



UNIVERSITÀ
DEGLI STUDI
DI TORINO



DIPARTIMENTO DI
NEUROSCIENZE
UNIVERSITÀ DI TORINO

PhD Program in Neuroscience
Doctoral School in Life and Health Sciences
University of Turin



THE AGING BRAIN CELLULAR MECHANISMS INTERFACING HUMAN PATHOLOGY

DOCTORATE COURSE
TORINO - ITALY

28 September | 2 October 2015
University of Torino

Organizers: A. Buffo; S. De Marchis; M. Giustetto

Dept. of Neuroscience "Rita Levi Montalcini"
Dept. of Life Sciences and Systems Biology

Supported by





The Aging Brain: Cellular Mechanisms Interfacing Human Pathology

COURSE ORGANIZERS:

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OUTLINE OF THE COURSE

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 Neuroscience "Rita Levi Montalcini", 10126, University of Turin, Corso Massimo d'Azeglio 52 – 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





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may close earlier than indicated in case the maximum number of participants will be reached. **Registration cost for participants not enrolled in the local PhD in Neuroscience: 50 euro**

CREDITS: 5

Email address for registrations and further information:
dottorato.neuroscienze@unito.it

PROGRAM

Monday – September 28

14:00-14:30

Welcome and Introduction

Topic 1. Cellular aging: key features

14:30-15:30

Julien Puyal (University of Lausanne, Switzerland) – Autophagy in aging and neurodegeneration

15:30-17:30 Focus group

Chiara Rolando (University of Basel, Switzerland) –

Focus group: Modelling aging

Tuesday – September 29

Topic 2. The aging brain in the aging organism

9:00-10:00

Claudio Franceschi (University of Bologna, Italy) – Genetics and epigenetics of human healthy and pathological aging

10:00-11:00

Sebastian Jessberger (Brain Research Institute, Zurich, Switzerland) - Mechanisms underlying neural stem cell activity in health and disease

11:00-11:30 Coffee-break

11:30-12:30

Alessandro Cellerino (Scuola Normale di Pisa, Italy; FLI, Jena, Germany) – Next generation sequencing and brain aging





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Lunch and poster session

14:30-16:00

Selected short talks

18:00-19:30 Special event

Public Lecture: Aula Magna del Rettorato, Università di Torino, Via Verdi 8, Torino

Claudio Franceschi (University of Bologna, Italy) - "LA SFIDA DEL SECOLO: UNA VITA PIU' LUNGA E PIU' SANA PER TUTTI: nuove idee e tecnologie per un approccio integrato anti-invecchiamento".

Nightly Social Event: organized by the local PhD students (TBA)

Wednesday – September 30

Topic 3. Neurodegenerative diseases: Parkinson's disease

9:00-10:00

Paolo Calabresi

(University of Perugia, IRCSS S Lucia Roma, Italy) – Aberrant synaptic plasticity in PD and L-DOPA-induced dyskinesia

10:00-11:00

Vania Broccoli (San Raffaele, Milan) - Cell reprogramming and CRISPR/Cas9 gene targeting for modelling adult neurodegenerative disorders.

11:00-11:30 Coffee-break

11:30-12:30

Maurizio Zibetti (University of Torino, Italy) – Neuromodulation in Parkinson's disease and Alzheimer's disease

Lunch and poster session

14:30-15:30

Vincenzo De Paola (Imperial College London, United Kingdom) - A window on the ageing brain: in vivo imaging of structural changes at synaptic resolution.

15:30-17:00





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Maurizio Zibetti (University of Torino, Italy)

Focus group: From brain-aging processes to clinical features of Parkinson's Disease

Thursday – October 1

Topic 3. Neurodegenerative diseases: Alzheimer's disease

9:00-10:00

Innocenzo Rainero (University of Torino, Italy) – Advances in genetics of Alzheimer's disease and development of biomarkers

10:00-11:00

Massimo Tabaton (University of Genova, Italy) – The complexity of Alzheimer's disease: mechanisms of beta-amyloid toxicity and overproduction

11:00-11:30 Coffee-break

11:30-12:30

Valeria Tiranti (Besta, Milano, Italy) Experimental models of Neurodegeneration with Brain Iron Accumulation (NBIA syndromes)

Lunch and poster session

14:00-15.00

André Fischer (German Center for Neurodegenerative Diseases, University of Goettingen, Germany) – Epigenetic mechanisms in neurodegenerative diseases

15:30-17:00

Elena Tamagno (University of Torino, Italy) –
Focus group: Experimental approaches to study Alzheimer's disease

Friday – October 2

Topic 4. Neurodegenerative diseases: Cognitive perspective and imaging

10:00-11:00

Martina Amanzio (University of Torino, Italy) – A neuropsychological approach for placebo analgesia in primary dementia





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11:00-11:30 Coffee-break

11:30-12:30

Ioannis Ugo Isaias (University of Würzburg, Germany) - Brain imaging in Parkinson disease, from clinical utility to research, and back

Lunch and poster session

14:30-15:30

Pier Giuseppe Pelicci (IEO, University of Milano, Italy) - DNA damage and repair in senescent mitotic cells

15:30-16:00

Concluding remarks

