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