

CHEMICAL BIOLOGY RESEARCH FOR FUNCTIONAL CLARIFICATION OF BIOLOGICAL MOLECULES BY DESIGNED CHEMICAL SENSOR MOLECULES

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One of the great challenges in the post-genome era is to clarify the biological significance of intracellular molecules directly in living cells. If we can visualize a molecule in action, it is possible to acquire biological information, which is unavailable if we deal with cell homogenates. One possible approach is to design and synthesize chemical sensor molecules that can convert biological information to chemical reactions that are easily monitored. For this purpose, chemical sensor molecules for intracellular messengers have been developed and successfully applied to living cells. Chemical biology approaches for development of sensor molecules are introduced from young active scientists among this field.

The talk titles are as follows.

Kazuya Kikuchi, Osaka University: Functional Clarification of Biological Molecules by Designed Chemical Sensor Molecules.

Jun Nakanishi, National Institute for Materials Science: Controlling Cell Adhesion on Photoresponsive Surfaces.

Akio Ojida, Kyoto University: Oligo-Asp Tag/Zn(II) Complex Probe as a New Pair for Labeling and Fluorescence Imaging of Proteins.

Takeharu Nagai, Hokkaido University: Real-time Imaging of Cellular Function Using Fluorescent or Luminescent Proteins.

Kazuhiko Nakatani, Osaka University: Studies on the Chemical Sensors Detecting the Repeat Genomic Sequence.

Masahiko Inoue, University of Toyama: Development of Electrochemical SNPs Sensors Possessing Digital Action.