

NPC–NAS 2025 Programme

Day 1 – Monday 20 October		
	NPC	NAS
Day 1 20/10 Session 1: NPC	Structure and function of photosynthetic complexes	
13:00–13:15	Welcome Address	
13:15–14:00	Invited international Roberta Croce, Vrije Universiteit Amsterdam, The Netherlands: Photosynthesis in the far-red: from cyanobacteria to plants	
14:00–14:30	Nordic invited Wolfgang Schröder, Umeaa University, Sweden: Arabidopsis PSII as seen by Cryo-EM	
14:30–15:00	Nordic invited Alexey Amunts, The Max Planck Institute of Molecular Physiology, Dortmund, and Univ. of Münster, Germany (EMBO Young Investigator Lecture): Integrated structural biology reveals unprecedented plasticity in Photosystem I	
15:00–15:30	Coffee	
15:30–16:00	Nordic invited Fikret Mamedov, Uppsala University, Sweden: Long-range donor-acceptor side interactions in Photosystem II	
16:00–16:20	Selected from abstract A. Orkun Aydin: Substrate water regulation in Photosystem II	
16:20–16:40	Selected from abstract Dennis J. Nürnberg: Far-red light-driven nitrogen fixation in free-living and symbiotic cyanobacteria	

16:40-17:00	Selected from abstract Álvaro Pazo Vila: A combined physiologically accurate dynamic model of photon absorption, electron transport, carbon fixation and photoinhibition	
17:15-18:30	Posters	
19:00	Dinner	

NPC–NAS 2025 Programme

Day 2 – Tuesday 21 October		
	NPC	NAS
Day 2 21/10 Session 2		
8:30–9:25	Invited – International Jonathan Zehr, University of California, Santa Cruz, USA: The marine algal nitroplast UCYN-A: ecology, evolution and implications for the future	
9:25–9:55	Invited – Nordic Susan Løvstad Holdt, DTU, Technical University of Denmark: Challenges and opportunities in advancing seaweed as a compliant, nutritious, and scalable food source for Europe	
9:55–10:10	Photon System Instruments	
10:10–10:40	Coffee	
Session 2 – NPC – NAS	Regulation of photosynthesis	Current capacity and needs for algae in the Nordic region
10:40–11:10	Nordic invited Lauri Nikkanen, University of Turku, Finland: Dynamic regulation of the proton motive force in cyanobacteria	Selected from abstract Signe Bråtelund: Lessons learned from a short-term selection experiment with <i>Saccharina latissima</i>
11:10–11:40	Nordic invited Dimitris Petroutsos, Uppsala University, Sweden: Photoreceptor-mediated regulation of photosynthesis in green microalgae	Selected from abstract Xun Zhou: Integrating Process-Based LCA and Nutrient Bioaccessibility: A Novel Sustainability Assessment Framework for Microalgae
11:40–12:00	Selected from abstract Juha Kurkela: Connection between SigC and the ω subunit of RNA polymerase during nitrogen stress in <i>Synechocystis</i> sp. PCC 6803	Selected from abstract Sema Sirin: Advancing Industrial Effluents with Nordic Algal Solutions
12:00–13:00	Lunch	
Session 3:		
13:00–13:45	Invited – International Tomas Morosinotto, Università di Padova, Italy: Balancing Photoprotection and Efficiency to Enhance Photosynthetic Productivity in Algae and Plants	
13:45–14:15	Invited – Nordic Johan Andersen-Ranberg, Univ. of Copenhagen, Denmark: Identification and characterization of enzymes for biosynthesis of algae pigments	

14:15-14:30	Invited – Nordic Kirsten Krause, UiT The Arctic University of Norway: National education and infrastructure networks connect and unify plant and algae research across Norway	
14:30-14:45	CLF Plant Climatics	
14:45-15:15	Coffee	
Session 3 NPC - NAS	Molecular basis of assembly, photoinhibition and repair	Algae based products
15:15-15:45	Nordic invited Simon Stael, The Swedish University of Agricultural Sciences, Uppsala, Sweden: Burning Glass Effect of Water Droplets Triggers a High Light-Induced Calcium Response in the Chloroplast Stroma	Nordic invited Cornelia Spetea Wiklund, University of Gothenburg, Sweden: SEAlgaePower – Sustainable development of microalgae-based ingredients using waste streams from aquaculture and seafood processing industry as feedstock
15:45-16:05	Selected from abstract Esa Tyystjärvi: Mechanism of singlet oxygen via miss-associated charge recombination leads to elucidation of the proportions of photoinhibition mechanisms	Selected from abstract Nikola Medic: From Earth to orbit: Optimizing microalgae cultivation for future space missions
16:05-16:25	Selected from abstract Peter R. Bos: Photosystems are Homogeneously Spread on the Thylakoid Membrane of Dark-adapted <i>Synechocystis</i>	Selected from abstract Vilja Siitonen: Photosynthetic engineered living materials incorporating recombinant <i>Chlamydomonas reinhardtii</i> enable long-term semi-continuous photobiotransformation
16:25-16:45	Selected from abstract Minna M. Konert: N-terminal Acetylation of the <i>Synechocystis</i> sp. PCC 6803 Proteome by Gnat2 and its Impact on PSII Turnover	Selected from abstract Ditte Baun Hermund: How nitrogen depletion affects the content of bioactive compounds in two species of marine microalgae: <i>Pavlova gyraus</i> and <i>Cylindrotheca fusiformis</i>
16:45-18:00	Poster session (even numbers)	
19:00	Dinner	

