Integrative Modelling of Biomolecular Interactions-EMBO

Objectives

This EMBO Practical Course will present docking-based computational methods and related bioinformatics approaches, aiming at predicting how proteins interact with other biomolecules or ligands. Lectures will provide the theoretical background on state-of-the-art algorithms for sampling and scoring docking models, describe the use of low- and high-resolution information, and conservation- and coevolution-based interfaces prediction methods. Further, protein-peptide and protein-ligand interaction, as well as the young field of genome structure determination from sequencing information will also be covered to broaden the scope of the course beyond traditional protein-protein interactions.

Roughly half of the EMBO Practical Course will consist of practical sessions, during which the students will run computations on interesting biological problems. Finally, to encourage interaction between instructors and students and stimulate discussions, students will be prompted to present their own research and problems during dedicated sessions.

Academic Staff

Patrick Aloy, Institute for Research in Biomedicine, Spain
Paul Bates, Crick Institute, UK
Jessica Andreani, CEA Paris, France
Alexandre Bonvin, Utrecht University, the Netherlands
Matteo Dal Peraro, EPFL, Switzerland
Lucía Diaz, Barcelona Supercomputing Center, Spain
Juan Fernandez-Recio, IBMB-CSIC / BSC, Barcelona, Spain
Raphaël Guerois, CEA I2BC, France
Birte Hoecker, MPI Developmental Biology, Germany
Brian Jimenez-Garcia, Barcelona Supercomputing Center, Spain
Marc Marti-Renom, Centre Nacional d’Ana?lisi Geno?mica - Centre de Regulacio? Geno?mica (CNAG-CRG), Barcelona, Spain
Marc F Lensink, University Lille, France
Iain H. Moal, The European Bioinformatics Institute (EMBL-EBI), UK
Matthieu Montes, Conservatoire National des Arts et Métiers, France
João Rodrigues, Stanford University, USA
Ora Schueler-Furman, The Hebrew University of Jerusalem, Israel
Maya Topf, ISMB, Birkbeck/UCL University of London, UK
Shoshana Wodak, VIB Structural Biology Research Center, Vrije Universiteit Brussel, Belgium
For more information please visit the training page.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación