

**Program of the 2014 Les Houches - TSRC
Workshop on Protein Dynamics**

Monday, May 19, 2014	
7:45 – 8:30	Breakfast
8:30 – 9:00	<i>Welcome and introductory remarks</i> Martin Weik (IBS Grenoble) and Nana Naisbitt (TSRC)
9:00 – 12:30	Protein dynamics from x-ray scattering I Discussion Leader: Jasper van Thor
9:00 – 9:45	Thomas BARENDS (MPI Heidelberg) <i>PROTEIN CRYSTALLOGRAPHY WITH X-RAY FREE-ELECTRON LASERS</i>
9:45 – 10:30	James FRASER (UC San Francisco) <i>E PLURIBUS UNUM, NO MORE: FROM ONE CRYSTAL, MANY CONFORMATIONS</i>
10:30 – 11:00	Break
11:00 – 11:45	Marco CAMMARATA (University of Rennes) <i>PROTEIN STRUCTURAL DYNAMICS VIA (TIME-RESOLVED) WIDE ANGLE X-RAY SCATTERING</i>
11:45 – 12:30	Arwen PEARSON (DESY Hamburg) <i>NEW DATA COLLECTION STRATEGIES FOR TIME-RESOLVED EXPERIMENTS</i>
12:30 – 14:00	Lunch
14:30 – 16:00	New experimental and simulation approaches I Discussion Leader: Tamiki Komatsuzaki
14:30 – 15:15	Daria KOKH (HITS Heidelberg) <i>STUDY OF SLOW CONFORMATIONAL CHANGES IN PROTEINS</i>
15:15 – 16:00	Minhaeng CHO (Korea University) <i>AMPLIFICATIONS IN COHERENT CHIROPTICAL SPECTROSCOPY AND QUANTUM WEAK MEASUREMENT</i>
16:00 – 16:30	Break
16:30 – 18:00	Correlated protein-solvent dynamics Discussion Leader: David Leitner
16:30 – 17:15	Martina HAVENITH (Bochum University) <i>SOME LIKE IT COOL – THZ ABSORPTION STUDIES OF AS A TOOL TO STUDY BIOMOLECULAR HYDRATION</i>
17:15 – 18:00	Matthias HEYDEN (MPI Mühlheim) <i>CORRELATIONS IN PROTEIN AND SOLVENT DYNAMICS STUDIED WITH ATOMISTIC MOLECULAR DYNAMICS SIMULATIONS</i>
18:00 – 19:00	Poster clips Chair: Nana Naisbitt
19:30 – 21:00	Dinner

Tuesday, May 20, 2014	
7:45 – 8:45	Breakfast
8:45 – 10:15	NMR studies of protein dynamics I Discussion Leader: Joshua Wand
8:45 – 9:30	Paul SCHANDA (IBS Grenoble) <i>SOLID-STATE NMR: NEW INSIGHT INTO DYNAMICS IN CRYSTALLINE PROTEINS AND LARGE MOLECULAR ASSEMBLIES</i>
9:30 – 10:15	Frans MULDER (Aarhus University) <i>NMR SPECTROSCOPIC INVESTIGATION OF THE PH-DEPENDENT PHOTOCYCLE DYNAMICS OF PHOTOACTIVE YELLOW PROTEIN</i>
10:15 – 10:45	Break
10:45 – 12:15	Enzyme catalysis Discussion Leader: James Fraser
10:45 – 11:30	Martin FIELD (IBS Grenoble) <i>MOLECULAR SIMULATIONS OF ENZYME CATALYSIS</i>
11:30 – 12:15	Shigehiko HAYASHI (Kyoto University) <i>CRUCIAL ROLE OF PROTEIN FLEXIBILITY IN ENZYMATIC CATALYSIS</i>
12:30 – 14:00	Lunch
14:00 – 19:30	Free Time
19:30 – 21:00	Dinner

