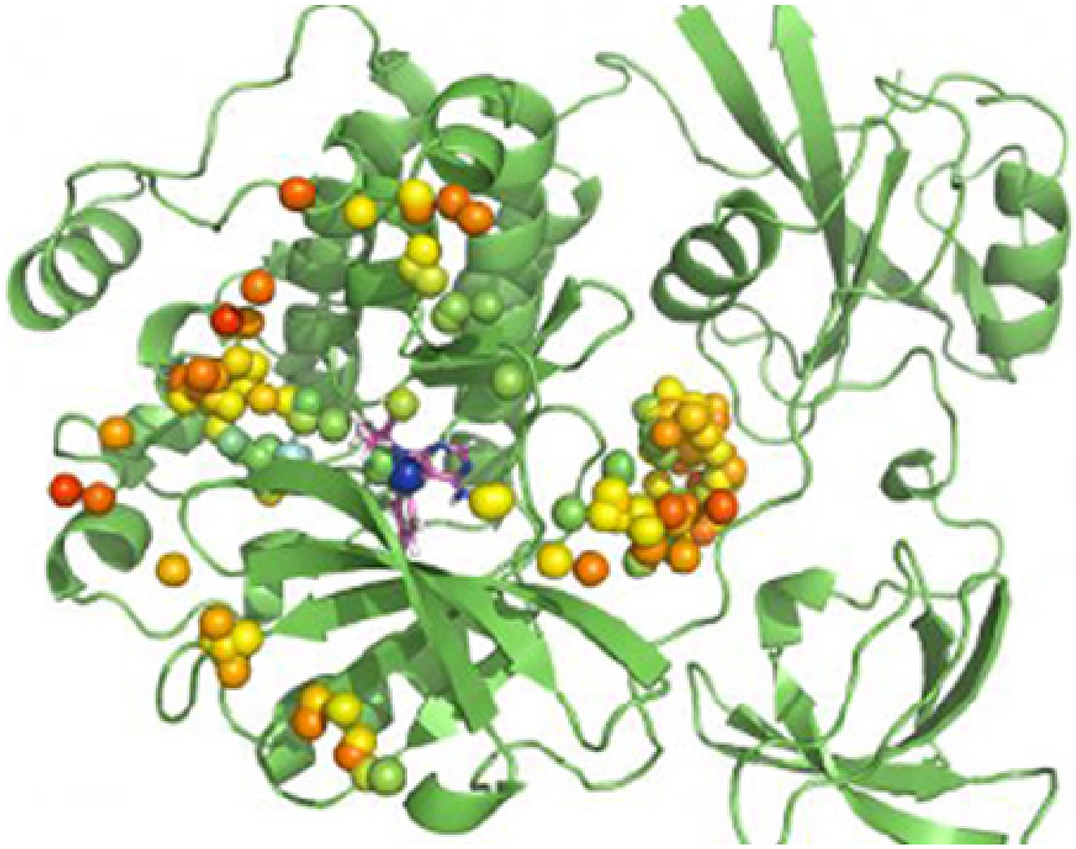
BIO-HPC

Bioinformatics and High Performance Computing

UCAM
Universidad Católica de Murcia

Medicine and Informatics Department

GENERAL DESCRIPTION



The Bioinformatics and High Performance Computing research group (HPC-BIO) focuses its work on the exploitation of High Performance Computing Architectures (Supercomputers, GPUs) for the development, acceleration and application of bioinformatics applications. The multidisciplinary group delivers and applies an improved integrated computational-experimental strategy for the discovery of bioactive (drugs, fungicides, cosmetics, food technology, etc) compounds with desired functional properties.

The range of applicability of its methodology covers almost any bioactive compounds related to blood diseases, functional foods, and fungicides.

Some Partners:

CSIC
Consejo Superior de Investigaciones Científicas

Universitat d'Alacant
Universidad de Alicante

VIT University
Vellore Institute of Technology

Universitatis Islandiae Sigillum

Universitas Almeriensis
In Lumine Sapientia

PRINCIPAL MEMBERS

Computer Science Department Professor,
Catholic University of Murcia.
PhD in Chemistry, University of Murcia.
Degree in Chemistry, University of Murcia.

Dr. Horacio Emilio Pérez Sánchez
Research Head

Computer Science Department Professor,
Catholic University of Murcia.
PhD in PhD. Computer Science, University of Murcia.
M.Sc., Computer Technologies and Advanced Telematics,
University of Murcia.
M.Sc.,Computational Software Techniques in Engineering,
Cranfield University.

Dr. José María Cecilia Canales
Researcher

PhD in Computational and Theoretical Chemistry,
University of Murcia.
M.Sc., Chemistry, University of Murcia.
Degree in Chemistry, University of Murcia.

