

Advanced School on Protein Structure and Dynamics: from Spectroscopy to Mass Spectrometry Parma, February 22-24th, 2017

February 22nd, University of Parma, Interdepartmental
Center for Measurements, Department of Food and Drug

Course Introduction:

9.30-10.00 Proteins and Biologics –

Silvia Catinella & Andrea Mozzarelli

10.00-11.00 Circular dichroism, proteins and applications -

Luca Ronda

11.00 -11.30 Coffee break

11.30-12.30 Fluorescence, Förster energy transfer, protein
conformations and protein-protein interactions -

Stefano Bettati

12.30-14.00 Lunch

14.00-17.30 Practical activities on CD and fluorescence
spectra collection, secondary structure determination,
protein folding and unfolding

17.30-18.30 Student reading of CD and fluorescence study
cases

19.30-21.00 Dinner

21.00-23.00 Selected student presentations of CD and
fluorescence study cases

February 23rd, Chiesi Farmaceutici

9.00-11.00 NMR for protein structure and dynamics -

Serena Faggiano

11.00-11.30 Coffee break

11.30-13.30 Practical activities of NMR experiments

13.30-14.30 Lunch

14.30-15.30 Overview of biological mass spectrometry -
Barbara Pioselli

15.30-16.30 Sample preparation for mass spectrometry -
Laura Tigli & Brenda Rosa

16.30-17.00 Coffee break

17.00-18.30 Student reading of NMR and MS study cases

19.30-21.00 Dinner

21.00-23.00 Selected student presentations of NMR and MS
study cases

February 24th, Chiesi Farmaceutici

9.30-10.30 Application of mass spectrometry to determine
primary structure of protein: amino acid sequence and post-
translational modifications -

Sega Ndiaye (supported by Thermo)

10.30-11.00 Coffee break

11.00-12.00 Mass spectrometry-based tools to analyze protein
conformations and dynamics -

Rasmus Uffe Jacobsen (supported by Waters)

12.00-13.00 Application of mass spectrometry for quantification
of peptides and proteins -

Samuele Scurati (supported by ABSciex)

13.00-14.00 Lunch

14.00-17.30 MS Practical activities:

- determination of post-translational modifications
- HDX-MS experiments to study protein conformation
- peptide quantitation by mass spectrometry

17.30 Course Conclusions

Scientific and Organizing Committee

*Andrea Mozzarelli (UniPR), Stefano Bettati (UniPR), Stefano Bruno (UniPR), Barbara
Campanini (UniPR), Luca Ronda (UniPR), Gianluca Paredi (UniPR), Samanta Raboni (UniPR),
Serena Faggiano (UniPR), Gianluca Molla, (Unilnsubria), Silvia Catinella (Chiesi),
Barbara Pioselli (Chiesi), Laura Tigli (Chiesi)*