

**IBRO Neuroscience School:**

*“GENETIC BASIS OF NEUROLOGIC AND PSYCHIATRIC DISEASE”*  
December 10<sup>th</sup> - 15<sup>th</sup> 2014 – December 2014

## WELCOME MESSAGE

### Organizing committee

The primary goal of this course is to provide students with a general understanding of the basic principles of neurogenetics, and to encourage them to pursue careers in research and academia. Through a series of lectures, practical workshops, and discussion sessions, we hope to expose students to the fundamentals of neurogenetics, from the molecular to the clinical levels. The course will provide students with four general skill sets:

Neurogenetics and neurodevelopmental disorders (education, Lectures)

Experimental work (Lab research and techniques)

Discussions (Interaction with teachers)

We hope this course will ignite students' curiosity about the brain as an intricate physical organ, and how its underlying components can work together in synchrony to give rise to complex behavior and cognition.

Best wishes,

Organizing committee

Dr. Hilal A. Lashuel Qatar Biomedical Research Institute

Dr. Hatem El-Shanti Qatar Biomedical Research Institute

Dr. Omar El-Agnaf United Arab Emirate University and HBKU

Dr. Ashfaq Shuaib Hamad Medical Corporation

**COURSE MODULES**

**MODULE 1: GENETIC BASIS OF DISEASE MECHANISM IN  
NEUROLOGIC AND PSYCHIATRIC DISORDERS**

**MODULE 2: MENDELIAN DISORDERS WITH NEUROLOGIC AND  
PSYCHIATRIC MANIFESTATIONS**

**MODULE 3: COMPLEX NEUROLOGIC DISORDERS**

**MODULE 4: GENETICS OF PSYCHIATRIC DISORDERS**

## **COURSE LOGISTICS**

- All participants are strongly encouraged to read about the topics covered in the course and the research interest of the faculty in advance.
- Lecture notes will be made available to all the participants
- Each student will be asked to give a 10 minutes presentation about his/her research project.
- Evaluation forms must be filled out for each education session. All forms should be submitted anonymously, so do not write your name on the form. Please be frank in telling us what you thought about each instructor and session. Completed forms should be handed to the organizers before the end of the school.
- Do not hesitate to contact the course organizers if you have any questions or suggestions. We are here for you!

**PROGRAM****Wednesday 10<sup>th</sup> Dec 2014  
OPENING SESSION**

- Guest welcome address of host 18:00-18:10
- Welcome Remarks 18:10-18:30
- Introduction of the Biomedical Research in Qatar 18:30-19:00
- Introduction of participants 19:00-19:30
- Welcome Dinner 20:00-21:30

**Thursday 11<sup>th</sup> Dec 2014  
MODULE 1: GENETIC BASIS OF DISEASE MECHANISM IN  
NEUROLOGIC AND PSYCHIATRIC DISORDERS****MORNING SESSION - NEUROSCIENCE EDUCATION 8:30-12:30**

- Genetic basis of human disease 8:30-9:30  
Dr. Hatem El-Shanti

**15 min Break**

- Gene mapping and identification 9:45-11:00  
Dr. Marios Kambouris

**15 min Break**

- Human genomic approaches and concepts 11:15-12:30  
Dr. Hadi Abderrahim

**Prayer and Lunch Break 12:30-14:00****AFTERNOON SESSION – EXPERIMENTAL DIDACTICS 14:00-16:00**

- Genomic disorders (Chromosomal abnormalities, copy number variant (CNV) applications & analysis)  
Dr. Vasiliki Chini and Dr. Asem El-Khateeb

**EVENING SESSION – PROFESSIONAL DEVELOPMENT 18:00-21:00****(Group work)**

- Effective communication of your results  
Dr. Walid Qoronfleh
- Student presentations
- Dinner

**Friday 12<sup>th</sup> Dec 2014  
(FREE DAY)**

**Saturday 13<sup>th</sup> Dec 2014**  
**MODULE 2: MENDELIAN DISORDERS WITH NEUROLOGIC AND  
PSYCHIATRIC MANIFESTATIONS**

**MORNING SESSION - NEUROSCIENCE EDUCATION 8:30-12:30**

- Dermatologic and brain disorders (Phakomatoses) 8:30-9:20  
Dr. Hatem El-Shanti
- Neuropathies and Myopathies 9:20-10:10  
Dr. Khalid Ibrahim

**20 min Break**

- Peroxisomal and Lysosomal disorders 10:30-11:30  
Dr. Tawfeg Ben Omran
- Metabolic disorders 11:30-12:30  
Dr. Tawfeg Ben Omran

**Prayer and Lunch Break 12:30-14:00**

**AFTERNOON SESSION - EXPERIMENTAL DIDACTICS 14:00-16:00**

- Genetics of triplet repeat expansion 14:00-15:00  
Dr. Vasiliki Chini and Dr. Asem El-Khateeb
- Detection of single nucleotide variations (SNV) 15:00-16:00  
Dr. Vasiliki Chini and Dr. Asem El-Khateeb

**EVENING SESSION - PROFESSIONAL DEVELOPMENT 18:00-21:00**

**(Group work)**

- Statistics and statistical genetics  
Hanif Khalak
- Students Presentations
- Dinner

**Sunday 14<sup>th</sup> Dec 2014**  
**MODULE 3: COMPLEX NEUROLOGIC DISORDERS**

**MORNING SESSION - NEUROSCIENCE EDUCATION 8:30-12:30**

- Degenerative disorders 1 (Alzheimer disease) 8:30-9:30  
Dr. Hilal Lashuel
- Degenerative disorders 2 (Parkinson disease) 9:30-10:30  
Dr. Omar Al-Agnaf

**20 min Break**

- Epilepsy (Clinical, Imaging and Neurophysiology) 10:50-11:45  
Dr. Naim Haddad
- Epilepsy (Genetics and Genomics) 11:45-12:30  
TBD

**Prayer and Lunch Break 12:30-14:00**

**AFTERNOON SESSION - EXPERIMENTAL DIDACTICS 14:00-16:00**

- Imaging of the CNS 14:00-15:00
- Neurophysiology 15:00-16:00

**EVENING SESSION - PROFESSIONAL DEVELOPMENT 18:00-21:00**

**(Group work)**

- Ethical, social and legal issues in Biomedical Research  
Dr. Eman Sadoun
- Students Presentations
- Dinner

**Monday 15<sup>th</sup> Dec 2014**  
**MODULE 4: GENETICS OF PSYCHIATRIC DISORDERS**

**MORNING SESSION - NEUROSCIENCE EDUCATION 8:30-12:30**

- Post-traumatic stress disorder and anxiety 8:30-9:30  
Dr. Mohammed Milad

**15 min Break**

- Genetics of Autism Spectrum Disorder 9:45-11:00  
Dr. Hatem El-Shanti

**15 min Break**

- Autism spectrum disorder (clinical) 11:15-12:30  
Dr. Haitham Al-Bashir

**Prayer and Lunch Break 12:30-14:00**

**AFTERNOON SESSION - EXPERIMENTAL DIDACTICS 14:00-16:00**

- Tools for the diagnosis of Autism Spectrum Disorder 14:00-16:00  
Hakam Abul-Khair and Dr. Fouad Alshaaban

**EVENING SESSION 18:00-21:00**

- Course evaluations and feedback
- Pursuing the career in Neuroscience and Biomedical Research (Panel Discussion)
- Free Evening