

BCAM Workshop
Quantitative Biomedicine for Health and
Disease
Bilbao, February 24-25, 2016

PROGRAM

Organizers:

- Luca Gerardo-Giorda
BCAM - Basque Center for Applied Mathematics, Bilbao, Spain
- Jesus Cortes
BioCruces Research Institute, Bilbao, Spain
- Sebastiano Stramaglia
INFN, University of Bari, Italy



Speakers:

1. Paolo Bonifazi (Ikerbasque, Spain)
2. Cesar Caballero (BCBL, Spain)
3. Daniela Calvetti (Case Western Reserve University, Cleveland, USA)
4. Dante Chialvo (Conicet, Buenos Aires, Argentina)
5. Mauro D'Amato (Ikerbasque, Spain, and Karolinska Institute, Sweden)
6. Lulu Ritchie (Imperial College, UK)
7. Iñigo Gabilondo (BioCruces Health Research Institute, Spain)
8. Eugenio Iglesias (BCBL, Spain)
9. Banafshe Larijani (Ikerbasque, Spain)
10. Jose Ignacio Lopez (Cruces University Hospital, Spain)
11. Rafael Molina Soriano (University of Granada, Spain)
12. Maria Perez Zabalza (IDIBAPS Barcelona, Spain).
13. Alessandro Veneziani (Emory University, Atlanta, USA)

Program

Wednesday, February 24, 2016

9:00: Registration

9:15-9:30. Opening.

9:30-13:00 Session 1

Chairman: *Luca Gerardo-Giorda*

09:30-10:15 **Jose Ignacio Lopez**

Intratumor heterogeneity: a simple approach to complexity

10:15-11:00 **Mauro D'Amato**

The genetics of irritable bowel syndrome; whatever that means...

11:00-11:30. *Coffee Break*

11:30-12:15 **Banafshe Larijani**

Oncoprotein activation and dynamics in Cancer - a quantitative imaging approach

12:15-13:00 **Alessandro Veneziani**

Patient-Specific Numerical Modeling in the Clinical Practice: Mathematical Challenges of Computer Aided Clinical Trials

13:00-14:30 *Lunch*

14:30-18:00 Session 2

Chairman: *Sebastiano Stramaglia*

14:30-15:15 **Dante Chialvo**

Physiological healthy dynamics is critical, a novel view

15:15-16:00 **Lulu Ritchie**

Airway modeling from the clinical perspective

16:00-16:30 *Coffee Break*

16:30-17:15 **Paolo Bonifazi**

Structural-functional brain resting-state subnetworks: identification, description and application as biomarkers

17:15-18:00 **Maria Perez Zabalza**

Slow oscillations: laminar dynamics and role of thalamus

20:30 *Social dinner*

Thursday, February 25, 2016

9:30-13:45 Session 3

Chairman: *Jesus M. Cortes*

09:30-10:15 **Rafael Molina Soriano**

Probabilistic Modeling of Crowdsourcing Problems and applications to large biomed datasets

10:15-11:00 **Cesar Caballero**

The power of haemodynamic deconvolution for mapping brain dynamics with BOLD functional MRI

11:00-11:30. Coffee Break

11:30-12:15 **Daniela Calvetti**

A window on the functioning brain: iterative solvers meet Bayesian inference to solve the inverse problem of magnetoencephalography (MEG).

12:15-13:00 **Eugenio Iglesias**

Atlas construction and adaptive segmentation of the hippocampal substructures in brain MRI using ex vivo imaging and Bayesian inference

13:00-13:45 **Iñigo Gabilondo**

Quantitative imaging of the retina as a biomarker of neurodegenerative diseases

13:45-14:45 Lunch

14:45-15:00. Closing.