Dr. José Pedro Cerón Carrasco
Researcher

Human Nutrition and Dietetics Department Professor,
Catholic University of Murcia.
PhD in Environmental Engineering and Toxicology,
Catholic University of Murcia.
Degree in Chemistry, University of Murcia.

Dr. Alfonso Pérez Garrido
Researcher

SELECTED RESEARCH PROJECTS

2016

Eurolab-4-HPC 2016 Business
Field: Business Prototyping in High Performance Computing and Computational Chemistry
Call: Horizon H2020-FETHPC-2014 (GA 671610)
Leader: Catholic University of Murcia

2015

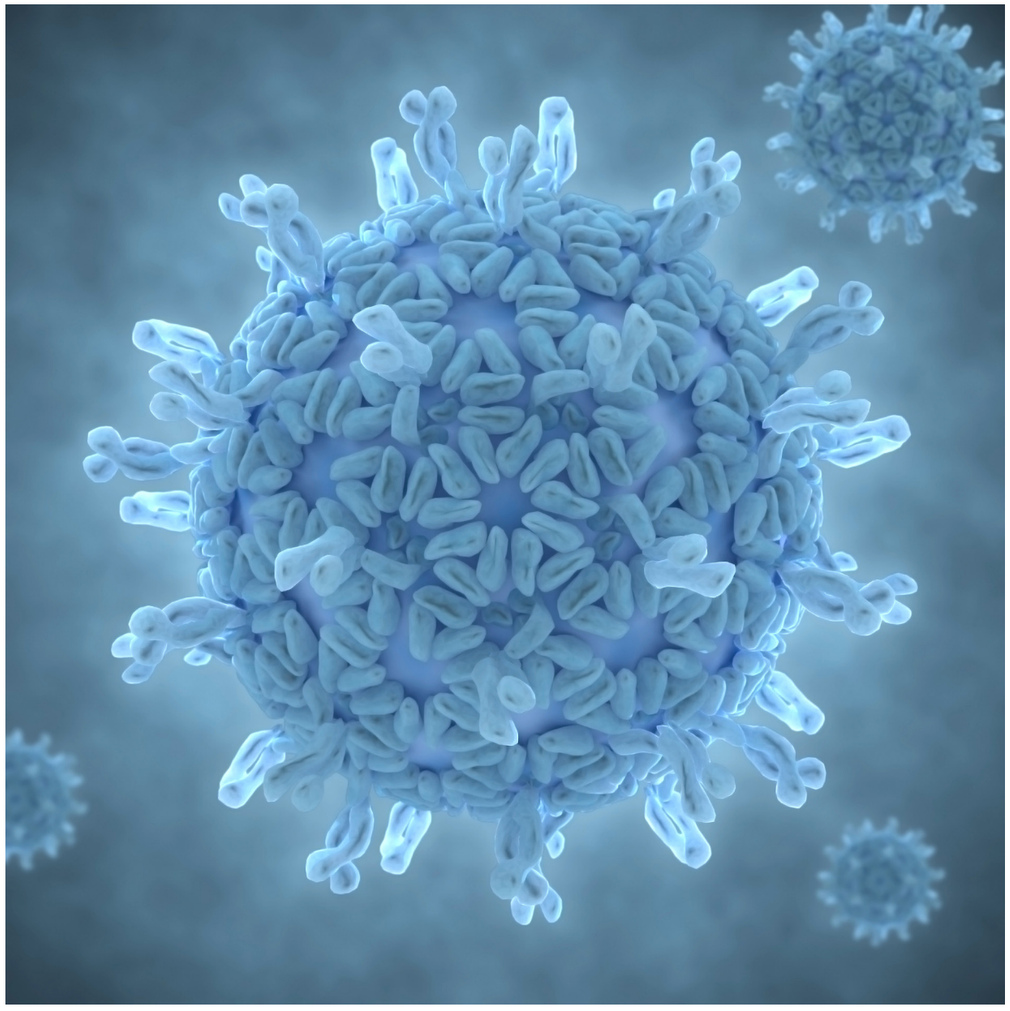
TETRACOM Technology Transfer in Computing Systems
Field: Technology transfer in Computational Chemistry
Call: European Union Commission Framework Programme 7
Leader: Catholic University of Murcia

2014

Discovery of novel blood anticoagulants using hybrid artificial intelligence technique
Field: Computational Chemistry
Call: Nils Science and Sustainability
Leader: Catholic University of Murcia

2013

Novel Anticoagulants
Field: Computational Chemistry
Call: PRACE Distributed European Computing Initiative (DECI-10)
Leader: Catholic University of Murcia



