

Sunday 26th

1400 Registration

1600

Welcome

Christine Foyer

1615

Keynotes

Danielle Way - Forest photosynthetic responses to climate change: from seedlings to the continent
Nathan Ennist & David Baker - Design of new proteins for enhanced photosynthesis using deep learning

1800 Drinks Reception

Monday 27th

900

Plenaries

Vittal Yachandra - Going around the KOK cycle of the water oxidation reaction with femtosecond X-ray crystallography and spectroscopy
Mei Li - Structural basis for photoprotection in green algae
Alexander Ruban - The Holistic Nature of NPQ

1030 Break

1100

Concurrent Sessions**C4 and CAM for photosynthetic improvement**

Jane Langdale - The long and winding road to C4 rice

Ariel Orrelana Lopez - Photosynthetic Plasticity And Adaptation Of Cistanthe Longiscapa To The Atacama Desert

Shifeng Cheng - Decoding the Convergent Regulatory Code of C4 photosynthesis in Angiosperms

Katharina Schiller - A transcription factor connects PPC kinase to drought signalling during CAM induction in K. gracilipes

Lei Hua - Characteristics of the C4 bundle sheath emerge in C3 rice after editing a plasma membrane proton ATPase

Artificial photosynthesis and biohybrid systems

Iftach Yacoby - Programmable Recruitment and Redirection of Photosynthetic Electron Flow via PSI-Associated Interfaces in Green Algae

Gustav Berggren - Employing hydrogenases as a tool for exploring semi-artificial photosynthesis

Maximino Emerson - Molecular design principles of the bio-nano interface

Robin Scullion - Rewiring photosynthesis using quinone mediators: Ultrafast electron mediation as a productive photoprotective mechanism

Krzysztof Gibasiewicz - Electron transfer from artificial donors to free and immobilized Photosystem I

Evolution of Photosynthesis

Ming-Ju Amy Lyu - How C4 Photosynthesis Evolved Repeatedly: Insights from Regulatory Flexibility and Metabolic Adaptation in Flaveria

Michael Webster - Insight into the evolution of photosynthetic protein production from structures of the cyanobacterial and chloroplast ribosomes

Martha Ludwig - Neurachne leaf anatomy and biochemistry: One model of C4 evolution does not fit all

Nina Kamennaya - Deactivating a single transporter of carbon concentrating mechanism enables present-day cyanobacteria to thrive in primeval, high CO2 environment
Claire Gibbs - Life in the shade: Acaryochloris marina's survival in far-red-light—enriched niches

1230 Lunch

1400

Concurrent Sessions**Rubisco 2.0**

Jeroni Galmés - Atomic signatures of RUBISCO kinetic diversity

Speaker TBC

Luke Mackinder - Sticker number modulates pyrenoid condensate assembly to support algal fitness

Photosystems structure and Function

Alexy Amunts - Unprecedented plasticity in Photosystem I: Discovery of new antenna and photoprotection systems

Speaker TBC

Antonello Amelii - Back to the Seabed: The Unique Photosystem I Architecture of the Seagrass Posidonia oceanica

Photosynthesis in the oceans, Aquatic photosynthesis

Thomas Ryan-Keogh - Marine net primary production across scales: toward a mechanistic understanding of ocean photosynthesis

Richard Puxty - Viruses of cyanobacteria redirect electron flow through a rogue plastocyanin

Manon Demulder - Structural organization of diatom pyrenoids in environmental samples