NPC–NAS 2025 Programme

Day 3 – Wednesday 22 October		
	NPC	NAS
Day 3 22/10 Session 4		
8:30–9:10	Invited – International Maria Barbosa, Wageningen University & Research, The Netherlands: TBA	
9:10–9:40	Invited – Nordic Pia Lindberg, Uppsala University, Sweden: Engineering cyanobacteria for sustainable production of solar chemicals and fuels	
9:40–10:00	Selected from abstract Rameez Arshad: Cryo-EM structure of Photosystem II supercomplex from <i>Chlorella ohadii</i> , a green microalga with extreme phototolerance	
10:00–10:30	Coffee	
Session 4 – NPC – NAS	Light harvesting	Algae engineering
10:30–11:00	Invited Dario Leister, Ludwig-Maximilians-University Munich, Germany: Adaptive evolution in fluctuating light	Nordic – invited Pauli Kallio, University of Turku: Approaches to cyanobacterial pathway optimization via combinatorial engineering
11:00–11:20	Selected from abstract Willem Marulanda Valencia: Exploring protein and membrane interactions of the lightstress sensor protein PsbS	Selected from abstract Florian Paul: A novel protein engineering strategy for coupling hydrogenase to photosystem I in cyanobacteria
11:20–11:40	Selected from abstract Jarne Berentsen: Mg ²⁺ -dependent thylakoid destacking and restacking	Selected from abstract Stefan Seemann: Inhibited growth of cyanobacteria at very high CO ₂ concentration is linked to suppressed photosynthesis and transcriptomic stress responses
11:40–12:00	Selected from abstract Sing Teng Chua: Harnessing Far-Red Light Photoacclimation (FaRLiP) in Strategic Coculture of Cyanobacteria	Selected from abstract Niels-Ulrik Frigaard: Exogenous carbonic anhydrase enhances CO ₂ capture from air for microbial photosynthesis
12:00–13:00	Lunch	

Session 5:		
13:00–13:40	Invited – International Christiane Raines, University of Essex, UK: Engineering photosynthetic carbon fixation for crop improvement	
13:40–14:10	Invited – Nordic Armando F J Perez Cueto Eulert, Umeaa University, Sweden: TBA	
14:10–14:30	Selected from abstract Eba Itafa: Exploring non-model photosynthetic microorganisms for green electricity generation	
14:30–15:00	Coffee	
Session 5 – NPC–NAS	Improving and utilizing photosynthesis	Algae biotechnology
15:00–15:30	Nordic invited Cecilia Blikstad, Uppsala University, Sweden: Encapsulation and regulation of carboxysomal carbonic anhydrases	Nordic invited Luca Morelli, University of Southern Denmark: Decoding and rewiring Phaeodactylum tricornutum metabolism for high-value compound production.
15:30–16:00	Selected from abstract Martin Hagemann: The small protein SbtC – A new player acting in the CCM of cyanobacteria	Nordic invited Tore Brembu, Norwegian University of Science and Technology, Norway: Investigating fundamental features of cell wall biomineralization in the large diatom Coscinodiscus
16:00–16:20	Selected from abstract Taina Tyystjärvi: The Ssr1600–Slr1861–SigC signaling cascade regulates photosynthesis and growth according to CO ₂ in cyanobacteria	Selected from abstract Georgia Antonia Vergou: Exploring microalgal cell death
16:20–16:40	Selected from abstract Tuomas Huokko: Bioenergetics of the cyanobacteria during mixotrophy	Selected from abstract Sergey Kosourov: Designing durable photosynthetic biocatalysts for efficient production of solar chemicals and fuels
16:45–18:00	Poster session (odd numbers)	
19:00	Conference Dinner	

NPC–NAS 2025 Programme

Day 4 – Thursday 23 October		
	NPC	NAS
Day 4 23/10 Session 6:		
8:30–9:10	Invited – International Vitor Verdelho, European Algae Biomass Association / CEO of Cell4Food, Portugal: Beyond conventional algae applications: cellular agriculture	
9:10–9:40	Invited – Nordic Joan Albert Porcar-Castell, Univ. of Helsinki, Finland: The quest to characterize the optical expression of photosynthesis under field conditions	
9:40–10:00	Selected from abstract Rune Höper: A quantitative description of light-limited cyanobacterial growth using flux balance analysis	
10:00–10:30	Coffee	
Session 6 – NPC – NAS	New methods	Algae biorefining
10:30–11:00	Nordic – Invited Mikko Tikkanen, University of Turku: Minibiosphere and technologies for optimizing indoor farming	Christiane Funk, Umeaa University, Sweden: Waste-2-Plastic: recycling of CO ₂ , nitrogen, phosphorus and water for the production of bioplastic.
11:00–11:20	Selected from abstract Jann Buttlar: A high-resolution method to analyze the proton motive force (PMF) in the cyanobacterium <i>Synechocystis</i> sp. PCC 6803	Selected from abstract Vaishali Rani: Potential of Nordic microalgae to remove arsenic from industrial wastewater
11:20–11:40	Selected from abstract Tuuli-Maaret Miettunen: A revised method to estimate the contribution of photosystem I to chlorophyll-a fluorescence	Selected from abstract Saumita Chakravarty: Investigating the potential of Nordic microalgae towards tolerance and remediation of micro- and nanoplastics
11:40–12:00	Selected from abstract Steffen Grebe: Freezing responses of leaf optical signals in <i>Pinus sylvestris</i> and their relation to photosynthetic light reactions	Selected from abstract Khadijatul Cobra: Evaluating cell disruption and analytical strategies for biomass processing of <i>Scenedesmus</i> sp.
12:00–13:00	Lunch and Goodbye	