

2<sup>nd</sup> International Conference on Molecular Perspectives on Protein-Protein  
Interactions  
Dubrovnik, June 27-July 1, 2008

**FRIDAY 27 JUNE**

ALL DAY Arrival

18:00-18.10 Opening address by Colin Kleanthous

**Session 1 – Signalling**

*Chair, Colin Kleanthous*

18.10-18.40 **Tony Pawson (Samuel Lunenfeld Research Institute, Toronto)**

SH2 domains and tyrosine kinases - back to the future

18.40-19.10 **Jia-Huai Wang (Dana-Farber Cancer Institute, Boston)**

Protein-protein interactions on cell surfaces

19.10-19.30 **Dierk Niessing (University of Munich)**

Mechanisms of specific RNA recognition by motor-containing mRNPs in yeast

19:30-20:00 **Jacqui Matthews (University of Sydney)**

The assembly of LIM-containing transcriptional complexes

20.00 BUFFET & DRINKS RECEPTION

**SATURDAY 28 JUNE**

**Session 2 - Theory & Computation**

*Chair, Luis Serrano*

08:30-09:00 **Joel Janin (Université Paris-Sud, Orsay)**

Modeling and predicting protein-protein recognition

09.00-09.30 **Ruth Nussinov (NCI, Maryland and Tel Aviv University)**

Protein-protein interactions: What is the preferred way for proteins to interact?

09.30-09.50 **Nir London (The Hebrew University, Jerusalem)**

FunHunt - Model selection based on Rosetta energy landscape characteristics

09.50-10.10 **Jose Faraldo-Gomez (Max Planck Institute, Frankfurt)**

Self-organization of modular protein domains and its role in the assembly and regulation of protein kinases

10.10-10.40 **Huan-Xiang Zhou (Florida State University)**

Modeling protein-protein and protein-nucleic acid interactions: Thermodynamics and kinetics

10.40 COFFEE

**Session 3 - Kinetics & Thermodynamics**

*Chair, Gideon Schreiber*

11.10-11.40 **Marius Clore (NIH, Bethesda)**

Visualizing transient low-population intermediates by paramagnetic relaxation enhancement

- 11:40-12:00 **Irene Luque (University of Granada)**  
The role of water molecules in proline-rich ligand recognition by Abl-SH3
- 12:00-12:20 **Bravman Tsafir (Bio-Rad, Haifa)**  
One-shot kinetics approach to antibody screening and lead identification
- 12:20-12:50 **Ruti Kapon (Weizmann Institute of Science, Rehovot)**  
Measurement of protein energy landscape roughness
- 12:50-13:10 **Shoshana Wodak (Hospital for Sick Children, Toronto)**  
Mechanism and energy landscape of 3D domain swapping
- 13:10 LUNCHBREAK

### **Sponsor lunch talk**

*Sponsor talks, with buffet lunch provided*

- 13:30-13:40 **Dr. Thomas G.M. Schmidt, IBA GmbH**  
Strep-tag® and One-STrEP-tag in protein:protein-interaction analysis
- 13:40-14:00 **Dr. Luminita Damian, MicroCal, LLC**  
Get quick and reliable information on protein interactions with iTC200
- 14:00-14:20 **Mr. Andrew Richards, GE Healthcare**  
Equilibrium and transition state thermodynamics using Biacore™ systems
- 14:20-14:40 **Ms. Carmen Friedrichsen, JPK Instruments AG**  
New Standards in Cantilever-based Single Molecule Force Spectroscopy

### **Session 4 – Protein-protein interactions at membrane surfaces**

*Chair, Ivan Dikic*

- 15:00-15:30 **Jacob Piehler (Goethe University, Frankfurt)**  
Dynamics of ternary cytokine-receptor complexes on model membranes
- 15:30-16:00 **Jean-Phillipe Pin (CNRS, Montpellier)**  
Cell surface protein-protein interaction analysis with time-resolved FRET and snap-tag technologies: application to GPCR oligomerization
- 16:00-16:30 **Igor Stagljär (University of Toronto)**  
From Membrane Proteins to their Interactomes: lessons from Yeast and Humans
- 16:30-17:00 COFFEE
- 17:00-17:20 **Suman Lata (EMBL, Grenoble)**  
Nano-coils formed by the ESCRT-III are disassembled by the AAA ATPase VPS4
- 17:20-17:40 **Thanh Ha Duong (Laboratoire ITODYS, Paris)**  
Kinetics and thermodynamics of metal-loaded transferrins - transferrin receptor 1 interactions
- 17:40-18:10 **Simon Scheuring (Institut Curie-Research, Paris)**  
High-resolution AFM in biological research and as a medical nano-imaging tool

FREE EVENING

## **SUNDAY 29 JUNE**

### **Session 5 - *Intrinsically unstructured protein complexes & conformational diversity***

*Chair, Marcellus Ubbink*

- 08:30-09:00 **Peter Wright (The Scripps Research Institute, CA)**  
Folding and binding of intrinsically disordered proteins
- 09:00-09:30 **Jennifer Potts (University of York)**  
Intrinsically disordered regions in host-pathogen PPIs
- 09:30-09:50 **Carlos Bertocini (University of Cambridge)**  
Intrinsically disordered alpha-Synuclein gains structure upon binding to Calmodulin
- 09:50-10:10 **Brian Baker (University of Notre Dame, Indiana)**  
Molecular mimicry in T cell receptor cross-reactivity requires cooperative conformational plasticity
- 10:10-10:40 **Colin Kleantous (University of York)**  
The role of native disorder in the translocation of protein antibiotics
- 10:40-11:10 COFFEE

