

IBRO COURSE IN NEUROSCIENCE
UNIVERSITY OF ANTIOQUIA
SCHOOL OF MEDICINE
MEDELLIN, COLOMBIA
JULY 24-AUGUST 1, 2019

Organizers:

Gloria Patricia Cardona-Gomez, PhD, Professor, Faculty of Medicine, Division of Cellular & Molecular Neurobiology, University of Antioquia, Medellin, Colombia
U. J. McMahan, Ph.D., Professor, Department of Biology, Texas A&M University, College Station, Texas, USA.

IBRO Lecturers:

Prof. Elaine Del Bel, Department of Morphology/Physiology/Pathology, University of Sao Paulo, Ribeirao Preto, Brazil,
Prof. Francisco F. De-Miguel, Institute for Cellular Physiology, UNAM, Mexico City, Mexico.
Prof. Jack McMahan, Department of Biology, Texas A&M University, College Station, Texas, USA.
Prof. Shlomo Rotshenker, Department of Anatomy/Cell Biology, Hebrew University Medical School, Jerusalem, Israel.

Local Faculty:

Prof. Gloria Patricia Cardona-Gomez, Faculty of Medicine, Group of Neuroscience. Neurobiology. University of Antioquia.
Prof. Ana Miranda. Faculty of Medicine, Group of Physiology. PHYSIS. University of Antioquia.
Prof. Rafael Posada Duque. Group of Neuroscience. Cellular & Molecular Neurobiology Area, University of Antioquia, Medellin, Colombia
Prof. Carlos Tobón. Faculty of Medicine, Group of Neuropsychology and conduct. Neurophysiology group, University of Antioquia, Medellin, Colombia
Prof. Andrés Villegas. Faculty of Medicine, Group of Neuroscience. Neurobank, University of Antioquia, Medellin, Colombia.

Sites of IBRO Lectures and Student & Local Faculty Presentations:

July 24-29, August 1: "Park of Life Auditorium" at the Faculty of Medicine.

July 30: Auditorium # 3 SIU-UDEA (Calle 62 # 52-59) – one block from Faculty of Medicine

Sites of Conferences and Tutorials:

Faculty of Medicine, Rooms # 229, 230, 231

Schedule (subject to change):

Wednesday, July 24

7:30 Registration and delivery of ID cards. – "Hall, Park of Life Auditorium"

8:00 Welcome and Greetings (Prof. Gloria Patricia Cardona-Gomez and Prof. U. J. McMahan)

8:30 Reception/Brunch- Hall "Park of Life"

9:00 The nervous system: cellular organization and structure. (SR)

10:00 Coffee Break

10:30 Principles of cell signalling . (FFD-M)

11:30 Break

11:45 Structural and functional organization of the synapse; overview. (JM)

12:45 Lunch

2:00 Conferences

3:00 Topics in molecular neurobiology. (EDB)

4:00 Coffee Break

4:30 Tutorials on presenting 10 min talks.

Thursday, July 25

- 9:00 Neurobiology of immediate early genes. (EDB)
- 10:00 Coffee break
- 10:30 Resting potential. (FFD-M)
- 11:45 Active zone material and its role in the docking of synaptic vesicles for fusion with the presynaptic membrane. (JM)
- 12:45 Lunch
- 2:00 Conferences
- 3:00 Axon growth – regeneration. (SR)
- 4:00 Coffee Break
- 4:30 Tutorials on presenting 10 min talks.

Friday, July 26

- 9:00 Physiological roles of axon growth inhibitors. (SR)
- 10:00 Coffee Break
- 10:30 Neurobiology of atypical neurotransmitters. (EDB)
- 11:30 Break
- 11:45 Behavior of synaptic vesicles during docking and fusion/retrieval of vesicle membrane for recycling. (JM)
- 12:45 Lunch
- 2:00 Conferences
- 3:00 Generation of nerve impulses by neurons. (FFD-M)
- 4:00 Coffee Break
- 4:30 Tutorials on presenting 10 min talks.

Saturday, July 27

- 9:00 Glía. (FFD-M)
- 10:00 Coffee Break
- 10:30 The priming of a docked synaptic vesicle for fusion with the presynaptic membrane. (JM)
- 11:30 Break
- 11:45 Basal ganglia and neurodegenerative diseases. (EDB)
- 12:45 Lunch
- 2:00 Conferences
- 3:00 Wallerian degeneration – the innate immune response to injury part-1. (SR)
- 4:00 Coffee Break
- 4:30 Tutorials on presenting 10 min talks.

Sunday, July 28

- 9:00 – 1:00 p.m. Tour by the city TURIBUS
- Departure: Hotel Casa Laureles- Cl. 35 #78-66, Medellín, Antioquia

Monday, July 29

- 9:00 Wallerian degeneration – the innate immune response to injury part-2. (SR)
- 10:00 Coffee Break
- 10:30 Experimental Parkinson's disease. (EDB)
- 11:30 Break
- 11:45 Release of transmitters outside the synapses. (FFD-M)
- 12:45 Lunch
- 2:00 Conferences
- 3:00 Molecular organization of the synaptic cleft and postsynaptic apparatus. (JM)
- 4:00 Coffee Break
- 4:30 Tutorials on presenting 10 min talks.

Tuesday, July 30

- 9:00 Steps in development and regeneration of the neuromuscular junction. (JM)

10:00 Coffee Break
10:30 Vision 1. (FFD-M)
11:30 Break
11:45 Microglia and macrophage activation – focusing on phagocytosis and cytokines. (SR)
12:45 Lunch
2:00 Conferences
3:00 Neuropsychiatric diseases: experimental schizophrenia (EDB)
4:00 Coffee Break
4:30 Vision 2. (FFD-M)
5:30 Tutorials on presenting 10 min talks.

Wednesday, July 31

9:00 Small conductance calcium activated K channel in the central nervous system. (EDB)
10:00 Coffee Break
10:30 Optical methods in the study of neuronal function. (FFD-M)
11:30 Break
11:45 The role of immune inhibitory receptor SIRPa and its ligand CD47 in health and disease. (SR)
12:45 Lunch
2:00 Conferences
3:00 Discovery of agrin and its role in neuromuscular junction development and regeneration. (JM)
4:00 Coffee Break
4:30 Tutorials on presenting 10 min talks.

Thursday, July August 1

9:00 **Student Presentations.**
10:00 Coffee Break
10:30 **Student Presentations.**
11:30 Break
11:45 **Student Presentations.**
1:00 Lunch
Local Faculty Presentations:
2:00 "Characterizing the relationship between chronic stress, gut microbiota and brain connectivity in healthy men" (AM)
2:30 "What do biomarkers tell us about the physiopathology of Alzheimer's disease" (CT)
3:00 "Cell-to-cell Communication by Extracellular Vesicles: Focus on Astrocytes" (RPD)
3:30 "Tautology in neurodegenerative diseases" (CAV)
4:00 "Phospholipids at the brain: Looking for new lights about function and disease" (GPCG)
4:30 Coffee Break
5:00 **General discussion about career development in neuroscience and how to seek pre- and postdoctoral training.**
5:45 FALAN and COLNE information
6:00 DINNER AND CLOSING COURSE. – Restaurant "HATOVIEJO- Calle 16 # 28-60, Palmas.

E-mail addresses of lecturers:

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