PRESS RELEASE

# Ivan Coluzza, PhD in Physics, joins CIC biomaGUNE as an Ikerbasque Research Professor

## Dr. Coluzza will lead the Computational Biophysics Group of the Centre for Cooperative Research in Biomaterials

## His research is focused on the development of protein models with applications in drug design

## With a PhD from the Institute for Atomic and Molecular Physics in Amsterdam, Dr. Coluzza has worked at the University of Vienna, the National Institute for Medical Research (UK) and the University of Cambridge

**(Donostia, 13 September 2017).** Ivan Coluzza, PhD in Physics, has recently joined CIC biomaGUNE as an Ikerbasque Research Professor, a programme designed to attract and retain talent in the Basque Country. Dr. Coluzza will lead the Computational Biophysics Group of the Research Centre, where his work will be focused on the *Bio Velcro* and *Bionic Proteins* projects aimed, respectively, at developing protein models with significant applications in protein engineering and drug design, and at developing artificial polymers... biomimetic molecules that can imitate the behaviour of biological molecules.

Ivan Coluzza graduated in Physics at the University "La Sapienza" in Rome and, in 2005, obtained his PhD in Physics at the Institute for Atomic and Molecular Physics (AMOLF) in Amsterdam. He has subsequently worked as a university assistant at the University of Vienna, and a post-doctoral researcher at the National Institute for Medical Research (UK) and the University of Cambridge.

His group in CIC biomaGUNE will be an interdisciplinary team of scientists from different backgrounds but all with extensive experience in computational modelling of biological systems and statistical mechanics.

With respect to the *Bio Velcro* project (the computational design of highly selective tumour targeting nanoparticles), Dr. Coluzza's group has introduced a novel computational methodology capable of quantitatively describing the relation between protein sequence and protein folding. By applying such methodology, the group

proposes to computationally optimise artificial proteins to achieve multivalent binding of drug-delivery vehicles to cancer cells.

The *Bionic Proteins* research project (theory and simulations of modular bionic proteins) aims at defining a novel theoretical framework within which the group will be able to design new experimentally realisable materials with tuneable self-assembling properties.