

RTG 2202 Summer School

Structural Biology

First annual summer school of the
Research Training Group 2202
„Transport across and into membranes“

2017, September 4th - 7th
University of Freiburg

Structural Biology plays an important role in delivering information about the composition, architecture and function of proteins and membrane proteins in particular. Driven by technological progress, structural biology evolves rapidly and uses a broad spectrum of methods. The RTG summer school offers an introduction into the most important techniques in Structural Biology and demonstrates their use by discussing examples of application.

Register now!

Please register online: www.taim.uni-freiburg.de

The summer school takes place at the University of Freiburg. The lecture halls will be announced soon.

Albert-Ludwigs-Universität Freiburg

Research Training Group 2202
„Transport across and into membranes“
Albertstr. 21
D-79104 Freiburg
www.taim.uni-freiburg.de
rtg2202@bio.chemie.uni-freiburg.de

Photo: Michael Winterhalter, Structure pictures: Daniel Wohlwend

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RTG 2202 Summer School on Structural Biology

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Monday, Sept 4th

- 11:30 Registration & Lunch
- 12:30 Structural biology and the rise of Biochemistry
Prof. Susana Andrade, Institute for Biochemistry, University of Freiburg
- 13:00 What can be seen by cryo-EM and some basic concepts towards 3D reconstruction
Prof. Bruno Klaholz, Centre for Integrative Biology / IGBMC, University of Strasbourg
- 14:00 Introduction into image processing: overview of steps during structure determination by cryo-EM
Prof. Bruno Klaholz, Centre for Integrative Biology / IGBMC, University of Strasbourg
- 15:00 Coffee break
- 15:45 Solution NMR spectroscopy in Structural Biology: Fundamental Concepts
Prof. Sebastian Hiller, Biozentrum, University of Basel
- 16:45 Solution NMR spectroscopy in Structural Biology: Advanced Methods
Prof. Sebastian Hiller, Biozentrum, University of Basel
- 17:45-18:30 Integrative Structural Biology lecture: similarities between methods, high-resolution work, technologies & multi-scale integration
Prof. Bruno Klaholz, Centre for Integrative Biology / IGBMC, University of Strasbourg
- 19:00 Welcome Dinner & Keynote lecture: Membrane transport and membrane proteins - structure, mechanism, physiology
Prof. Reinhard Krämer, University of Cologne

Tuesday, Sept 5th

- 9:00 Structure determination by X-ray crystallography
Prof. Oliver Einsle, Institute for Biochemistry, University of Freiburg
- 10:00 Coffee break
- 10:45 Membrane Structural Biology
Prof. Carola Hunte, Institute for Biochemistry and Molecular Biology, University of Freiburg
- 11:45 - 12:45 The seeds of success. An introduction to protein crystallisation and seeding
Dr. May Marsh-Sharpe, Paul Scherrer Institut, Switzerland
Protein crystallisation in the pharmaceutical industry
Dr. Allan D'Arcy, Actelion Pharmaceuticals Ltd, Switzerland

Wednesday, Sept 6th

- 10:00 Welcome coffee
- 10:30 - 12:30 Image processing for single particle cryo Electron microscopy
Dr. David Haselbach, IMP Research Institute of Molecular Pathology, Austria

Thursday, Sept 7th

- 9:00 Small Angle Scattering Approaches in Structural Biology: Basics and general applications
Dr. Haydyn Mertens, European Molecular Biology Laboratory (EMBL) Hamburg
- 10:00 Coffee break
- 10:45 Small Angle Scattering Approaches in Structural Biology: Hybrid modeling approaches
Dr. Haydyn Mertens, European Molecular Biology Laboratory (EMBL) Hamburg
- 11:45 - 12:45 Solid-state NMR approaches for the investigation of membrane polypeptides
Prof. Burkhard Bechinger, Institute for Chemistry, University of Strasbourg
- 19:00 Closing Event

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