SAN

SOCIEDAD ARGENTINA DE
INVESTIGACIÓN EN NEUROCIENCIAS

XXX ANNUAL MEETING

and SAN-ISN Small Conference and Course

Mar del Plata, Argentina

SEPTEMBER 27th - OCTOBER 1st, 2015

COMMITTEES

Course Organizing Committee:

María Soledad Espósito
María Sol Fustiñana
Joaquín Piriz
Lorena Rela

Meeting Organizing Committee:

Ana Belén Elgoyhen
Diego Gelman
Pablo Helguera
Rafael Pagani
Arturo Romano

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SAN-ISN Course
"State-of-the-art methods in Neuroscience Research"
ROOM TOPACIO

PROGRAM

DAY 1: Sunday September 27th	
18:00-19:00	Registration
19:15-19:30	Welcome words by course organizers
19:30-21:00	**Lecture I:** ***"Mapping neuronal networks with viral tools"*** **María Soledad Espósito**, Friedrich Miescher Institute, Basel, Switzerland
21:00	Dinner

DAY 2: Monday September 28th	
09:00-10:30	**Lecture II:** ***"In vivo 2-photon microscopy for dissection of neuronal circuits"*** **Johannes Letzkus**, Max Planck Institute for Brain Research, Frankfurt, Germany
10:30-11:00	Coffee Break

Neural Circuit Physiology

P175.-Neuronal regulation of stress response in C. elegans: Role of the neurotransmitter tyramine

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In nature, animals are frequently exposed to physiological and environmental challenges. The individual cellular response to these unfavorable conditions should be finely coordinated in multicellular organisms. The neural control of the systemic stress response was first evidenced in the free-living nematode C.elegans. However, the identity of the systemic neural signal that integrates stress perception with the response in non-neuronal tissues remains unknown.
Our analysis of the C.elegans neuronal wiring diagram reveals that the circuits activated upon exposure to stressful situations converge in the only tyraminergic neuron, RIM. Tyramine is the invertebrate counterpart for adrenaline. Here we found that tyramine-deficient animals are resistant to thermal stress, starvation and pathogen infection. Moreover, these mutant strains exhibit molecular hallmarks of stressed worms, such as autophagy and lypolisis induction, even when they are grown under favorable conditions. Our results suggest that inhibition of the basal release of tyramine is a neuroendocrine signal required for a coordinated triggering of the stress response in C. elegans. This study contributes to a better understanding of the neurohormonal signaling that controls the systemic processes in multicellular organisms.