

ISDSB 2010 – 3rd International Symposium on Diffraction Structural Biology

May 25-28th, 2010,
Auditorium Pierre Lehmann, LAL, Bldg 200
Paris-Sud/XI University, Orsay, France

Programme

Tuesday, May 25th

- 12:00 *Registration*
Auditorium Pierre Lehmann, LAL, Bldg. 200 Paris Sud/XI University, Orsay,
France
- 14:00 – 14:30 **Welcome**
M. Van der Rest, SOLEIL (SOLEIL DG), representatives of Region Ile de France
and Paris-Sud University & J. Takahara (Minister Plenipotentiary, Embassy of
Japan in France)
- 14:30 – 15:30 **Opening lecture**
Chair: Roger Fourme

What we have learnt from the structures of ribosome.
Venki Ramakrishnan, MRC LMB Cambridge, UK
- 15:30 – 16:00 *Coffee break*
- 16:00 – 18:00 **S1. Electron microscopy, X-ray imaging, tomography**
Chair Wolfgang Baumeister

Electron cryo-tomography of eukaryotic flagella and cilia.
Takashi Ishikawa, ETH Zurich, Switzerland

Electron microscopy of membrane proteins - from atomic structure to in situ
arrangement.
Werner Kühlbrandt, MPI, Frankfurt, Germany

Imaging cells using correlated fluorescence and x-ray tomography.
Carolyn Larabell , UCSF, San Francisco, CA, USA

Electron and X-ray tomography of the malaria parasite, *P. falciparum*.
Leann Tilley, La Trobe U., Melbourne, Australia
- 18:00 – 18:30 *Transfer to Synchrotron SOLEIL (Saint Aubin) by bus*
- 18:30 – 20:30 *Welcome party at Synchrotron SOLEIL*

Wednesday, May 26th

- 09:00 – 09:45 **Plenary talk**
Chair Ian Wilson

Synchrotrons, high throughput crystallography and discovery of new medicines:
drugging the undruggable.
Tom Blundell, Cambridge U., UK
- 09:45 – 10:15 *Coffee break*

10:15 – 12:45

S2. Drug and vaccine design.

Chair Tom Blundell

Structure-based vaccine design.

Phillip Dormitzer, Novartis, Cambridge, MA, USA

Drug discovery facilitated by biophysical methods.

Michael Hennig, Hoffmann-La Roche, Basel, Switzerland

Chemogenomic profiling in structure-based drug design: what are optimal ligand-binding parameters for a given target?

Gerhard Klebe, Marburg U., Germany

Structural genomics of the human G-protein coupled receptor family.

Raymond Stevens, Scripps Research Institute, La Jolla, CA, USA

Drug design of hematopoietic prostaglandin D synthase inhibitors based on high resolution X-ray crystallography.

Yoshihiro Urade, Osaka Bioscience Institute, Osaka, Japan

13:00 – 14:30

Lunch at University Restaurant – Bldg 230

14:30 – 16:00

S3. Protonation States

Chair John Helliwell

Protons in proteins.

Matthew Blakeley, ILL, Grenoble, France

Diisopropyl fluorophosphatase: from protonation states to protein engineering.

Julian Chen, Institute of Biophysical Chemistry, Goethe University, Frankfurt, Germany

Histidine protonation states in a human hemoglobin.

Yukio Morimoto, Research Reactor Inst., U. Kyoto, Kumatori, Osaka, Japan

16:00 – 16:30

Coffee break

16:30 – 18:00

S4. Large Bio Molecules

Chair Jack Johnson

Seeing the structural organization of the actin cytoskeleton at the lamella by in situ cryo-electron tomography.

Dorit Hanein, Burnham Inst. for Medical Research, La Jolla, CA, USA

3D architecture and allosteric changes for cell entry of the envelope glycoprotein shell of Chikungunya virus.

Felix Rey, Institut Pasteur, Paris, France

Ribosome dynamics and tRNA movement as visualized by time-resolved electron cryomicroscopy.

Holger Stark, MPI, Göttingen, Germany

18:00 – 18:45

Plenary talk

Chair Wayne Hendrickson

Exploiting the anisotropy of anomalous scattering boosts the phasing power of SAD and MAD experiments.

