



March 24th, 2022

8.30am - 8.45am Jan Kern, *Lawrence Berkeley National Laboratory*
Silvia Ramundo, *Gregor Mendel Institute*
Welcome to the Western Photosynthesis 2022

New Frontiers and Methods for Photosynthesis Research

Chair: Jennifer Johnson

8.45am - 9.05am McWhite Claire, *Princeton University*
A Pan-Plant Protein Complex Map Reveals Deep Conservation and Novel Assemblies

9.05am - 9.20am Flamholz Avi, *California Institute of Technology*
Functional Reconstitution of a Bacterial CO₂ Concentrating Mechanism in *E. coli*

9.20am - 9.35am Short Audrey, *University of California, Berkeley*
Xanthophyll-Cycle Based Model for Rapid Photoprotection

9.35am - 9.50am Simon Philipp, *Lawrence Berkeley National Laboratory*
Structural Dynamics of the Water and Proton Channels in Photosystem II during the S₂->S₃ Transition

Electron Transport and Bioenergy

Chair: Helmut Kirchhoff

9.50am - 10.10am Redding Kevin, *Arizona State University*
Light-driven Electron Transport in Heliobacteria

Break (20 minutes)

10.30am - 10.50am Harris Dvir, *Massachusetts Institute of Technology*
Energetic Robustness to Large Scale Structural Dynamics in a Photosynthetic Supercomplex

10.50am - 11.05am Gisriel Christopher, *Yale University*
Design Principles of Photosystem II Acclimated to Absorb Far-Red Light



- 11.05am - 11.20am Burlacot Adrien, *Carnegie Institution for Science*
The Algal CO₂ Concentrating Mechanism is Driven by Alternative Electron Pathways of Photosynthesis
- 11.20am - 11.35am Krysiak Malgorzata, *University of Warsaw*
LHCII Protein Phosphorylation as a Plant Stress Indicator – Is State Transition Always Beneficial?
- 11.35am - 11.55pm Li Quanwei, *University of California, Berkeley*
Single-Photon Studies of Photosynthetic Light Harvesting

Chloroplast Structure and Function

Chair: Jesse Woodson

- 11.55pm - 12.10pm Kafri Moshe, *Princeton University*
Systematic Characterization of Genes Required for Photosynthesis

Lunch Break (45 minutes)

- 12:55pm - 1.10pm **Poster Blitz**
- 1.10pm – 2.40pm **Poster Session** (Poster Presenter's Surname -A to L-)

Break (10 minutes)

- 2.50pm - 3.10pm Shan Shu-ou, *California Institute of Technology*
A Dual-Function Chaperone Coordinates Biogenesis of the Light Harvesting Complex
- 3.10pm - 3.25pm Delic Samed, *Duke University*
Green algal septin associates with evolutionarily related components of the chloroplast translocon
- 3.25 pm - 3.40pm Mukhopadhyaya Roma, *Washington State University*
Role of Ion Transporters in Thylakoid Architecture Dynamics in Plant Tissue
- 3.40pm-4.00pm Cameron Jeffrey, *University of Colorado, Boulder*
Life Cycle of a Thylakoid Membrane



Keynote Talk

4.00pm - 4.30 pm Berry Joe, *Carnegie Institution for Science*
What are the Prospects for Measuring Photosynthesis from Space?



March 25th, 2022

Keynote Talk

8.30am – 9.00am Cardona Tanai, *Imperial College London*
Evolution and evolvability of Photosystem II

Electron Transport and Bioenergy

Chair: Helmut Kirchhoff

9.00am- 9.20am Burnap Robert, *Oklahoma State University*
Structure and Function of the CO₂ Uptake NDH-1 Complexes in Cyanobacteria

9.20am - 9.40am Cousins Asaph, *Washington State University*
Kinetic Properties of Phosphoenolpyruvate Carboxylase and Its Role in Driving Photosynthesis

Photoprotection and Stress Response

Chair: Setsuko Wakao

9.40am - 9.55am Von Bismarck Thekla, *Max Planck Institute of Molecular Plant Physiology*
Light Acclimation Interacts with Thylakoid Ion Transport to Govern the Dynamics of Photosynthesis in Arabidopsis

9.55am-10.15am Redekop Petra, *Carnegie Institution for Science*
Transcriptional Regulation of Photoprotection in Dark-to-Light Transition –More Than Just a Matter of Light–

Break (20 minutes)

10.35am - 10.55am Rhee Sue, *Carnegie Institution for Science*
Understanding Mechanisms of Thermal Adaptation in a Desert Extremophile *Tidestromia Oblongifolia*

10.55am-11.10am Wang Jin-Zheng, *University of California, Riverside*
MEcPP Initiates Stress Signal Transduction from Plastid to Nucleus



- 11.10am-11.30am Zhang Ru, *Donald Danforth Plant Science Center*
Photosynthesis Dynamics under Moderate and Acute High Temperatures in the Green Alga *Chlamydomonas reinhardtii*
- 11.30am-11.45am Lemke Matthew, *University of Arizona, Tucson*
Autophagosome Formation is Dispensable to Chloroplast Singlet Oxygen-Mediated Cell Death in Arabidopsis *Fc2* Mutant
- 11.45am-12.00pm Ware Maxwell, *Colorado State University*
Identifying the Genes Responsible for NPQ reversal in *Phaeodactylum tricornutum*
- Lunch Break (45 minutes)**
- 12.45pm - 1.00pm **Poster Blitz**
- 1.05pm - 2.35pm **Poster Session** (Poster Presenter's Surname -M to Z-)

Chloroplast Structure and Function

Chair: Jesse Woodson

- 2.35pm - 2.55pm Gavillanes-Ruiz Marina, *Universidad Nacional Autónoma de México*
Structural-Function Chloroplast Strategies to Assure Death or Survival in a Biotic or Abiotic Stress
- 2.55pm -3.10pm Gates Colin, *Loyola University Chicago*
Kinetics and Targeting of Vipp1 Aggregation in Cyanobacteria

New Frontiers and Methods for Photosynthesis Research

Chair: Jennifer Johnson

- 3.10pm-3.25pm Adams III William, *University of Colorado, Boulder*
Photosynthetic and Foliar Phenotypic Plasticity Reflects Adaptation to Different Levels of Environmental Variability
- 3.25pm-3.40pm Gorka Michael, *The Pennsylvania State University*
Investigating Electron Properties of Primary Donors
- 3.40pm-4.00pm Gabor Nathaniel, *University of California, Riverside*
Quieting a Noisy Light Harvesting Antenna



Break (15 minutes)

4.15pm-4.30pm

Jan Kern, *Lawrence Berkeley National Laboratory*

Silvia Ramundo, *Gregor Mendel Institute*

**Announcement of Awards for Best Oral and Poster Presentations
and Concluding Remarks.**