



INSTITUTE  
FOR RESEARCH  
IN BIOMEDICINE

# Barcelona BioMed Conference

## Intrinsically disordered proteins in biomedicine

### October 4-6, 2010

## Programme

### Monday, October 4, 2010

8.30 Registration

9.00 Welcome by Joan J Guinovart, IRB Barcelona Director

#### **Session I:**

Chair: Ernest Giralt, IRB Barcelona (SPAIN)

9.15 - 9.55 **Keith Dunker** Center for Computational Biology and Bioinformatics.  
Indiana University (USA)

*Protein intrinsic disorder in cell signaling, scaffolds, and molecular machines*

9.55 - 10.35 **Jane Dyson** The Scripps Research Institute. La Jolla (USA)

*Detection and characterization of folded-globule states by NMR*

#### 10.35 - 11.05 Coffee break and poster session

11.05 - 11.45 **Eckhard Mandelkow** Max-Planck Unit for Structural Molecular Biology.  
Hamburg (GERMANY)

*Structural principles of pathological Tau folding, aggregation, and reversibility*

11.45 - 12.25 **Sonia Longhi** Université d'Aix-Marseille (FRANCE)

*Structural disorder and induced folding within the measles virus nucleoprotein:  
experimental assessment and functional implications*

12.25 - 12.50 **Norman Davey** European Molecular Biology Laboratory. Heidelberg  
(GERMANY)

*How viruses hijack cell regulation*

12.50 - 15.00 Lunch (FresCo, C/ Carme, 16)

### Session II:

Chair: Monika Fuxreiter, Hungarian Academy of Sciences (HUNGARY)

15.00 - 15.40 **Ron Kopito** Stanford University (USA)

*Membrane penetration and prion-like propagation of amyloids*

15.40 - 16.20 **Miquel Pons** Institute for Research in Biomedicine. Barcelona (SPAIN)

*Functional and structural annotation of the intrinsically disordered unique domain of c-Src Kinase*

16.20 - 16.50 Coffee break and poster session

16.50 - 17.15 **Robert Konrat** University of Vienna. Vienna (AUSTRIA)

*Theoretical and experimental investigations of the meandering of intrinsically disordered proteins in conformational space*

17.15 - 17.55 **Toshio Ando** Kanazawa University (JAPAN)

*High-speed AFM imaging of intrinsically disordered proteins*

17.55 - 18.35 **Martin Blackledge** Institut de Biologie Structurale Jean-Pierre Ebel. Grenoble (FRANCE)

*NMR studies of intrinsically disordered proteins at atomic resolution*

18.35 -20.00 Poster session and networking

Tuesday, October 5, 2010

### Session III:

Chair: Miquel Pons, IRB Barcelona (SPAIN)

9.00 - 9.40 **Peter Tompa** Institute of Enzymology, Hungarian Academy of Sciences (HUNGARY)

*Structural disorder and chaperone activity of plant dehydrins in vitro and in vivo*

9.40 - 10.20 **Markus Zweckstetter** Max-Planck Institute for Biophysical Chemistry. Göttingen (GERMANY)

*Folding and misfolding of tau*

10.20 - 10.45 **Monika Fuxreiter** Institute of Enzymology, Hungarian Academy of Sciences (HUNGARY)

*Patterns of order-disorder comprise a conserved evolutionary protein trait*

10.45 - 11.15 Coffee break and poster session

11.15 - 11.55 **Ben Lehner** Centre for Genomic Regulation. Barcelona (SPAIN)

*Dosage and disorder*

11.55 - 12.35 **Julie Forman-Kay** University of Toronto (CANADA)

*Describing dynamic complexes of intrinsically disordered proteins*

12.35 - 13.00 **Carlos Bertoncini** Institute for Research in Biomedicine. Barcelona (SPAIN)

*Towards a quantitative assessment of amyloid formation in vivo by multiparametric fluorescence microscopy*

13.00- 15.00 Lunch (Restaurant Fresco, C/ Carme, 16)

#### **Session IV:**

Chair: Frans Mulder, University of Groningen (THE NETHERLANDS)

15.00 - 15.40 **Dmitri Svergun** EMBL-Hamburg Outstation (GERMANY)

*Small angle X-ray scattering to study protein flexibility in solution*

15.40 - 16.20 **Ashok Deniz** The Scripps Research Institute. La Jolla (USA)

*Single-molecule dynamics and coupled binding-folding of intrinsically disordered proteins*

16.20 - 16.50 Coffee break and poster session

16.50 - 17.30 **Doug Barrick** Johns Hopkins University. Baltimore (USA)

*Ordered, and disordered regions in the structure, thermodynamics, and function of the Notch signaling pathway*

17.30 - 18.10 **Pau Bernadó** Institute for Research in Biomedicine. Barcelona (SPAIN)

*Exploiting the synergy between NMR and SAXS in intrinsically disordered proteins*

18.10 - 18.50 **Richard Kriwacki** St. Jude Children's Research Hospital. Memphis (USA)

*Role of intrinsic flexibility in protein regulatory mechanisms*

20.30 - open end: Speakers dinner

## Wednesday, October 6, 2010

### Session V:

Chair: Mikael Akke, Lund University (SWEDEN)

9.00 - 9.40 **M. Madan Babu** MRC-Laboratory of Molecular Biology. Cambridge (UK)  
*Intrinsically unstructured proteins: Regulation and disease*

9.40 - 10.20 **Vince Hilser** Johns Hopkins University. Baltimore (USA)  
*Intrinsic disorder, local unfolding and allostery in an ensemble*

10.20 - 10.45 **Lluís Ribas de Pouplana** Institute for Research in Biomedicine.  
Barcelona (SPAIN)  
*microRNAs regulate the cellular response to unfolded protein stress*

10.45 - 11.15 Coffee break and poster session

11.15 - 11.40 **Remy Loris** Vrije Universiteit Brussel. Brussels (BELGIUM)  
*Rejuvenation of CcdB-poisoned gyrase by an intrinsically disordered protein domain*

11.40 - 12.20 **Patrick Aloy** Institute for Research in Biomedicine Barcelona (SPAIN)  
*Peptide-mediated interactions in high-resolution 3D structures*

12.20 - 13.00 **Peter Wright** Scripps Research Institute (La Jolla, USA)  
*Promiscuous liaisons: functional interactions of intrinsically disordered proteins in signaling networks*

13.00 Closing