

Curriculum Vitae

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Personal

Name: Horacio Emilio Pérez Sánchez

Birth date: 31-Oct-1975

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Studies

- **2000** Degree in Chemistry at the University of Murcia. Speciality: Theoretical and Computational Chemistry.
- **2000-2001** Grade Thesis (Dissertation) at the Department of Chemical Physics of the University of Murcia entitled “Characterization of macromolecular flexibility using electric birefringence. A Brownian dynamics study”. Highest mark obtained.
- **2001-2003** Doctorate in Chemistry courses. DEA (Certification of advanced studies) obtained.
- **2001-2006** PhD at the Department of Chemical Physics of the University of Murcia, with European Doctorate mention. PhD Thesis, entitled “Orientational dynamics and electric birefringence of semiflexible macromolecules”. Highest mark obtained.

Experience

Research experience

- **2001-2003** Research fellowship from the University of Murcia under the project “Research in polymers”.
- **2003** Early stage Marie Curie fellowship from the European Union (FP5) for the participation in the research project “Hydrodynamic modelling of the complexes between Heparin and IFN γ ” in Grenoble (France).
- **2003-2006** PhD fellowship from the Ministerio de Educación y Ciencia (Spanish Ministry of Education and Science).
- **2007-2008** 3 Postdoctoral contracts at the Institut für Nanotechnologie in the Forschungszentrum Karlsruhe, Germany, by the Helmholtz-Gemeinschaft.
- **2007** Research stage at Barcelona Supercomputing Center.
- **2008-2010** Marie Curie FP7 experienced researcher under the project “INSILICO-DRUGDISCOVER” at the Institut für Nanotechnologie in the Karlsruhe Institute of Technology.
- **2010-2011** Research stage under the program “HPC Europa2” at the Department of Computer Engineering of the University of Murcia.
- **2011-2013** Research contract at the Department of Computer Engineering of the University of Murcia.
- **2013-** Principal Investigator of the “Bioinformatics and High Performance Computing” Research Group (<http://bio-hpc.eu>). Research contract at the Department of Computer Science of the Universidad Católica San Antonio de Murcia (UCAM).

Research acknowledgements

- Three “sexenios”: three positive research periods (2002-2007, 2008-2013, 2014-2019) acknowledged by the CNEAI (Comisión Nacional Evaluadora de la Actividad Investigadora) from Spanish Ministry of Education and Innovation.
- **2018** PhD supervision award, UCAM.
- **2020** I3 Certification (Promotion, Incorporation and Intensification of Research Activities) Ministry of Economy and Competitiveness, Spain

Technology transfer experience

- Co-founder (from UCAM side) of a spin-off (Talentum Biotech) that offers contract based molecular modeling services to biotech and pharma industry (<http://www.talentum-biotech.com/>).
- **2016** HiPEAC Technology Transfer Award for “Technology transfer activities of algorithmic developments in computational drug discovery, implemented on high performance computing architectures”. Highlighted in “HPC wire” and “insideHPC”. Value: 1000€.
- **2019** HiPEAC Technology Transfer Award for “Computational drug discovery of clinically approved drugs as potent in vitro and in vivo Zika virus inhibitors”.

Teaching experience

- **2004-2005** Assistant Professor: “Chemical Physics”, Chemistry Degree, University of Murcia.
- **2005-2006** Assistant Professor: “Chemical Physics”, Chemistry Degree, University of Murcia.
- **2012-2013** Lecturer: “Structural Bioinformatics” and “Drug Discovery”, Master in Bioinformatics, University of Murcia.
- **2013-2014** Lecturer: “Parallel Programming” and “Operating Systems”, Computer Engineering Degree, UCAM.
- **2013-2014** Lecturer: “General Chemistry” and “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2014-2015** Lecturer: “Operating Systems”, Computer Engineering Degree, UCAM.
- **2014-2015** Lecturer: “Applied Physics” and “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2014-2015** Lecturer: “Applied Bioinformatics”, Master in Nutrition and Food Safety, UCAM.
- **2014-2015** Lecturer: “Bioinformatics”, Master in Molecular Pathology, UCAM.
- **2015-2016** Lecturer: “Operating Systems”, Computer Engineering Degree, UCAM.
- **2015-2016** Lecturer: “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2015-2016** Lecturer: “Bioinformatics”, Master in Molecular Pathology, UCAM.
- **2015-2016** Lecturer: “Biochemistry”, Medicine Degree, UCAM.
- **2016-2017** Lecturer: “Operating Systems”, Computer Engineering Degree, UCAM.
- **2016-2017** Lecturer: “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2016-2017** Lecturer: “Bioinformatics”, Master in Molecular Pathology, UCAM.
- **2016-2017** Lecturer: “Biochemistry”, Medicine Degree, UCAM.
- **2017-2018** Lecturer: “Operating Systems”, Computer Engineering Degree, UCAM.
- **2017-2018** Lecturer: “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2017-2018** Lecturer: “Bioinformatics”, Master in Molecular Pathology, UCAM.
- **2017-2018** Lecturer: “Biochemistry”, Medicine Degree, UCAM.
- **2018-2019** Lecturer: “Operating Systems”, Computer Engineering Degree, UCAM.
- **2018-2019** Lecturer: “Physical Chemistry”, Pharmacy Degree, UCAM.
- **2018-2019** Lecturer: “Bioinformatics”, Master in Molecular Pathology, UCAM.
- **2018-2019** Lecturer: “Biochemistry”, Medicine Degree, UCAM.

