

Enzymes & Photosynthesis - key for a green and sustainable future -

Date : 5/16 (Thu) - 17 (Fri) 2024, No registration is required

Venue : 5/16 (Thu) at the auditorium of Institute for Protein Research,
Osaka University 5/17 (Fri) SPring-8

2024/5/16 (Thu)

Session 1 (Chair: Thomas Happe)

9:00-9:10	Welcome words	Thomas Happe (Ruhr-University Bochum, Germany)
9:10-9:40	Development of Enzymatic Production Technologies for Industrial Chemicals Based on Biorenewable Feedstocks	Harald Gröger (Bielefeld University, Germany)
9:40-10:05	Structural characterization of the [FeFe] hydrogenase from <i>Thermotoga maritima</i>	Hideaki Ogata (University of Hyogo, Japan)
10:05-10:30	Inhibitory Mechanisms of [FeFe]-hydrogenases	Jifu Duan (Ruhr-University Bochum, Germany)
10:30-10:50	Coffee break	

Session 2 (Chair: Claire Remacle)

10:50-11:15	Molecular and structural basis of the light-harvesting and photoprotection in diatoms	Kentaro Ifuku (Kyoto University, Japan)
11:15-11:40	Characterization of NFU1, a chloroplastic [4Fe-4S] cluster transfer protein of the sulfur mobilization (SUF) machinery, in <i>Chlamydomonas</i>	Claire Remacle (Université de Liège, Belgium)
11:40-12:05	A Simple Method for Repurposing Cupin as Artificial Metalloenzymes that Catalyze Stereoselective Reactions	Nobutaka Fujieda (Osaka Metropolitan University, Japan)
12:05-12:30	Assembly and trafficking of iron sulfur clusters by NFU proteins in plastids is essential for photosynthesis	Nicolas Rouhier (Université de Lorraine, France)
12:30-12:55	Efficient sunlight acquisition by marine green algae: Role of unique pigment arrangements in Light-harvesting complex	Soichiro Seki (IPR, Osaka University, Japan)
12:55-14:25	Lunch at cafeteria (Kitchen Bisyoku)	

Session 3 (Chair: Nicolas Rouhier)

14:25-14:50	Microevolution toward loss of photosynthesis: Mutations promoting dark-heterotrophic growth and suppressing photosynthetic growth in cyanobacteria	Yuichi Fujita (Nagoya University, Japan)
14:50-15:15	Beyond the Nernst-Potential - How H ₂ Oxidation drives Microbial CO ₂ Respiration	Sven Stripp (Technische Universität Berlin, Germany)
15:15-15:40	Microbial metabolic engineering using optogenetic tools	Yoshihiro Toya (Osaka University, Japan)
15:40-16:05	Photosynthetic H ₂ production with in vivo-assembled PSI-hydrogenase chimera	Anna Frank (University of Rostock, Germany)
16:05-16:30	Regulation of photosynthesis by cyclic electron transport	Toshiharu Shikanai (Kyoto University, Japan)
16:30-16:40	Concluding Remarks	Genji Kurisu (IPR, Osaka University, Japan)

2024/5/17 (Fri)

Session 4 (Chair: Eiki Yamashita)

10:30-12:30	SPring-8 Beamline tour and General Discussion	All participants
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Organizers: Genji Kurisu (Institute for Protein Research, Osaka University)

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Cooperation: Ruhr University Bochum, Germany

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