	Coralie Salesse-Smith - Increasing Rubisco content in C4 crops to improve photosynthesis and adapt them to atmospheric change	Sadanand Gupta - Unveiling Ancestral Architecture: Evidence for a Homodimeric Type-I Reaction Center in Synechocystis sp. PCC 6803	Claudia Büchel - Different Lhcx proteins in diatoms and their functional diversity
		Ho Fong Leong - A structural and spectroscopic study of an unusual far-red Photosystem	Mikhail Zubkov - Beyond nutrient limitation in the oligotrophic ocean: Photosynthesis of dominant phytoplankton optimal at ambient nutrient concentrations
1530 Break			
1600	Concurrent Sessions		
	Novel experimental methods in photosynthesis	Biophysical CO2-concentrating mechanisms	Regulation of ROS production and signalling
	Dave Kramer - Title TBC	Martin Jonikas - Structure, biogenesis, and engineering of the pyrenoid	Ginga Shimakawa - Photo-oxidative damage of photosystem I by repetitive flashes and chilling stress in cucumber leaves
	Andrew Leakey - AI-enabled multi-scale phenotyping of photosynthesis and water use efficiency traits of crops across greenhouses and a multi-state field trial network	Cecilia Blikstad - Encapsulation and regulation of alpha-carboxysomal carbonic anhydrase	Speaker TBC
	Aneika Leney - High Resolution Native Mass Spectrometry as a Tool for Photosynthetic Protein Analysis	Manajit Hayer-Hartl - Stages of biomolecular condensate formation in pro-beta-carboxysome assembly	Stefania Viola - Role of respiratory oxidases in photosynthetic electron transport in Synechococcus elongatus PCC 7942
	Anna Matuszynska - Beyond Canonical Metrics: Integrating AI and First-Principle Models to Decode Raw Chlorophyll Fluorescence Traces from Field-Collected MultispeO Data	Onyou Nam - A Conserved Family of Shell Proteins Encapsulates the Rubisco Matrix in the Diatom Pyrenoid	Heta Mattila - Production of Reactive Oxygen Species in Bryopsidales and Ulvophyceae macroalgae
	David Savage - Mapping the biochemical landscape of CO2 fixation	Yuwei Mao - Introducing a hornwort pyrenoid-based CO2-concentrating mechanism into the C3 plant Arabidopsis	Matteo Ballottari - Photosynthetic Electron Transport and H ₂ O ₂ Shape Compartment-Specific Ca ²⁺ Signalling in Chlamydomonas reinhardtii and Nannochloropsis oceanica
	Toru Kondo - Heterogeneity-resolved ultrafast transient absorption spectroscopy of single chlorosomes		
1730 Poster Session with Buffet			

Tuesday 28th

900	Plenaries		
	Maria Ermakova - A grass-specific PGRL1 paralog enables faster Dario Leister - Adaptive Evolution as a Microscope: Revealing Hidden States Anja Krieger-Liszka - Redox regulation of photosynthetic electron		
1030 Break			
1100	Concurrent Sessions		
	Stomata, the gatekeepers of photosynthesis	From Molecules to Membranes: Thylakoid Membranes as a Dynamic Platform for Energy Conversion	Utilising light efficiently: from plant to crop
	Hanna Horak - Stomatal patterns in the upper and lower leaf surfaces and their association with yield	Doran Raccah - Structural models of photosynthetic membranes	Tiina Tosens - From mesophyll to canopy: resolving structural constraints on utilising light efficiently across scales
	Silvere Violet-Chabrand - Airflow and Boundary Layer Dynamics: Mechanistic Feedbacks Controlling Leaf Photosynthesis and Transpiration	Emilie Wientjes - Dynamic spatial organization of thylakoid membranes revealed by expansion microscopy	Alex Wu - From Leaf Photosynthesis to Crop Yield: Predicting Crop-Level Consequences of Photosynthetic Manipulation Across G×E Contexts
	Edward Chaplin - Integrating Stomatal Physiology and Anatomy Reveals QTL Underpinning Heat and Drought Responses in Wheat	Tim Nies - How do mesoscale crowding and microdomain formation in silico regulate plastoquinone diffusion in cyanobacterial thylakoids?	Olakunle Sansa - Can photosynthesis traits be integrated in breeding pipelines towards climate-resilient cowpea varieties?

