



# Barcelona BioMed Conference

## Peptide engineering: Therapeutic peptides

### October 26-28, 2009

## Programme

### Monday, October 26, 2009

8.00 Registration

9.00 Welcome by Joan J Guinovart, IRB Barcelona Director

#### **Session I:**

Chair: Ernest Giralt

9.15 - 9.50 Ernest Giralt

*Institute for Research in Biomedicine (Barcelona, Spain)*

New challenges in studying ligand-protein interactions

9.50 - 10.25 Samuel I. Stupp

*Northwestern University (Evanston, IL, USA)*

Bioactive Peptide Amphiphile Nanostructures for Regenerative Medicine

### 10.25 – 10.55 Coffee break and poster session

10.55 – 11.30 Joel P. Schneider

*University of Delaware (Newark, DE, USA)*

Syringe Deliverable Peptide Hydrogels as Delivery Vehicles

11.30 – 12.05 Les P. Miranda

*Amgen, Inc. (Thousand Oaks, CA, USA)*

Identification of Potent, Selective, and Metabolically Stable Peptide Antagonists to the Calcitonin Gene-Related Peptide (CGRP) Receptor with Improved Pharmacokinetics

12.05 - 12.30 Yossef Kliger

*Compugen (Tel Aviv, Israel)*

Peptides Modulating Conformational Changes in Secreted Chaperones:  
from *In Silico* Design to Preclinical Proof of Concept

12.30 - 12.55 Motoyoshi Nomizu  
*Tokyo University of Pharmacy and Life Science (Tokyo, Japan)*  
Peptide-Chitosan Membranes Can Mimic Multi-functional Proteins

13.00 – 15.00 Lunch (FrescCo, C/ Carme, 16)

Chair: Claudio Toniolo  
15.00 – 15.35 Claudio Toniolo  
*University of Padua (Padua, Italy)*  
Macrocyclization reactions and supramolecular chemistry with helical peptide substrates

15.35 – 16.10 Padmanabhan Balaram  
*Indian Institute of Science (Bangalore, India)*  
Polypeptides with Hybrid Backbones

16.10 – 16.40 Coffee break and poster session

16.40 - 17.15 Hiroaki Suga  
*University of Tokyo (Tokyo, Japan)*  
Ribosomal synthesis of natural product-like non-standard peptides

17.15 - 17.40 Ikuo Fujii  
*Osaka Prefecture University (Osaka, Japan)*  
MicroAntibodies: Generation of Antibody-like Peptides from Phage-displayed Libraries of Conformationally Constrained Peptides

17.40 - 18.05 Maxim Ryadnov  
*University of Leicester (Leicester, UK)*  
Self-assembling peptide systems of de novo design

18.05 -20.00 Poster session and networking  
20.00 Social event (Restaurant Txapela, C/ Passeig de Gràcia 8-10)

Tuesday, October 27, 2009

**Session II:**

Chair: Lila Gierasch

9.00 - 9.35 Lila Gierasch  
*University of Massachusetts (Amherst, MA, USA)*  
The Mechanism of Allostery in an Hsp70 Molecular Chaperone

9.35 - 10.10 Fernando Albericio  
*Institute for Research in Biomedicine (Barcelona, Spain)* Peptide from the Sea as Source of Drugs: Scope and Limitations

10.10 – 10.35 Christian Heinis

*Ecole Polytechnique Federal de Lausanne (Lausanne, Switzerland)*

Novel peptide macrocycle structures with high affinities and specificities for disease relevant targets

10.35 – 11.05 Coffee break and poster session

11.05 – 11.40 Yoon-Sik Lee

*Seoul National University (Seoul, Korea)*

Preparation and Application of Ladder Type One-Bead One-Compound (OBOC) Peptide Library for Kinase Substrate Screening

11.40 - 12.15 Christopher P. Holmes

*Affymax Inc. (Palo, Alto, CA, USA)*

Discovery and Optimization of Novel Agonist Peptides of the Granulocyte Colony-Stimulating Factor (G-CSF) Receptor

12.15 - 12.40 Itaru Hamachi

*Kyoto University (Kyoto, Japan)*

GPCR Imaging by Reactive Peptide Tag

12.40 - 13.05 Julio Camarero

*University of Southern California (California, USA)*

Biomimetic Approach for the bacterial synthesis of cyclotides

13.05 – 15.00 Lunch (Restaurant Fresco, C/ Carme, 16)

Chair: Shiroh Futaki

15.00 – 15.35 Shiroh Futaki

*Institute for Chemical Research (Kyoto, Japan)*

Physiological and non-physiological factors involved in the internalization of arginine-rich peptides

15.35 – 16.10 Annette G. Beck-Sickinger

*University of Leipzig (Leipzig, Germany)*

Neuropeptide Y Derived Molecules in Therapy and Diagnosis

16.10 – 16.40 Coffee break and poster session

16.40 - 17.15 Marcey L. Waters

*University of North Carolina (Chapel Hill, NC, USA)*

Controlling Form and Function in beta-Hairpin Peptides with Post-translational Modifications

17.15 - 17.40 M<sup>a</sup> Ángeles Jiménez  
*Instituto Química Física Rocasolano. CSIC (Madrid, Spain)*  
Mimicking non-regular  $\beta$ -hairpins: VEGF and Vammin loop 3 analogues

17.40 - 18.05 Nuno Micaelo  
*Minho University (Braga, Portugal)*  
Peptide preorganization in protein binding: a molecular modeling study

20.30 – open end: Speakers dinner

### Wednesday, October 28, 2009

#### Session III:

Chair: Anna Maria Papini

9.00 - 9.35 Anna Maria Papini  
*University of Florence (Florence, Italy)*  
Post-translationally modified peptides efficiently mimicking  
neo-antigens: a challenge for theragnostics of autoimmune diseases

9.35 - 10.10 David Andreu  
*Universitat Pompeu Fabra (Barcelona, Spain)*  
The novel cell-penetrating peptide NrTP exquisitely targets  
the nucleolus of tumor cells

10.10 – 10.35 Luca D. D'Andrea  
*Istituto di Biostrutture e Bioimmagini, CNR (Napoli, Italy)*  
Peptides modulators of VEGF-dependent angiogenesis

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

11.05 – 11.40 Shao Q. Yao  
*National University of Singapore (Singapore)*  
Peptide Microarrays and Their Applications in the Emerging Field of  
Catalomics

11.40 - 12.15 Mazdak Radjainia  
*Instituion University of Auckland (Auckland, New Zealand)*  
Transmission electron microscopy and nuclear magnetic resonance  
spectroscopy: Complementary tools for developing pharmaceutically  
important polypeptides

12.15 - 12.40 Paula Dolores Raposinho

*Instituto Tecnológico e Nuclear (Sacavém, Portugal)*

Cyclic MC1 Receptor-Targeting Peptides Labeled with  $^{99m}\text{Tc}$  for Melanoma Imaging

12.40 - 13.15 Hisakazu Mihara

*Tokyo Institute of Technology (Tokyo, Japan)*

Control of Amyloidogenesis of Alzheimer's  $\beta$ - Peptide by Designed Peptides and Proteins

13.15 Concluding remarks