SELECTED RESEARCH LINES

- *Knowledge-based systems*
- *Discovery and optimisation of bioactive compounds*
- *High performance and distributed computing*
- *Ionic channel biophysics*
- *Applied mathemathics*
- *Prediction of biological activity of chemical compounds by QSAR methods*
- *Multiscale molecular modelling*

http://investigacion.ucam.edu/grupos/bio-hpc/es/capacidades

WHAT IS THE OPRI

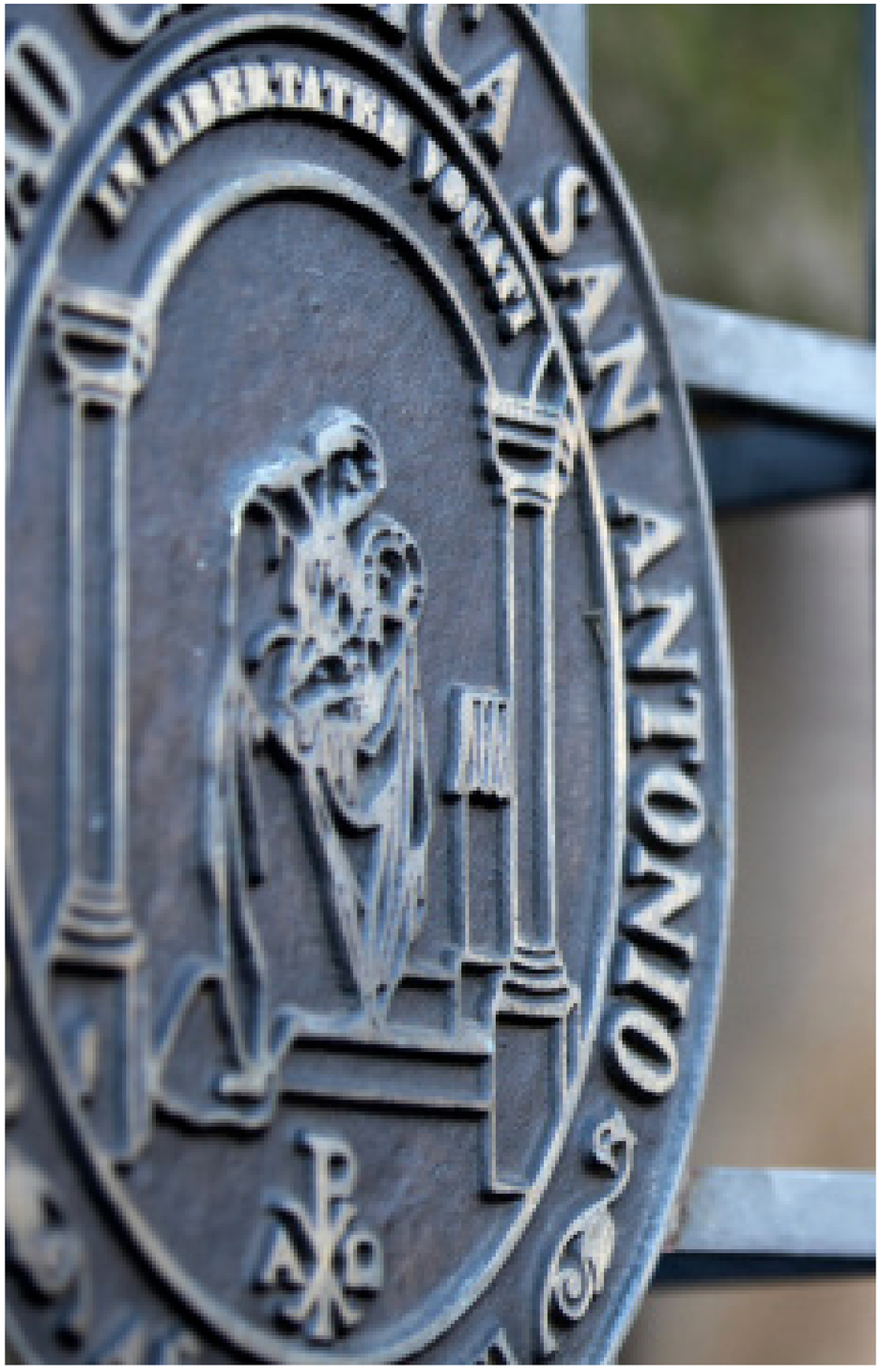
The International Project Office (OPRI) is an office linked to the Vice-rectorate of Research, and is responsible for the management of international research projects at UCAM.

The OPRI was founded to strengthen the collaboration between our partners all around the world in the field of research. The unit was established in 2012 and has built strong alliances in 36 countries in which the university has to date participated in 41 projects.

The internationalization of the Catholic University of Saint Anthony, through the OPRI, is directed towards all of the university community, researchers as well as students. A total of 160 students have participated already in projects in a variety of countries all over the continent.

CALLS:

http://investigacion.ucam.edu/opri



UCAM

OPRI International Project Office

OPRI
International Project Office UCAM
Vice-rectorate of Research

Catholic University of Saint Anthony
Los Jerónimos Campus, 30107 Guadalupe (Murcia)
Phone number: (+34)968 278 712
opri@ucam.edu
www.investigacion.ucam.edu/opri