	Yin Wang - Intrinsic Guard Cell Divergence Drives Asymmetric Stomatal Light Responses During Photosynthesis in Amphistomatous Leaves	Sofie van Dorst - Local Thylakoid Unstacking Underlies State Transitions	Liana Acevedo-Siaca - Evaluating the limitations to dynamic photosynthesis under elevated temperature and CO2 in a lettuce diversity panel
	Hsiang-Chun Lin - Stomatal variation in rice links photosynthesis, water-use efficiency, and heat resilience	Kenichi Morigaki - Reconstitution of thylakoid membrane on a glass substrate	Florence Danila - Unlocking cell-to-cell communication genes from C4 leaves to future-proof crops
1230	Lunch		
1400	Concurrent Sessions		
	Biogenesis of the photosynthetic apparatus	Photosynthetic electron transport – functioning and regulation in intact systems	Remote and high-throughput phenotyping applications in photosynthesis research
	Zhengfeng Liu - Structural insights into the disassembly and reassembly steps of photosystem II repair in green algae	Deserah Strand - Functional perspectives on the photosynthetic complex I	Carl Bernacchi - Integrating LiDAR and hyperspectral phenotyping to link canopy structure and photosynthetic physiology from leaf to field scale
	Luning Liu - Title TBC	Benjamin Bailleul - Title TBC	Erik Murchie - Title TBC
	Peng Wang - Diurnal control of chlorophyll homeostasis in plants	Felix Buchert - ATP SYNTHASE REDOX Regulation Couples Dark Bioenergetics To Senescence In Arabidopsis	Qingfeng Song - An Integrated Technological Platform for Quantifying and Optimizing Canopy Photosynthesis to Empower AI-Driven Crop Breeding
	Matthias Ostermeier - Where Photosystem II Begins: Localization of Early Assembly in Synechocystis sp. PCC 6803 and its Link to Thylakoid Membrane Heterogeneity	Hayato Satoh - When PSI-Cyclic Electron Transport Peaks: Growth Light Intensity Defines Its Kinetic Mode	Julia Damen - Where does the energy go? Identification of photosynthetic limitations through high-throughput phenotyping
	Andrea Trotta - Isolation of rate limiting steps of the PSII repair cycle in thylakoids of Arabidopsis	Claudia Beraldo - The social life of mitochondria and chloroplasts in plant cells.	Zixiong Zhuang - CO2 and temperature affects wheat yield and quality under future climate
1530	Break		
1600	Concurrent Sessions		
	Control and drivers of chloroplast biogenesis	Photoprotection: mechanisms, dynamics and regulation	Plant and ecosystem photosynthesis in a warming world
	Tatjana Kleine - A nuclear chromatin-associated pathway modulates plastid ribosome maturation during early chloroplast development	Yuxiang Weng - Title TBC	Martijn Slot - Photosynthesis of tropical forest trees and responses to experimental warming in the upper canopy
	Takeshi Nakano - Regulatory mechanism of chloroplast biogenesis via regulatory factors under the brassinosteroid signaling.	Nicoletta Liguori - MARIONETTE - Towards a real-time nanoscale manipulation of structure and environment to understand light-harvesting regulation in photosynthesis	Elizabete Carmo-Silva - Title TBC
	Kumari Billakurthi - Hidden Regulators of Chloroplast Biogenesis	Anjali Pandit - A minimal membrane system that mimics Non-Photochemical Quenching reveals its pH-dependent mechanisms	Shizue Matsubara - Nighttime temperature shapes the genetic architecture of photosynthetic efficiency and source–sink interactions
	Wataru Sakamoto - Thylakoid membrane homeostasis (thylakostasis) in plant chloroplasts	Russell Woodford - Differential roles of PGR5 and PsbS in C4 photosynthesis reveal photosynthetic control as the dominant photoprotective mechanism under fluctuating light	Surbhi Mali - Photosynthetic fitness under heat stress determines tuberization through SP6A–SWEET11 mediated carbon partitioning in potato
	Sreedhar Nellapalli - Assembly of two functionally-distinct protein import complexes in the outer membrane of plant chloroplasts	Maximiliano Cainzos - Diversity of photosystem II economic photoprotection in nature	Ángel Ferrero-Serrano - Natural genetic variation reveals climate-adaptive regulation of photosynthesis

	Tatsuru Masuda - Dissection of Heme Retrograde and Phytochrome Signalling in <i>Arabidopsis thaliana</i> Short Poster Talks: Peng Wang, Identification of auxiliary factors coupling chlorophyll biosynthesis with plastid translation in plants; Sanja Zenker, Deciphering the Photosynthetic Promoter Syntax; Dirk Schneider, Stress-induced condensate formation by the cyanobacterial ESCRT-III protein Vipp1; Katharina König, Characterizing the function of auxiliary VPL proteins on the VIPP1/2 ESCRT-III family members in <i>Chlamydomonas reinhardtii</i>. 1730 Poster Session with Buffet	Minoru Kumazawa - Evolution of Light-Harvesting Complex I Driven by Serial Endosymbiosis in Red-Lineage Algae	
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Wednesday 29th

900	Plenaries		
	Lisa Ainsworth - Optimizing canopies for improved photosynthesis in current and future atmospheres		
	Angad Mehta - Directed endosymbiosis to engineer artificial photosynthetic life forms		
	Jaideep Mathur - Plastids augment plant cell resilience to stress		
1030	Break		
1100	Concurrent Sessions		
	Roles and regulation of photorespiration	Light harvesting: mechanisms and diversity	Publisher Session: Demystifying Scientific Publishing: Authors' Experiences and Editors' Insights
	Berkley Walker - Photorespiration as a link between photosynthesis, central metabolism, and nutrition	Xiaochun Qin -Structural insights into the mechanism of far-red spectral shift in photosystem I from <i>Fittonia albivenis</i>	Contributions from Editors and Authors at Molecular Plant, Journal of Experiemental Botany, New Phytologist, Plant Biotechnology Journal, EMBO Journal and Plant Cell Phvsiology.
	Martin Hagemann - The multiple roles of photorespiration – new aspects of regulation and engineering	Roberta Croce - Effect of Antenna Reduction on Energy Dissipation and Excitation Trapping in Photosystem II	
	Mauricio Tejera-Nieves - Spectroscopic Signals Beyond the light reactions: Capturing Biochemical Limitations and Photorespiratory Capacity	Alice Robijns - Evolutionary Analysis of Photosystem II Subunit S to inform residue importance	
	Naomi Nevo - Rethinking Photorespiration: Does Photorespiration Dictate Photosynthetic Nitrogen Use Efficiency Across Different Plant Species?	Wenda Wang - Structural insights into fucoxanthin chlorophyll a/c-binding proteins and their organizations around photosystems	
	Arthur Leung - Phenotypic plasticity in C3-C4 intermediates: implications for C4 evolution	Jian Xing - A peripheral antenna supports non-photochemical quenching and Lhcx1 abundance in the diatom <i>Chaetoceros gracilis</i>	
1230	Lunch		
1330	Free Afternoon		
1900	Conference Party		

