



International Brain Research Organization (IBRO)

4th Tehran SCHOOL OF NEUROSCIENCE: Basic approaches in neurological diseases

(October 17-28, 2014; Tehran, Iran)

Neuroscience Research Center, Neurobiology Research Center, and Neurophysiology Research Center of Shahid Beheshti University of Medical Sciences, Medical School of Tarbiat Modares University and IPM School of Cognitive Sciences will host the 4th IBRO School of Neuroscience including molecular, electrophysiological & behavioral approaches for studying the basics of neurological diseases on October 17-28, 2014 in Tehran, Iran.

The purpose of this school is to provide an opportunity for senior Ph.D. students and post-doctoral fellows in the Asia-Pacific region to acquire knowledge of both theoretical and technical advances in key areas of neuroscience research in a setting that encourages personal interactions and exchanges. We expect participating students to have experience with laboratory work and, preferably, publications. Funding from IBRO and local sponsors will enable 25 students to attend the 12-day school by covering their round-trip ticket, housing, and meals.

The school will provide lectures and opportunities to participate in a variety of laboratory projects. Instructors will be internationally recognized researchers from Asia, Europe and North America. Interactions between the students and teachers will be emphasized and encouraged.

Experiments

Laboratory projects will focus on the following themes and techniques. Each student shall choose one of the four themes:

THEME 1 - Pain and Addiction Research

- Hot plate test
- Tail flick test

- Formalin test
- Von Frey test
- Conditioned place preference
- Jumping test (Withdrawal)
- Open field test
- Single unit recording
- Field potential recording in brain slices
- Whole cell patch-clamp recording
- Real time PCR
- Western blot

THEME 2 - Cognition and Cognitive Disorders

- Morris Water maze
- Y maze
- Shuttle Box
- Elevated plus maze
- Novel object recognition
- Single unit recording
- In-vivo field potential recording
- Field potential recording in brain slices
- Behaving monkey electrophysiology
- Human psychophysics
- Event Related Brain Potential (ERP)
- Functional MRI
- Real time PCR
- Western blot

THEME 3 - Synaptic Plasticity and Seizure

- Kindling model of seizure
- Electroconvulsive shock model of seizure
- EEG recording in freely moving animal
- In-vivo field potential recording
- Field potential recording in brain slices
- Whole cell patch-clamp recording
- Intracellular sharp recording
- Single channel recording
- Induction and analysis of synaptic plasticity
- Real time PCR
- Western blot

THEME 4 - Neurodegenerative diseases

- Animal models of demyelinating diseases
- Animal models of Alzheimer's disease
- Animal models of Parkinson's disease
- Morris Water maze
- Y maze
- Elevated beam test
- Pole test
- Rotarod test
- Open field test
- Real time PCR
- Western blot
- Cell culture and transfection

- Immunohistochemistry
- Elisa
- Microdialysis and HPLC
- Fluorescent microscopy
- Visual evoked potential recording

Poster Presentation

All students will present posters from their previous research and all students will participate in discussions of these posters. The applicants have to send the abstract of these posters along with their application.

Group technique presentation

Groups of six students will work together on experiments. All students from each group will present a short oral report and the entire group will participate in a question-answer session.

Additional information about the school

Organizers:

Honorary Director: Dr Fereshteh Motamedi, Neuroscience Research Center, Shahid Beheshti Univ. Med. Sciences

Director: Dr Seyed Javad Mirnajafi-Zadeh, Tarbiat Modares University

General Secretary: 1- Dr Mohammad Javan, Tarbiat Modares University

2- Dr Abbas Haghparast, Neuroscience Research Center, Shahid Beheshti Univ. Med. Sciences

Sponsors:

- IBRO Asia-Pacific Regional Committee
- Tarbiat Modares University
- Neuroscience Research Center of Shahid Beheshti University of Medical Sciences
- IPM School of Cognitive Sciences
- Iranian Neuroscience Society
- Iranian Society of Physiology and Pharmacology
- Cognitive Sciences and Technologies Council

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Who should apply?

Senior Ph.D. students and post-doctoral fellows

Age limit is 35 years

Only applicants from the Asia-Pacific region can be accepted. Preference will be given to students who have experience in laboratory work and publications.

Students will be selected on the basis of their academic record and written statements concerning their interest in neuroscience and how they expect to benefit from participating in the School. The selection process will be coordinated by the IBRO Asia-Pacific Regional Committee.

How to apply

Applications are “on-line” only. Paper application forms are not available.

Instructions for application can be found at the following web site

<http://schools.ibro.info>

Closing date for applications: July 11, 2014