

BIOPHYSICS AND CELLULAR BIOLOGY IN NEURODEGENERATION

A PRACTICAL AND THEORETICAL COURSE

IIDEFAR-Max Planck Rosario | October 9-13th, 2017.

Directors: Dr. Claudio O. Fernández and Dr. Mauricio Menacho Márquez

Free registration at the email: course2017@iidefar-conicet.gov.ar

INVITED PROFESSORS:

Dr. Tiago Outeiro

Center for Nanoscale Microscopy and
Molecular Physiology of the Brain, University
Medical Center, Göttingen, Germany

Dr. Christian Griesinger

Department of NMR-based Structural Biology,
Max Planck Institute for Biophysical Chemistry
(MPIbPC), Göttingen, Germany

INVITED INSTRUCTOR:

Bioq. José M. Pellegrino

Instituto de Fisiología Experimental (IFISE),
Rosario, Argentina

Number of students: 15-20
(Advanced undergraduate,
PhD and Post-doc students)

Key topics: Protein amyloidogenesis.
Neurodegeneration. Aggregation pathways.
Intrinsically disordered proteins. Cellular models.

Biophysics: Theory: Principles and basis of
Nuclear Magnetic Resonance. NMR of
proteins. Pulse sequences. 1D, 2D & 3D NMR
experiments. Structural parameters.
Relaxation. Assignment strategies.

Practice: Characterization of protein-ligand
and protein-membrane interactions by NMR
spectroscopy. Monitoring amyloid aggregation
by NMR and other spectroscopic techniques.

Cell Biology: Theory: Confocal
and fluorescence microscopy.
Basic topics. Image analysis and
tools. Design of cellular models for
the study of amyloid aggregation.

Practice: In-cell characterization
of the amyloid aggregation
process. Visualization of
intracellular protein inclusions.

PRELIMINARY PROGRAMME

Time hs	Monday	Tuesday	Wednesday	Thursday	Friday
09:00 10:30	Cell Biology Theory 1	Cell Biology Theory 3	Biophysics Theory 1	Biophysics Theory 3	Information about the PhD International Program in Molecular Biosciences and Biomedicine
COFFEE BREAK					
11:00 12:30	Cell Biology Theory 2	Cell Biology Theory 4	Biophysics Theory 2	Biophysics Theory 4	
LUNCH TIME					
14:00 18:00	Cell Biology Practice 1	Cell Biology Practice 2	Biophysics Practice 1	Biophysics Practice 2	