

OptoBioTechnology Research Center, Nagoya Institute of Technology

International Symposium on “Optobiotechnology”

February 5 (Tue), 6 (Wed), 2019

Nagoya Institute of Technology

Program

February 5 (Tue)

8:50 Opening Remark: Hiroyuki Ukai (President; Nagoya Institute of Technology, Japan)

Session 1 Light & Life: Animal Rhodopsins

Chair: Yuji Furutani (Nagoya Institute of Technology, Japan)

9:00 Plenary Lecture: Krzysztof Palczewski (University of California, Irvine, USA)

“Chemistry that converts light into vision”

9:45 Plenary Lecture: Yoshinori Shichida (Ritsumeikan University, Japan)

“Opsin evolution: Exploring the effects of mutations”

10:30 Invited Talk: Kota Katayama (Nagoya Institute of Technology, Japan)

“Structural basis for elucidating spectral tuning mechanism of cone pigments”

Session 2 Light & Life: Microbial Rhodopsins

Chair: Shinya Tsukiji (Nagoya Institute of Technology, Japan)

11:00 Plenary Lecture: Oded Beja (Israel Institute of Technology, Israel)

“The use of metagenomics for the discovery of novel microbial rhodopsins”

11:45 Plenary Lecture: Osamu Nureki (The University of Tokyo, Japan)

“Light-gated opening mechanism of channelrhodopsin and structure-guided development of optogenetics tools”

12:30 Invited Talk: Masae Konno (Nagoya Institute of Technology, Japan)
“Molecular properties of new type microbial rhodopsins”

12:50-13:50 Lunch

Session 3 Light & Life: Optogenetics

Chair: Masahiko Hibi (Nagoya University, Japan)

13:50 Plenary Lecture: Peter Hegemann (Humboldt University, Germany)
“Two component optogenetics”

14:35 Plenary Lecture: Ryoichiro Kageyama (Kyoto University, Japan)
“Oscillatory control of somitogenesis and neurogenesis: imaging and control of gene expression by light technology”

15:20 Invited Talk: Satoshi P. Tsunoda (Nagoya Institute of Technology, Japan)
“Enzyme rhodopsins -Molecular properties of potential optogenetics tools-”

15:40 Invited Talk: Daichi Yamada (Nagoya Institute of Technology, Japan)
“FTIR study of photoactivated cyclase”

16:00 Invited Talk: Tatsuyuki Yoshii (Nagoya Institute of Technology, Japan)
“Optochemical control of protein localization in living cells using synthetic organic molecules”

16:20-18:30 Poster Session

19:00 Banquet

February 6 (Wed)

Session 4 General Light & Life

Chair: Tomohiko Inomata (Nagoya Institute of Technology, Japan)

10:00 Invited Talk: Shuji Ogata (Nagoya Institute of Technology, Japan)

“Understanding microscopic mechanisms of anti-freeze protein using molecular dynamics simulations”

10:25 Invited Talk: Tetsuo Soga (Nagoya Institute of Technology, Japan)

“Effect of third component in bulk-heterojunction organic solar cell”

10:50 Invited Talk: Takehisa Dewa (Nagoya Institute of Technology, Japan)

“Ultrafast excitation energy transfer dynamics, charges separation, and photocurrent generation by use of biohybrid photosynthetic units. How efficiently photosynthetic light-harvesting/reaction center complexes work in artificial systems?”

11:15 Invited Talk: Akimasa Hirata (Nagoya Institute of Technology, Japan)

“Multiscale modeling of electrostimulation”

11:40 Closing Remark: Hideki Kandori (Center Director; Nagoya Institute of Technology, Japan)