



PERSPECTIVES IN BIOENERGETICS

2025

Study Group "Bioenergetics" of the German Biochemical Society

September 29th - October 1st

Schloss Rauischholzhausen

Day 1 (29.09.2025)

16:30 **Arrival and Registration**

18:30 **Dinner**

20:00 **Welcome**

Session 1

Chair: Volker Zickermann – Goethe University Frankfurt

GBM key note lecture

20:10 **Vivek Sharma** - *University of Helsinki*
Novel insights in biological energy conversion by
bridging cryo-EM and computer simulations



21:30 **End of session**

Get-together in the bar

Day 2 (30.09.2025)

Session 2

Mitochondria and OXPHOS

Chair: Janet Vonck – *MPI for Biophysics, Frankfurt*

- 09:00** **Till Stephan** (*Goethe University Frankfurt*)
Analyzing subcellular architecture using super-resolution microscopy
- 09:30** **Roland Lill** (*Philipps University Marburg*)
Synthesis and apoprotein insertion of Fe/S clusters in mitochondria
- 10:00** **Irene Vercellino** (*Forschungszentrum Jülich*)
SCAF1 drives the compositional diversity of mammalian respirasomes

10:30

Break

- 11:00** **Carola Hunte** (*University of Freiburg*)
The assembly of respiratory complex III
- 11:30** **Werner Kühlbrandt** - (*MPI for Biophysics, Frankfurt*)
High-resolution cryoEM of mitochondrial ATP synthase and complex I
- 12:00** **Monalisa Sarkar** – (*MPI for Biophysics, Frankfurt*)
Function of TPR50 and CMC1-like in Complex I assembly
- 12:10** **Maximilian Weiß** - *University of Freiburg*
Hydration of proton pathways in *E. coli* complex I hampers energy conversion

12:20

End of session

12:30

Lunch and poster

Session 3

Photosynthesis

Chair: Michael Hippler – *Uni Münster*

- 14:30** **Holger Dau** (*FU Berlin*)
Orchestration of electron and proton transfer in photosynthetic water splitting
- 15:00** **Rana Hussein** (*Goethe University Frankfurt*)
Photosystem II in motion: Tracking structural changes upon activation
- 15:30** **Anna Matuszynska** (*RWTH Aachen*)
Integrative hybrid modelling of photosynthesis to quantify the biotechnological potential of cyanobacteria
- 16:00** **Felix Buchert** (*University of Münster*)
Revisiting the energy budgeting linked to the chloroplast ATP synthase
- 16:30** **Gyana Prakash Mahapatra** (*Philipps University Marburg*)
Cryo-EM structure of Chlamydomonas Photosystem I complexed with the alternative electron donor cytochrome c6
- 16:40** **Manuel Lopez-Ortiz** (*University of Rostock*)
From PSI to "X": A framework to quantify the electron transfer from PSI to any electron acceptor

16:50

Break

17:00 Business meeting

18:30

Dinner

Session 4

GBM key note lecture

Chair: Jan Schuller – *Philipps University Marburg*

- 20:00** **Florent Waltz** – *Biozentrum, University of Basel*
Investigating mitochondrial architecture using cryo-electron tomography

21:30

End of session

Get-together in the bar



Day 3 (01.10.2025)

Session 5

Microbial bioenergetics

Chair: Sven Stripp – *University of Potsdam*

- 09:00 Matthias Boll** (*University of Freiburg*)
Energy-converting complexes involved in aromatic compound and fatty acid degradation in anaerobes
- 09:30 Oliver Einsle** (*University of Freiburg*)
Latest research on Nitrogenase
- 10:00 Volker Müller** (*Goethe University Frankfurt*)
Bioenergetics of acetogenesis

10:30

Break

- 11:00 Max Dongsheng Yin** (*MPI for Biophysics*)
When enzymes dance: conformational dynamics in the Wood-Ljungdahl pathway
- 11:30 Kristian Parey** (*University of Osnabrück*)
Structural diversity in the world of biological energy conservation
- 12:00 Sophia Paul** (*Philipps University Marburg*)
Superassemblies in methanogens powering CO₂ reduction
- 12:10 Johannes Rebelein** (*MPI for Terrestrial Microbiology*)
Catalytic and mechanistic insights into methylthio-alkane reductases - key players in an anaerobic methionine-salvage pathway
- 12:20 Florian Schuhmacher** (*University of Freiburg*)
Structural insights on the nitrogenase-like reductase CfbC₂/D₂
- 12:30 Darja Deobald** (*Helmholtz Centre for Environmental Research*)
Bioenergetics of organohalide respiration
- 12:40 Mustafa Zeno** (*University of Hohenheim*)
Fragment-based drug discovery targeting the Na⁺-translocating NADH:quinone oxidoreductase (Na⁺-NQR) to combat multidrug-resistant bacteria

12:50

End of session

13:00

Lunch and departure



Universität
Rostock



Traditio et Innovatio



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