The Aging Brain: Cellular Mechanisms Interfacing Human Pathology

COURSE ORGANIZERS:
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PROGRAM in short
This graduate course will introduce students to how brain aging processes are thought to intersect with the emergence of neurodegenerative diseases. Toward this aim, the students will be exploring a path leading from the cellular milestones of aging to the mechanisms underlying benign or pathological cognitive decline in elderly people. The emphasis will be on those aging processes that might be most relevant to the emergence of neuronal dysfunctions and degeneration. Clinical aspects will include the genetics, early diagnosis and therapy of both Parkinson’s and Alzheimer’s diseases. The meeting will highlight the different levels of the experimental approaches and model systems that have led to major breakthroughs in the field. Participants will also have the opportunity to acquire in depth knowledge of cutting-edge technologies suitable to investigate specific aspects of the ageing brain and diseases.

SCHEDULE and LOCATION
The course takes place at the Department of Life Sciences and Systems Biology & Department of Neuroscience “Rita Levi Montalcini”, University of Turin – Italy.
Period: 28 September- 2 October 2015

REGISTRATION
The total number of participants will be limited to 50 students, and registrations will be dealt with on a first come, first served basis. Registration may close earlier than indicated in case the maximum number of participants will be reached.
Email address for registrations and further information: dottorato.neuroscienze@unito.it

Deadline for registrations: May 30, 2015
Please note that will be dealt with on a first come, first served basis.
PhD Program in Neuroscience
Doctoral School in Life and Health Sciences
University of Turin

PROGRAM

We will maximize the opportunities of interaction between the speakers and the participants, by creating a friendly and unintimidating environment. Moreover, the students will be stimulated to provide with critical analyses of the addressed issues throughout the course. Finally, this school will offer an essential conceptual and methodological framework for anyone aiming to pursue rigorous research or clinical activity in the field. Time will be dedicated to informal journal clubs, short talks and/or poster presentations by participants and informal gatherings to foster new collaborations and further discussion.

The main topics of the course will be the following:

1st topic – Cellular aging: key features
2nd topic – The aging organism and the aging brain
3rd topic – Neurodegenerative diseases: molecular and cellular dysfunctions
4th topic – Neurodegenerative disease: genetic and clinical perspective
5th topic – Neurodegenerative diseases: imaging and cognitive studies

Confirmed speakers:

**Martina Amanzio** (University of Torino, Italy) – A neuropsychological approach for placebo analgesia in primary dementia
**Paolo Calabresi** (University of Perugia, IRCSS S Lucia Roma, Italy) – Aberrant synaptic plasticity in PD and L-DOPA-induced dyskinesia
**Alessandro Cellerino** (Scuola Normale di Pisa, Italy; FLI, Jena, Germany) – Mechanisms of life span regulation
**André Fischer** (German Center for Neurodegenerative Diseases, University of Goettingen, Germany) – Epigenetic of neurodegeneration and dementia
**Claudio Franceschi** (University of Bologna, Italy) – Genetics and epigenetics of human healthy and pathological aging
**Vincenzo De Paola** (Imperial College London, United Kingdom) - Synapses in the aged brain: in vivo 2-photon imaging
**Sebastian Jessberger** (Brain Research Institute, Zurich, Switzerland) - Mechanisms underlying neural stem cell aging
**Ioannis Ugo Isaias** (University of Würzburg, Germany) - Brain imaging in Parkinson disease, from clinical utility to research, and back
**Leonardo Lopiano** (University of Torino, Italy) – Neuromodulation in Parkinson’s disease and Alzheimer’s disease
**Vania Broccoli** (San Raffaele, Milan) - Reprogramming hiPS toward dopaminergic fates and replacement strategies in Parkinson disease
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**Julien Puyal** (University of Lausanne, Switzerland) – Autophagy in aging and neurodegeneration

**Innocenzo Rainero** (University of Torino, Italy) – Genetics of Alzheimer’s disease and diagnostic biomarkers

**Chiara Rolando** (University of Basel, Switzerland) - Modelling aging

**Massimo Tabaton** (University of Genova, Italy) – The complexity of Alzheimer’s disease and of Aβ pathological actions

**Elena Tamagno** (University of Torino, Italy) – Animal models of Alzheimer’s disease

**Registration cost for participants not enrolled in the local PhD in Neuroscience:** 50 euro

**Credits:** 5