



## Simposio Internacional: : La biología de las redes proteicas: el interactoma y sus implicaciones patológicas

*International Symposium: Biology of protein networks: Implications for human disease*

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Summary of major achievements.

Dr. Fernández-Recio is the director of the Protein Interaction and Docking group at the Life Sciences Department, Barcelona Supercomputing Center. The group is formed by 2 postdoctoral researchers, and 5 PhD students, and is devoted to the theoretical study of biochemical phenomena, with special focus on protein interactions. He has published more than a hundred articles in international peer-reviewed journals (including *Nature*, *PNAS*, *J.Am.Chem.Soc.*, *J.Biol.Chem.*, *Bioinformatics*, *Mol.Cell.*, *NAR*...). He has developed innovative computer tools for protein-protein docking predictions, like ICM-DISCO or pyDock, with efficient descriptors for desolvation, which have actually been integrated in other renowned modelling programs like HADDOCK. The tools have been successfully tested in CAPRI blind assessment (<http://www.ebi.ac.uk/msd-srv/capri/>), ranking 5th among a total of 62 groups in the last edition. He has contributed with innovative approaches for the prediction of protein binding sites, hot-spot residues or protein-nucleic acid interfaces, as well as with new insights on the protein association mechanism (*Blundell and Fernandez-Recio 2006 Nature 444, 279*). He has been actively involved in successful multi-disciplinary collaborations for the study of systems of biomedical interest, like the immune plant system (Dr. L. Federici, Italy)(*Casasoli et al. 2009 PNAS 106, 7666*), the dynamic mechanism for nucleic acid binding by translin (Dr. F. Glaser and Prof. H. Manor, Technion Institute, Israel)(*Pérez-Cano et al. 2013 NAR 41, 9956*), pathogen/host interactions (Aitor Hierro, BioGUNE) (*Chen et al. 2013 PLOS Pathogens 9, e1003382*; *Lucas et al. 2014 PNAS 111, E3514*), or the assembly of the heteromeric amino-acid transporter LAT2 and 4F2hc (Manuel Palacín, IRB-Barcelona) (*Rosell et al. 2014 PNAS 111, 2966*).