Thursday 30th

900	Concurrent Sessions		
	Computational and AI Applications in Photosynthesis	Regulation of Electron Transport - molecular mechanisms	Far-Red Light Oxygenic Photosynthesis

	Ulrich Kleinekathöfer - Molecular Modelling of Light Harvesting with a Focus on Plants and Diatoms Alexandra Olaya-Castro - Title TBC Eduard Elias - Engineering Far-Red Light Harvesting in Plant Antenna Complexes By Integrating Experimental and Computational Approaches Josh Vermaas - Molecular Simulation of Photosystem II and Phycobilisome Interactions in Cyanobacteria Gregor Hill - Molecular determinants of the mechanism of action of PSBS under the computational microscope	Tomas Morosinotto - Title TBC Rob Burnap- MECHANISM OF REDOX-DRIVEN CO2 UPTAKE BY CYANOBACTERIAL NDH-1 COMPLEXES Pablo Ignacio Calzadilla - Light-driven acceleration of ferredoxin oxidation and the involvement of the the Fd/Trx System Michael Hippler - Cytochrome b6f influences linear electron flow through lateral distribution and modulates STT7 activity via a phosphorylation feedback loop Laura Mages - Trapping the transient: A high-efficiency Cytochrome c6 unlocks the conserved docking architecture of Photosystem I	Luca Dall'Osto- Long-Wavelength Absorbing Chlorophylls Of Photosystem I Improve Photosynthetic Productivity Under Far-Red-Enriched Light Environment Thomas Oliver- Chl d red-forms in both Photosystem I and II: exploring the red-limit in Acaryochloris Laura Antonaru- Early evolution of far-red light photoacclimation in cyanobacteria Man Qi- Engineering photosystem II to bind chlorophyll f Raveena Ravi- Palmyra Shell-Derived Far-Red Emissive Carbon Dots Enhance Photosynthetic Efficiency and Photochemical Performance in Drought-Stressed Rice
1030	Break		
1100	Concurrent Sessions		
	Water oxidation	Light, Carbon, Code: Advances in Modeling Photosynthesis	Engineering Photosynthesis
	Jian-Ren Shen - Mechanism of photosynthetic water oxidation studied by XFEL and cryo-EM	Fabienne Maignan - Modelling Photosynthesis in Land Surface Models	Andreas Weber - Improving photosynthetic through bypassing photorespiration
	Holger Dau - THE INTERPLAY OF ELECTRONS AND PROTONS IN PHOTOSYSTEM II WATER OXIDATION	Yu Wang - Optimizing Crop Photosynthetic Efficiency through Multiscale Mechanistic Modelling	Waturu Yamori - Next-Generation Engineering of Photosynthesis through Chloroplast Genome Engineering of Rubisco
	Hiroyuki Mino - Electronic Structure of the Photosystem II Manganese Cluster Investigated by Q-band Selective Hole-Burning	Moges Retta - Probing photosynthetic bottlenecks in the field with rapid spectroscopy and modeling	Rona Costello - Harnessing evolution to engineer photosynthesis within regulatory reach
	Yulia Pushkar - New water oxidation mechanism in Photosystem II resolves major experimental controversies	Chandra Bellasio - An energy-based model explains rapid mesophyll and phosphate limitations of photosynthesis	Tiziano Cadeddu - Enhancing rice production through combined photosynthetic strategies
		Tinko Jans - A mechanistic model linking light quality and state transitions to carbon assimilation dynamics	Hussein Gherli - Enhancing Photosynthetic Efficiency Through Targeted Manipulation of RuBP Regeneration
1230	Lunch		
1330	Award Talks		
	Robert Hill Award: Chris Gisriel- Multiple routes to red-shifted chlorophyll d-based photosynthesis		
	Melvin Calvin–Andrew Benson Award: Adrien Burlacot - How photosynthetic electron flows integrate with the cellular energy network?		
	Lifetime Achievement Award: TBC		
1500	Closing Ceremony		
1515	Meeting End		