### **Session 6- *Post-translational modification***

*Chair, Peter Hinterdorfer*

- 11:10-11:40 **Ivan Dikic (Frankfurt University)**  
Targeting ubiquitin networks
- 11:40-12:10 **Dino Moras (IGBMC, Illkirch)**  
Allosteric control of protein-protein interactions in the nuclear hormone receptor of retinoic acid RAR
- 12:10-12:30 **Rina Rosenzweig (Technion, Haifa)**  
The central unit within the 19S regulatory particle of the proteasome
- 12:30-12:50 **Vladimir Rogov (Goethe University, Frankfurt)**  
How conformational flexibility of the RcsC receiver domain modulates signal transfer?
- 12:50-13:20 **Forest White (MIT, Cambridge)**  
Biological insights from quantitative analysis of receptor tyrosine kinase signaling networks
- 13:20 LUNCHBREAK AND FREE TIME

### **Session 7 - *Methods***

*Chair, Jacob Piehler*

- 16:00-16:30 **Peter Hinterdorfer (University of Linz)**  
Molecular recognition force microscopy/spectroscopy
- 16:30-16:50 **Klaus Gerwert (Ruhr University, Bochum)**  
Protein-bound waters in catalysis
- 16:50-17:20 **Marcellus Ubbink (Leiden University)**  
Structures and dynamics of weak protein complexes studied with paramagnetic NMR

- 17.20-17.50 COFFEE
- 17.50-18.10 **Nils-Alexander Lakomek (Max-Planck-Institute, Goettingen)**  
Recognition dynamics up to microseconds revealed from NMR residual dipolar coupling derived ubiquitin ensemble in solution
- 18.10-18.30 **Bostjan Kobe (University of Queensland, Brisbane)**  
Crystal structures and protein-protein interactions: the case of platelet glycoprotein Ibalpha - thrombin interaction
- 18:30-19:00 **Sachdev Sidhu (University of Toronto)**  
Large-scale analysis of the PDZ domain family
- 19.30 BUFFET DINNER FOLLOWED BY POSTERS

## MONDAY 30 JUNE

### **Session 8 – Evolution, Design & Specificity**

*Chair, Jim Wells*

- 08:30-09:00 **Gideon Schreiber (Weizmann Institute of Science, Rehovot)**  
The modular architecture of protein-protein binding sites
- 09.00-09.30 **Eric Sundberg (Boston Biomedical Research Institute)**  
Directed evolution as a tool for dissecting protein-protein interactions and developing novel protein therapeutics
- 09.30-09.50 **Gábor Pál (Eötvös University, Budapest)**  
Combinatorial phage-display mutagenesis reveals complex networks of surface-Core interactions in the pacifastin protease inhibitor family
- 09.50-10.10 **Katja Arndt (University of Freiburg)**  
iPEP – Peptides designed and selected for interfering with protein interaction and function
- 10.10-10.40 **Andreas Plückthun (University of Zurich)**  
Versatile and specific binding inside and outside of the cell
- 10.40-11.10 COFFEE

### **Session 9 - Networks**

*Chair, Dino Moras*

- 11.10-11.40 **Luis Serrano (CRG, Barcelona)**  
Structural systems biology
- 11.40-12.10 **Patrick Aloy (Institute for Research in Biomedicine , Barcelona)**  
Protein interaction specificity: Using 3D structures to unveil compensatory effects in protein interaction networks
- 12.10-12.30 **Dima Lukatsky (Ben-Gurion University of the Negev, Beer-Sheva)**  
Structural similarity enhances interaction propensity of proteins
- 12.30-12.50 **Irma Lemmens (Ghent University)**  
What is the quality of high-throughput yeast-two-hybrid maps?
- 12.50-13.10 **Roland Brock (Radboud University, Nijmegen)**  
A network analysis of changes in molecular interactions in cellular signalling

13.10 LUNCHBREAK, FREE TIME + POSTERS

**Session 10 - Protein-protein interactions in disease and drug development**

*Chair, Gideon Schreiber*

- 16.00-16.30 **Alfred Wittinghofer (Max-Planck Institute, Dortmund)**  
The Protein interaction network of Ras-like GTP-binding Proteins
- 16:30-17:00 **Sheena Radford (University of Leeds)**  
Structural elucidation of the self-assembly mechanism of beta-2-microglobulin into amyloid fibrils
- 17.00-17.30 COFFEE
- 17:30-18:00 **Jim Wells (University of California at San Francisco)**  
Drug Discovery for Challenging Targets
- 18.00-18.20 **Kurt Deshayes (Genentech, San Francisco)**  
Antagonizing the IAP proteins to induce programmed cell death in cancer: A new therapeutic approach utilizing protein-protein interactions
- 18.20-18.40 **Kristian Müller (University of Freiburg)**  
Tailoring targeting of epidermal growth factor receptor with proteins and designed peptides
- 18.40-19.10 **Andrew Hamilton (Yale University, New Haven)**  
Disrupting protein-protein interactions using synthetic molecules that mimic surface domains
- 19.10 CLOSE
- 20.00 DINNER + PARTY

**TUESDAY 1 JULY** - DEPARTURE