Gérard Bricogne, Global Phasing Ltd, Cambridge, UK

19:00

Transfer for a boat trip with dinner on Seine

20:00 – 22:30

Conference Dinner on Seine

Thursday May 27th

- 08:45 – 09:30 **Plenary talk**
Chair Gérard Bricogne
- Small angle X-ray scattering of biological macromolecules.
Dmitri Svergun, EMBL, Hamburg, Germany
- 09:30 – 09:50 *Coffee break*
- 09:50 – 11:20 **S5. Membrane Proteins**
Chair Gebhard Schertler
- Crystal structures of the autotransporter EspP before and after passenger cleavage reveals a novel outer membrane cleavage.
Susan Buchanan, NIDDK, Bethesda, MD, USA
- Structure of photosystem complex around oxygen-evolving Mn₄ OxCa-cluster.
Nobuo Kamiya, Osaka City U., Osaka, Japan
- Molecular basis of the alternating access model of membrane transport by the sodium-hydantoin transporter, Mhp1.
Alex Cameron, MPL Diamond, Chilton, UK
- 11:20 – 11:40 *Coffee break*
- 11:40 – 13:15 **S6. Protein Structure/Function**
Chair Nori Yasuoka
- Allosteric control of nuclear receptors dimerization.
Dino Moras, IGBMC, CNRS-INSERM-ULP, Strasbourg, France
- Glutamate dehydrogenase: structure, allostery, evolution, and role in insulin homeostasis.
Thomas J. Smith, Danforth Plant Science Center, Saint Louis, MI, USA
- Structures, regulation and evolution of glutamate synthases
Maria Vanoni, U. of Milano, Milano, Italy
- 13:15 – 14:30 *Lunch at University Restaurant – Bldg 230*
- 14:30 – 15:00 *Transfer to Synchrotron SOLEIL by bus*
- 15:00 – 19:00 Poster session I and industrial exhibition
- Visit of the facility

Friday May 28th

- 08:45 – 09:30 **Plenary talk**
Chair Claudio Luchinat
- Structure-inspired functional discovery for a family of novel ion channels.
Wayne Hendrickson, Columbia U., New York, USA
- 09:30 – 09:50 *Coffee break*

09:50 – 12:00

S7. Coupling NMR/XRD, X-ray technologies

Chair Takashi Yamane

Small angle X-ray data and paramagnetism-based NMR restraints are highly complementary in defining the conformational space sampled by flexible two-domain proteins.

Claudio Luchinat, CERM, U. of Florence, Italy

Microbeam macromolecular crystallography and reduced radiation damage.

Robert Fischetti, APS, Argonne, USA

High-pressure macromolecular crystallography status and applications.

Eric Girard, IBS, Grenoble, France

The future of micro- and nano-diffraction of membrane protein samples.

Gebhard Schertler, Paul Scherrer Institute, Villigen, Switzerland

12:00 – 13:15

Poster session II (LAL, Salle Bleue – Bldg 200)

13:15 – 14:30

Lunch at University Restaurant – Bldg 230

14:30 – 15:15

Plenary talk

Chair Matthew Blakeley

Neutrons in diffraction structural biology making the best use of neutrons.

Ichiro Tanaka, Ibaraki U., Japan

15:15 – 15:45

Coffee break

15:45 – 17:15

S8. Structural Genomics

Chair: Dino Moras

Structural genomics and the expanding protein universe.

Ian Wilson, JCSG, Scripps Research Inst., La Jolla, CA, USA

Non-protein components of protein structures and other biomedical aspects of structural genomics.

Wladek Minor, MCSG, CSGID, U. of Virginia, Charlottesville, VA, USA

Family wide structural and functional analysis of the human proteome.

Stefan Knapp, SGC, U. of Oxford, Oxford, UK

17:15 - 18:00

Plenary talk

Chair: Leann Tilley

Electron cryomicroscopy: from molecules to systems.

Wolfgang Baumeister, MPI Martinsried, Germany

18:00 – 18:15

Closing Ceremony