



PERSPECTIVES IN BIOENERGETICS 2023

Day 1 (25.09.2023)

16:30 Arrival and Registration

18:30 Dinner

20:00 Welcome

Session 1

Chair: Jens Appel - *University Kassel*

GBM key note lecture

20:10 **Kevin Redding** - *Arizona State University*
Light-driven electron transport in *Heliobacteria*:
What does a fermentative bacterium do when given
a photochemical reaction centre?

21:30 End of session

Get-together in the bar

Day 2 (26.09.2023)

Session 2

Respiratory complex I

Chair: Volker Zickermann - *Goethe University Frankfurt*

09:00 **Ulrich Brandt** - *Radboud Institute for Molecular Life Sciences*
The molecular basis of mitochondrial disease caused by mutation in complex I

09:30 **Hans-Peter Braun** - *Leibniz University Hannover*
Structure of mitochondrial complex I from plants: new insights into the function of the carbonic anhydrase domain

10:00 **Daniel Wohlwend** - *Albert Ludwigs University Freiburg*
Structures of 3-acetylpyridine adenine dinucleotide and ADP-ribose bound to respiratory complex I at resolutions better than 1.9 Å

10:30

Break

11:00 **Jonathan Schiller** - *Goethe University Frankfurt*
Insights into complex I assembly

11:30 **Alfredo Cabrera-Orefice** - *Goethe University Frankfurt*
Dynamics of mitochondrial complex I maintenance

12:00 **Tatjana Gerasimova** - *Albert Ludwigs University Freiburg*
Reaction induced conformational changes in NuoM of respiratory complex I

12:10 **Anton Altmeyer** - *Goethe University Frankfurt*
A high resolution cryoEM structure of the Mrp antiporter from *Bacillus pseudofirmus* offers insights into ion transfer pathways

12:20

End of session

12:30

Lunch and poster

Session 3

Chair: **Marc Nowaczyk** - *University of Rostock*

Photosynthesis

- 14:30** **Dennis Nürnberg** - *Free University of Berlin*
Energetic limit of photosynthesis
- 15:00** **Till Rudack** - *University of Regensburg*
Photosystem II assembly - A computational view
- 15:30** **Michael Hippler** - *University of Münster*
Dynamic remodeling of photosystem I with implications in structure and function
- 16:00** **Anna Frank** - *University of Rostock*
Rational design of biophotoelectrodes for in vitro biocatalysis
- 16:10** **Vera Selinger** - *Free University Berlin*
Oligomerisation state changes of Photosystem I under varying light conditions
- 16:20** **Bianca Introini** - *Max Planck Institute of Biophysics, Frankfurt*
NDHI – PSI supercomplex from *Spinacia oleracea*

16:30 **Break**

17:00 Business meeting

18:30 **Dinner**

Session 4

Chair: **Janet Vonck** - *Max Planck Institute of Biophysics, Frankfurt*

CryoEM in bioenergetics

- 20:00** **Werner Kühlbrandt** - *Max Planck Institute of Biophysics, Frankfurt*
A 40-year cryoEM journey through molecular bioenergetics

21:30 **End of session**

Get-together in the bar

Day 3 (27.09.2023)

Session 5

Microbial bioenergetics

Chair: Julia Fritz-Steuber - *University of Hohenheim*

- 09:00 Volker Müller** - *Goethe University Frankfurt*
Bioenergetics of a fundamental biological process, reductive acetyl-CoA synthesis
- 09:30 Jan Schuller** - *Philipps University Marburg*
Bioenergetic complexes of acetogens
- 10:00 Jörg Simon** - *Technical University of Darmstadt*
Climate Change Microbiology meets Bioenergetics: the case of nitrous oxide-respiring bacteria

10:30

Break

- 11:00 Carola Hunte** - *Albert Ludwigs University Freiburg*
Fundamentals of energy conversion in respiratory complex III and adaptation within respiratory supercomplex
- 11:30 Günter Fritz** - *University of Hohenheim*
CryoEM and X-ray structures of NADH:quinone oxidoreductase of *Vibrio cholerae* reveal conformational coupling in redox-driven Na⁺ translocation
- 12:00 Lin Zhang** - *Albert Ludwigs University Freiburg*
Architecture of the NADH:ferredoxin oxidoreductase RNF that drives biological nitrogen fixation
- 12:10 Anuj Kumar** - *Philipps University Marburg*
Molecular architecture and electron transfer pathways of the Stn family transhydrogenase

12:20

End of session

12:30

Lunch and departure