Wednesday, May 21, 2014	
7:45 – 8:45	Breakfast
8:45 – 10:15	Protein dynamics from x-ray scattering II Discussion Leader: Arwen Pearson
8:45 – 9:30	Junko YANO (Lawrence Berkeley National Laboratory, Berkeley) <i>WATER OXIDATION REACTION CATALYZED BY THE MN_4CAO_5 CLUSTER IN PHOTOSYSTEM II</i>
9:30 – 10:15	Jasper van THOR (Imperial College London) <i>SIGNAL TO NOISE CONSIDERATIONS FOR SINGLE CRYSTAL FEMTOSECOND TIME RESOLVED CRYSTALLOGRAPHY OF PHOTOACTIVE YELLOW PROTEIN</i>
10:15 – 10:45	Break
10:45 – 12:15	New experimental and simulation approaches II Discussion Leader: Minhaeng Cho
10:45 – 11:30	Tamiki KOMATSUZAKI (Hokkaido University) <i>ENERGY LANDSCAPES CONSTRUCTED FROM SINGLE-MOLECULE TIME SERIES AND REACTION NETWORKS</i>
11:30 – 12:15	Andrea MARKELZ (University at Buffalo) <i>PROTEIN PICOSECOND CORRELATED MOTIONS AND DYNAMICAL ENSEMBLE ACCESS</i>
12:30 – 14:00	Lunch
14:30 – 18:00	Membrane proteins and protein aggregation Discussion Leader: John Straub
14:30 – 15:15	Mounir TAREK (Université de Lorraine, Nancy) <i>MODULATION OF VOLTAGE GATED ION CHANNELS BY LIPIDS</i>
15:15 – 16:00	Simon SCHEURING (Aix-Marseille Université) <i>HIGH-SPEED ATOMIC FORCE MICROSCOPY MONITORS MEMBRANE PROTEIN DYNAMICS</i>
16:00 – 16:30	Break
16:30 – 17:15	Joan-Emma SHEA (UC Santa Barbara) <i>EFFECT OF SURFACES IN MODULATING PROTEIN FOLDING AND AGGREGATION MECHANISMS</i>
17:15 – 18:00	Birgit STRODEL (Forschungszentrum Juelich) <i>KINETICS OF AMYLOID BETA-PROTEIN AGGREGATION IN THE ABSENCE/PRESENCE OF FIBRILS</i>
18:00 – 19:30	Poster session
19:30 – 21:00	Dinner

Thursday, May 22, 2014	
7:45 – 8:45	Breakfast
8:45 – 12:30	Free Time
12:30 – 14:00	Lunch
14:30 – 16:45	Energy, heat, and signal flow in proteins Discussion Leader: Paul Champion
14:30 – 15:15	Peter HAMM (University Zurich) <i>DYNAMICS OF A PHOTOSWITCHABLE ALLOSTERIC PROTEIN</i>
15:15 – 16:00	Gerhard STOCK (University of Freiburg) <i>ENERGY AND SIGNAL FLOW IN BIOMOLECULES</i>
16:00 – 16:45	David LEITNER (University of Nevada at Reno) <i>ENERGY TRANSFER AT THE PROTEIN-WATER INTERFACE AND THERMAL CONDUCTIVITY OF THE CELL</i>
16:45 – 17:15	Break
17:15 – 18:45	Protein dynamics from neutron scattering Discussion Leader: Martin Weik
17:15 – 18:00	Alessandro PACIARONI (University of Perugia) <i>PROTEIN DYNAMICS IN THE HIGH TEMPERATURE RANGE: CRITICAL FLUCTUATIONS AT THERMAL MELTING</i>
18:00 – 18:45	Joe ZACCAI (Institut Laue Langevin, Grenoble) <i>'VISUALIZING' STRUCTURE, DYNAMICS AND FUNCTIONAL INTERACTIONS OF BIOLOGICAL MOLECULES BY NEUTRON SCATTERING</i>
19:30 – 21:00	Dinner

Friday, May 23, 2014	
7:45 – 8:45	Breakfast
8:45 – 10:15	Electron and proton transfer in proteins Discussion Leader: Martin Field
8:45 – 9:30	Ana-Nicoleta BONDAR (Freie Universität Berlin) <i>WATER AND HYDROGEN BOND DYNAMICS IN PROTON-TRANSFER SYSTEMS</i>
9:30 – 10:15	Paul CHAMPION (Northeastern University, Boston) <i>PROBING LOW FREQUENCY VIBRATIONAL EXCITATIONS AND THEIR EFFECT ON ELECTRON AND PROTON TRANSPORT IN PROTEINS</i>
10:15 – 10:45	Break
10:45 – 12:15	NMR studies of protein dynamics II Discussion Leader: Douglas Tobias
10:45 – 11:30	Joshua WAND (University of Pennsylvania) <i>THE DARK ENERGY OF PROTEINS COMES TO LIGHT: CONFORMATIONAL ENTROPY IN PROTEIN FUNCTION</i>
11:30 – 12:15	Martin BLACKLEDGE (IBS, Grenoble) <i>NMR STUDIES OF PROTEIN MOTIONS ON MULTIPLE TIMESCALES – FROM FUNDAMENTAL BIOPHYSICS TO FUNCTIONAL DYNAMICS</i>
12:15 – 12:30	<i>Closing remarks</i> John Straub (Boston University) and Douglas Tobias (UC Irvine)
12:30 – 14:00	Lunch and Departure