



International Symposium on Structural Biology from Atoms to Tissues

Physiological processes in higher animals and plants are driven by multileveled structures, such as organs, tissues, cells, organelles, proteins and amino acid side chains (composed of atoms). For elucidation of the mechanism of any physiological process, it is prerequisite to determine these structures by different approaches depending on the scale of each structural level. This symposium is focused on discussions on the accomplishments and potential feasibility of crystallographic and microscopic analyses for determinations of these multileveled structures. The participants would have a good opportunity to access the recent achievements and the newly developed technologies of the studies for physiological functions from structural views analyzed at the resolution from the atomic scale to the tissue level.

Organizers: Atsuo Miyazawa (RIKEN) and Shinya Yoshikawa (University of Hyogo)

2009年 3月 25日 (水) 先端科学技術支援センター・セミナー室 1 (<http://www.cast.jp/>)

- 9:30-10:10 T. Tsukihara (University of Hyogo)
How to determine protonation/deprotonation states of carboxyl groups in cytochrome c oxidase.
- 10:10-10:40 H. Tanaka (Osaka University)
X-ray crystal structural determination of rat vault, a large nucleoprotein complex at 3.5 Å resolution.
- 10:40-11:10 S. Maeda (Osaka University)
X-ray crystal structure determination of human connexin 26 gap junction channel at 3.5 Å resolution.
- 11:30-12:00 A. Oshima (Kyoto University)
Plug gating mechanism of gap junction channels revealed by electron crystallography.
- 12:00-12:30 C. Gerle (Kyoto University)
Rotary ATPase in the Electron Beam : Structural Studies on a V-ATPase from *Thermus thermophilus*.
- 13:30-14:00 C. Sato (AIST)
Visualization of molecular complexes using TEM and SEM.
- 14:00-14:30 K. Iwasaki (Osaka University)
EM imaging of flexible proteins and supramolecular complexes within cells.
- 14:30-15:00 A. Miyazawa (RIKEN)
Development of genetically encoded protein tags for electron microscopy.
- 15:20-16:00 M. Stowell (University of Colorado)
Native structure of the *E. Coli* cytochrome bo_3 ubiquinol oxidase.
- 16:00-16:40 K. Hatta (University of Hyogo)
Four-dimensional imaging analyses of brain morphogenesis and neural network formation in vertebrates.
- 17:00-18:00 **Plenary Lecture**
Wolfgang Baumeister (Max-Planck-Institute of Biochemistry)
Structural studies of the molecular machinery of protein quality control.