

# SAN 2019 Abstract Book for ASN Neuro MAY 2020

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## Abstracts of the 2019 Meeting of Argentine Society for Research in Neurosciences

### XXXIV Annual Meeting SAN 2019

October 3–5, 2019

Villa Carlos Paz, Córdoba, Argentina

The 2019 meeting of the Argentine Society for research in Neurosciences (SAN) was held at Villa Carlos Paz, Córdoba, Argentina, in Portal del Lago Hotel, from October 3 to 5, 2019.

There were 350 attendees among researchers, scholars, PhD students and guests from different centers and universities of Argentina and abroad from 8 countries of Latin America, North America and Europe. Our congress had a total of 4 Plenary Lectures, 6 Symposia, 2 Short Conferences, 6 Youth Conferences, 19 Oral Communications, 256 Posters covering a broad number of areas in the field of neurosciences together with 2 special activities at lunch time and a round table on “Gender and Science.”

It is noteworthy that two of the Plenary Lectures were placed in honors of the pioneers of neurochemistry and neurobiology of Argentina, Drs. Ranwel Caputto and Eduardo De Robertis. This year the “Ranwel Caputto” Lecture was delivered by Prof. Belen Elgoyhen of the University of Buenos Aires (Argentina) and the “De Robertis” Lecture by Prof. Beatriz L. Caputto of the National University of Córdoba (Argentina). The “Opening Lecture” was given by Prof. Marla B. Feller, Department of Molecular and Cell Biology and Helen Wills Neuroscience Institute, University of California (USA) and the “Hector Maldonado” Lecture by Prof. Lucas Pozzo-Miller Department of Neurobiology, University of Alabama at Birmingham (USA). Short conferences were delivered by Drs. Ethan Buhr of the University of Washington in Seattle (USA), and Emilio Kropff of the Leloir Institute, Buenos Aires (Argentina).

As pre-meeting activity, the specific course for PhD students “Molecular and Cellular Neuroscience and Neurochemistry: Experimental strategies for studying the nervous system in health and disease,” took place on September 30 to October 1–2, 2019 at the School of Chemical Sciences of the National University of Córdoba, Córdoba with the participation of more than 60 students.

Remarkably, all the activities organized, including the Symposia and the Young Investigator Lectures, covered a number of diverse disciplines in the field of neurosciences with the participation of outstanding invited speakers from Argentina and other countries.

Moreover, a very friendly atmosphere for discussion and data presentation was generated during the poster and oral communication sessions with the participation of 104 researchers, 139 PhD students, 64 undergrads and 34 postdocs from Argentina, Chile, Brazil, Uruguay, USA, Canada, Denmark, Germany and France.

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**Short Program SAN 2019**

Mon., Sept 30th - Wed., Oct 2nd	Thursday, October 3rd	Friday, October 4th	Saturday, October 5th
<b>PRE-CONGRESS COURSE "Molecular and Cellular Neuroscience and Neurochemistry: Experimental strategies for studying the nervous system in health and disease"</b> Auditorio Ciencias / Facultad de Ciencias Químicas – UNC <b>REGISTRATION</b>	<b>8:30 - REGISTRATION</b> <b>9:00 - 11:00</b> <b>SYMPOSIUM I</b> <i>"New perspectives and mechanisms underlying neurological disorders"</i>	<b>8:30 - 10:30</b> <b>SYMPOSIUM III</b> <i>"Molecular mechanisms of epigenetics and chromatin remodeling during brain development and aging"</i>	<b>8:30:00 - 10:30</b> <b>SYMPOSIUM VI</b> <i>"Sensory processing and integration in olfactory and tactile systems"</i>
	<b>11:00 - 11:30</b> Coffee break	<b>10:30 - 11:00</b> Coffee break	<b>10:30 - 11:00</b> Coffee break
	<b>11:30 - 12:30</b> <b>OPENING LECTURE</b> Prof. Marla Feller	<b>11:00 - 13:00</b> <b>SYMPOSIUM IV</b> <i>"First impressions: New roles for perinatal factors governing brain development"</i>	<b>11:00 - 12:00</b> <b>Oral Communications</b> Room Auditorio (OC 8-12) Room Lago (OC 13-18)
	<b>12:30 - Lunch with activities</b> <i>"The 3Rs in neuroscience research"</i>	<b>13:00 - Lunch with activities</b> <i>"HD Foundation"</i>	<b>12:00 - 13:00</b> <b>EDUARDO DE ROBERTIS LECTURE</b> Prof. Beatriz Caputto
	<b>14:30 - 15:30</b> <b>SHORT LECTURES</b> Ethan Buhr Emilio Kropff	<b>14:30 - 16:00</b> <b>Oral Communications</b> Room Lago (OC 1-7)	<b>13:00 - Farewell Lunch</b>
	<b>15:30-16:00</b> <b>Gender and Science</b> Verónica de la Fuente	<b>14:30-15:30</b> <b>Young Investigator Lectures</b> Room Auditorio (YIL 1-3) Room Lago (YIL 4-6)	
	<b>16:00 - 17:30</b> <b>SYMPOSIUM II</b> <i>"Advances in early diagnosis and in experimental therapy of Alzheimer's disease"</i>	<b>15:30 - 17:30</b> <b>SYMPOSIUM V</b> <i>"Sexual differences on development and function of CNS"</i>	
	<b>17:30 - Coffee break</b>	<b>17:30 - Coffee break</b>	
	<b>17:30 - 19:30</b> <b>Poster Session (Even numbers)</b>	<b>17:30 - 19:30</b> <b>Poster Session (Odd numbers)</b>	
	<b>19:30 - 20:30</b> <b>RANWEL CAPUTTO LECTURE</b> Prof. Ana Belén Elgoyhen	<b>19:30 - 20:30</b> <b>HÉCTOR MALDONADO PLENARY LECTURE</b> Prof. Lucas Pozzo-Miller	
	<b>20:30</b> <b>WELCOME RECEPTION</b>	<b>20:30</b> <b>SAN General Assembly</b>	

