

**Understanding
Intramembrane
Proteolysis**
from Substrates to Enzymes



International Symposium 2017

by the DFG-Research Unit 2290
4-6 October, Regensburg, Germany

Program for Wednesday, October 4:

- 14:00 *Check-in & Registration*
- 15:00 *Welcome & Introduction*
Dieter Langosch and Harald Steiner

Keynote lecture:

- 15:15 ***“What Lurks Beneath (the Membrane): A Mechanistic Exploration of Rhomboid Proteolysis”***
Siniša Urban (Johns Hopkins University, Baltimore)
- 16:15 *Coffee break*

Session 1: Rhomboid Proteases

Chair: Christian Haass

- 16:45 ***„Making the Cut: Regulation of Mitochondrial PARL Intramembrane Proteolysis and its Implications in Parkinson's Disease”***
Joanne Lemieux (University of Alberta)
- 17:15 ***“Chemical Tools for the Study of Rhomboid Proteases”***
Steven Verhelst (KU Leuven)
- 17:45 ***“Unwinding of the Substrate Transmembrane Helix in Intramembrane Proteolysis”***
Iban Ubarretxena-Belandia (Icahn School of Medicine, New York)
- 18:00 ***„Rhomboid Proteases: from Substrates to Inhibitors to Functions”***
Kvido Stříšovský (CAS, Prague)
- 18:30 ***„Differential Membrane Proteomics Identifies ERAD-R Substrates of Signal Peptide Peptidase”***
Marius Lemberg (ZMBH, Heidelberg)
- 19:30 *Dinner*

**Understanding
Intramembrane
Proteolysis**
from Substrates to Enzymes



International Symposium 2017

by the DFG-Research Unit 2290
4-6 October, Regensburg, Germany

Program for Thursday, October 5:

Session 2: Aspartyl- and Metalloproteases I

Chairs: Marius Lemberg, Stefan Lichtenthaler

- 9:00 **„Structural and Functional Investigations of Human γ -Secretase“**
Linfeng Sun (Tsinghua University, Beijing)
- 9:30 **„Molecular Simulation Analysis of γ -Secretase Dynamics and Substrate Binding“**
Martin Zacharias (TU Munich)
- 9:50 **„New Insights into Substrate Binding of γ -Secretase“**
Harald Steiner (LMU & DZNE Munich)
- 10:10 **“ β - and γ -Secretases in Alzheimer’s Disease: How Do we Specifically Target their Pathological Roles?“**
Lawrence Rajendran (University of Zurich)
- 10:40 **„Mechanism of Substrate Recognition by the Exosites in γ -Secretase“**
Akio Fukumori (Osaka University)
- 10:55 Coffee Break
- 11:25 **“Dissecting Substrate/Enzyme Interaction in Intramembrane Proteolysis “**
Dieter Langosch (TU Munich)
- 11:45 **“Molecular Dynamics of the Transmembrane Segments of Target Proteins for Intramembrane Proteolysis“**
Daniel Huster (University of Leipzig)
- 12:05 **“Investigation of Structure and Dynamics of APP Transmembrane α -Helix by Solution State NMR Spectroscopy“**
Burkhard Luy (KIT, Karlsruhe)
- 12:25 **“Comparing Conformational Dynamics of γ -Secretase Substrates Using a Multi-Scale Molecular Dynamics Approach“**
Christina Scharnagl (TU Munich)
- 12:45 **“SREBP: Bending Dynamics of the S2P Substrate“**
Rasmus Linser (TU Munich)
- 13:00 Lunch & Recreation

**Understanding
Intramembrane
Proteolysis**
from Substrates to Enzymes

International Symposium 2017

by the DFG-Research Unit 2290
4-6 October, Regensburg, Germany

14:15 *Leaving the hotel for a short river cruise
(anyone who wants to come)*
[Historical "Strudel"-Roundtrip](#); 45 min Sightseeing on board of the MS Bruckmadl
(14:30; Steinere Brücke; 8,90€)

Session 3: Proteases in Functional Networks

Chair: Regina Fluhrer

17:00 ***"Harnessing Membrane Proteases to Reverse Tissue Fibrosis "***
Irit Sagi (Weizmann Institute, Rehovot)

17:30 ***„Gatekeeping and Quality Control during Fertilization by Ovastacin and Fetuin-B at the Egg Surface"***
Walter Stöcker (JGU, Mainz)

18:00 ***„Intramembraneous Processing by γ -Secretase Regulates Reverse Signaling of Ephrin-B2 in Migration of Microglia"***
Jochen Walter (University of Bonn)

18:15 ***"TREM2 – from Microglial Dysfunction to Human Patients "***
Christian Haass (LMU & DZNE Munich)

18:35 ***Poster Flash talks***

19:00 *Dinner*

Session 4: Poster-Session

Hotel Lobby

Program for Friday, October 6:

Session 5: Aspartyl- and Metalloproteases II

Chairs: Harald Steiner, Dieter Langosch

- | | |
|-------|---|
| 9:00 | "ADAM17 at the Control of Inflammation and Cancer"
<i>Stefan Rose-John (University of Kiel)</i> |
| 9:30 | "γ-Secretase and the Mechanism of Alzheimer's Disease"
<i>Michael Wolfe (University of Kansas)</i> |
| 10:00 | "Alzheimer's Disease causing Mutations prime γ-Secretase - APP/Aβn Interactions for Dissociation "
<i>Lucia Chávez-Gutiérrez (KU Leuven)</i> |
| 10:30 | "β-Sheet Structure within the Extracellular Domain of C99 Regulates Amyloidogenic Processing by γ-Secretase"
<i>Steven O. Smith (Stony Brook University, New York)</i> |
| 11:00 | Coffee Break |
| 11:30 | "Short and Long Substrates of γ-Secretase"
<i>Stefan Lichtenthaler (TUM & DZNE Munich)</i> |
| 11:50 | "Signal Peptide Peptidase-Like Intramembrane Proteases - from Function to Pathophysiology"
<i>Bernd Schröder (University of Kiel)</i> |
| 12:10 | "Substrate Recognition Strategies of Signal Peptide Peptidase-Like Proteases "
<i>Regina Fluhrer (LMU & DZNE Munich)</i> |
| 13:00 | Lunch & Departure |