation for the understanding of synaptic responses and their modulation. We determined that lymphocytes have neuronal-like synaptic components and express GABA<sub>A</sub> and neuronal  $\alpha 7$  AChRs, which emerge as potential targets for modulating the immune response. We deciphered the composition of *C. elegans* muscle AChRs and generated transgenic worms carrying mutations in muscle AChR subunits, which mimic those found in patients suffering from congenital myasthenic syndromes (CMS). We postulate that *C. elegans* is a valid model for studying human CMSs and for drug screening.