

Latin American Training Program

2017 Call for Applications Opens October 31

The Latin American Training Program (LATP) supports the professional and scientific development of graduate students and postdoctoral fellows who are citizens or permanent residents of a Latin American or Caribbean country.

All eligible applicants will be invited to become LTP Associates and will gain access to an online community of peers and faculty in Latin America and the Caribbean, as well as webinars, live chat opportunities, and a library of educational resources.

Fifteen trainees will also be selected to participate in a three-week course at the Universidad de Valle, Colombia from March 20 to April 9, 2017.

The course “Signal processing : from single molecules to brain circuits”- will bring together top faculty from across the region and the world to provide participants with high- quality lectures, lab exercises, and training on vital professional development topics.

Purposes of the Course

The Course will have three intertwined purposes. The first purpose is descriptive: to analyze the physical and chemical nature of elementary neuronal signals, as well as of the combination of such signals in increasingly complex structures. A second purpose is methodological: to demonstrate up-to-date techniques allowing the study of neuronal signaling so that Fellows will be able to understand the relevant literature and to start developing projects when returning to their home laboratory. A third purpose is conceptual: to understand how signals are elaborated, propagated and integrated in the nervous system, and how these processes shape animal behavior. These purposes will be pursued in the study of select cases, where each example will be examined rather thoroughly, without aiming at an exhaustive survey of the many forms of neuronal signaling.

Faculty

Course Director: Isabel Llano, Co-director: Leonardo Fierro

Invited speakers and participating local faculty:

Ricardo Araneda (University of Maryland, USA)
Juan Bacigalupo (Universidad de Chile, Chile)
Efraín Buriticá (Universidad del Valle, Colombia)
Francisco Bezanilla (Chicago University, USA)
Gloria Patricia Cardona-Gómez (Universidad de Antioquia, Colombia)
Santiago Castaño (Universidad del Valle, Colombia)

Ana Correa (Chicago University, USA)
Barbara Ehrlich (Yale University, USA)
Leonardo Fierro (Universidad del Valle, Colombia)
Maria del Pilar Gómez (Universidad Nacional de Colombia, Colombia)
Arthur Konnerth (Technical University of Munich, Germany)
Isabel Llano (University of Paris, CNRS, France)
Rodolfo Llinás (New York University, USA)
Alain Marty (University of Paris, CNRS, France)
Herman Moreno (SUNY Downstate Medical Center , USA)
Enrico Nasi (Universidad Nacional de Colombia, Colombia)
Erwin Neher (Max-Planck Institute for Biophysical Chemistry, Germany)
Diego Restrepo (University of Colorado, USA)
Ernesto Restrepo (Uppsala University, Sweden)
Ranulfo Romo (Universidad Autonoma de Mexico, Mexico)
Osvaldo Uchitel (Universidad de Buenos Aires, Argentina)
Walter Stühmer (Max-Planck Institute for Experimental Medicine, Germany)

Special lectures and round tables on financing research with the participation of Edwin McCleskey (Howard Hughes Foundation) and Ricardo Dolmetsch (Novartis)

Morning lectures (schedule attached) will be followed by afternoon laboratory practicals which will include:

- Basic principles of electronics
- Confocal immunofluorescence of brain tissue
- Recording of single ion channels in lipid bilayers
- Whole-cell patch-clamp recordings from neurons in cell lines and brain slices
- Synaptic transmission at the neuromuscular junction and in cerebellar slices
- Optogenetic modulation of neuronal activity and behavior

Workshops on experimental design, data analysis and the use of simulation software will complement those practicals.

FOR MORE INFORMATION VISIT

[SFN.org/latp](https://www.sfn.org/latp)

Questions

Email: **globalaffairs@sfn.org**

name	institution	Lecture topic	Lecture Date
Rodolfo Llinas	New York University	From molecules to circuits - how to decipher the brain code	Monday March 20
Francisco Bezanilla	University of Chicago	The nerve impulse and the proteins that sense electric fields	Tuesday March 21
Enrico Nasi	Universidad Nacional de Colombia	Basic principles of sensory transduction	Wednesday March 22
Juan Bacigalupo	Universidad de Chile	Transduction cascades and their modulation	Thursday March 23
Maria del Pilar Gomez	Universidad Nacional de Colombia	Diversity and evolution of photoreception: From circadian light sensors to spatio-temporal vision	Thursday March 23 - aft
Walter Stuehmer	Max-Planck Institut	Channelopathies	Friday March 24
Santiago Castaño	Universidad del Valle	Neurotoxins	Saturday March 25
Alain Marty	University of Paris	Whole-cell recording and the study of synaptic transmission	Monday March 27
Osvaldo Uchitel	Universidad de Buenos Aires	Basic principles of synaptic transmission	Tuesday March 28
Barbara Ehrlich	Yale University	Probing intracellular calcium stores	Tuesday March 28 -afternoon
Isabel Llano	University of Paris	Modulation of synaptic transmission	Wednesday March 29
Arthur Konnerth	Technical University Munich	Dendritic integration	Thursday March 30
Erwin Neher	Max-Planck Institut	Lessons from the Calyx of Held: Superpriming, Pools, and Ca-Dynamics	Friday March 31
Ranulfo Romo	Universidad Autonoma de Mexico	Decoding stimulus features in cortex	Monday April 3
Ricardo Dolmetsch	Novartis	Neuroscience Research in industry	Monday April 3 - aft
Ernesto Restrepo	University of Upsala	Neural oscillations: Are they related to behavior?	Tuesday April 4
Ricardo Araneda	University of Maryland	Neuromodulation and adult neurogenesis	Wednesday April 5
Diego Restrepo	University of Colorado	Probing the neuronal basis of behavior with optogenetics	Thursday April 6
Ed McCleskey	Howard Hughes Medical Institute	Financing in Neurosciences - round table -	Thursday April 6 - afternoon
Herman Moreno	Down State University	Functional analysis of murine models of neurodegenerative diseases	Friday April 7
Gloria P. Cardona-Gómez	Universidad de Antioquia	Beyond Amyloid and Tau pathologies in Alzheimer's disease	Friday April 7 - afternoon
		round table - directed with Herman Moreno	