



Dottorato in Neuroscienze
Scuola di Dottorato in Scienze della Vita e della Salute
Università degli Studi di Torino

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

The Aging Brain: Cellular Mechanisms Interfacing Human Pathology

COURSE ORGANIZERS:

Annalisa Buffo email: annalisa.buffo@unito.it
Silvia De Marchis email: silvia.demarchis@unito.it
Maurizio Giustetto email: maurizio.giustetto@unito.it

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 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 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

NEW Deadline for registration: July 15, 2015





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.

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

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

11:00-11:30 Coffee-break





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

11:30-12:30

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

Lunch and poster session

14:30-15:30

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

15:30 -17:00 Selected short talks

18:00 -19:30 Public lecture - Claudio Franceschi (University of
Bologna, Italy) Aula Magna del Rettorato, Università di Torino, Via Verdi 8,
Torino

Nightly Social Event organized by the local PhD Students

Wednesday – September 30

Topic 3. Neurodegenerative diseases: Parkinson's disease

9:00-10:00

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

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

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

Lunch and poster session





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

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 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

14:30-16.30 Focus group

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

Thursday – October 2

Topic 4. Neurodegenerative diseases: Cognitive perspective and imaging

9:00-10:00

Miriam Kunz (University of Bamberg, Germany) - Pain processing and pain communication in patients with dementia





Dottorato in Neuroscienze
Scuola di Dottorato in Scienze della Vita e della Salute
Università degli Studi di Torino

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

10:00-11:00

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

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

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

Credits: 5

Outreach activity: a public lecture on “healthy aging” will be held by **Claudio Franceschi** (University of Bologna) on **September 29, 2015** (h 18:00).