## References

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## Chronobiology

### PI05.-As the Brain's Soldiers Grow Older: Aging Microglia Within the Pineal Gland

**Carlos Leandro Freitas and Estela Maris Muñoz**

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Microglia are resident immune cells of the central nervous system (CNS). They not only defend the CNS from insults, but they also contribute to the brain ontogeny and homeostasis. In the developing pineal gland (PG), microglia are a dynamic population that make active contact with pineal precursor cells and other constituent elements. These interactions modulate the fate, density and activity of pineal elements as they develop. For the aging CNS, microglia shift into an altered phenotype. In this study, we tried to characterize the aging microglia in PG from 18-month-old rats. Our analysis against 3-month-old rats showed a slight but significant decrease in the density of microglia-like Iba1+ cells in the old PG. Their proliferative capacity was also significantly reduced based on the levels of the nuclear marker PCNA. However, heterogeneity in PCNA expression among Iba1+ cells was observed at both ages. In the aged Iba1+ cells, we noted a spectrum in the expression pattern of the lysosomal marker EDI from discreet cytoplasmic EDI+

bodies to enormous and deforming EDI+ structures. Also, we found that the density of the precursor-like Pax6+ cells decreased during aging, but the percentage of contacts between Iba1+ and Pax6+ cells remained stable from adulthood to old age. Our results illustrate some of the changes experienced by the pineal microglia during aging. These impacts within the pineal microenvironment could affect the overall physiology of the gland as it ages.

## Chronobiology

### PI06.-Glial Contribution to Circadian Structural Plasticity in Pacemaker Neurons of *Drosophila melanogaster*

**Juan Ignacio Ispizua and Maria Fernanda Ceriani**

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Circadian clocks are present in almost all organisms, as they provide a way to adjust their physiology to the daily environmental changes triggered by the rotation of the planet. In the brain of *D. melanogaster*, this clock comprises 150 neurons that are divided in several clusters according to their anatomical location. Among these groups, the small ventral lateral neurons (sLN<sub>v</sub>s) are considered the “main pacemaker,” as they govern circadian activity patterns in constant darkness. The sLN<sub>v</sub>s dorsal projections contact specific neuronal clusters differentially across the day. These terminals cyclically change their structure, displaying a highly arborized and defasciculated architecture in the morning, to a less branched structure in the early night and to an even more retracted form before dawn. These changes modify the way the pacemaker circuitry is wired, but its effects on animal behavior and the molecular basis that control this process are only recently begun to be explored. A few years ago our laboratory described that a functional glial clock is necessary for the coordination of this phenomenon. In this work, we describe in depth this neuronal-glial interaction as a function of the time of day and found that these termini contact directly with two different glial subtypes (astrocyte like and ensheathing glia) and that the contacts with the ensheathing glia are time-of-the-day dependent, suggesting that this subtype actively contributes to the remodeling process.