Teaching acknowledgements

- **2013** Positive evaluation for “Profesor Contratado Doctor” by National Agency for Quality Assessment and Accreditation (ANECA), Ministry of Education, Spanish Government
- **2016** Positive evaluation for “Profesor Titular” by National Agency for Quality Assessment and Accreditation (ANECA), Ministry of Education, Spanish Government

Funding and Grant Writing

Principal Investigator

1. **2021** Spanish Supercomputing Network 1st Call, “Discovery of SARS-CoV-2 inhibitors through large-scale Virtual Screening methods”, ID: BCV-2021-1-0010. 500000 CPU hours supercomputing time.
2. **2020** UCAM Predoctoral fellowship call. Amount: Salary for a PhD student during 48 months.
3. **2020** UCAM PMAFI call: “FURINHICOVID”. Amount: 2.5k Euro.
4. **2020** Fundación Séneca call: “Funds for postdoctoral and innovation managers contracts”. Amount: Salary for a postdoc during 22 months.
5. **2019** Horizon 2020, "taRgeted thERapy for adVanced colorEctal canceR paTients (REVERT)", 2018 call: “SC1-BHC-02-2019 - Systems approaches for the discovery of combinatorial therapies for complex disorders”. ID: 848098. Funded by the European Union Commission under H2020 programme. Amount: 5.800k Euro. I am PI from UCAM side (300k Euro budget).
6. **2019** Grant for visiting scholar (Hugo Verli, PhD) during three months, “Cooperation Towards Drug Design Improvement”, ID: 21197/IV/19. Funded by Fundación Séneca de la Región de Murcia. Amount: 9.7k Euro.
7. **2019** Fundación Séneca “Discovery and optimization of bioactive compounds through advanced computational chemistry techniques” call: “Development of scientific and technical research by competitive research groups”, ID: 20988/PI/18. Amount: 68.2k Euro.
8. **2019** Scientific host for the project “The role of connective peptide I in human tyrosyl-tRNA synthetase and its mutant forms” under HPC Europa 3, “Transnational Access Programme for a Pan-European Network of HPC Research Infrastructures and Laboratories for scientific computing”, <http://www.hpc-europa.org/>.
9. **2018** Fundación Séneca “Commercialization and Exploitation of Results under the Proof of Concept Model” call: “Exploitation and commercialization of advanced computational chemistry techniques for the development and discovery of drugs and other bioactive compounds”, ID: 20524/PDC/18. Amount: 25k Euro.
10. **2018** Spanish Supercomputing Network 3rd Call, “Discovery and design of conformational modulators in blood coagulation”, ID: BCV-2018-3-0008. 540000 GPU hours supercomputing time.
11. **2017** MINECO, Programa Estatal de I+D+i Orientada a los Retos de la Sociedad, “DRUGS_SERVER: Development of advanced drug discovery techniques, their implementation on software and web tools, and their application to contexts of pharmacological relevance”, ID: CTQ2017-87974-R. Amount: 71.2k Euro.
12. **2017** Eurolab-4-HPC Business Prototyping Project Proposals: Call 2017. Funded by Horizon H2020-FETHPC-2014 (GA 671610). Amount: 25k Euro.

13. **2017** Higher Education Council of Turkey. Project Based International Exchange Programme, “In silico analysis of bioactive peptides from invasive *Halophila stipulacea*”, ID: MV-2017-230. Coordinator: Levent Cavas. I am PI from UCAM side (3.1k Euro budget).
14. **2017** Coordinated project funded by National Science Centre (Poland) and coordinated by University of Lodz, “Searching for high biological activity of legume seeds based on different levels of modeling”, ID: UMO-2016/21/B/NZ9/00898. Amount: 67.4k Euro. Coordinator: Grazyna Budryn. I am PI from UCAM side (7k Euro budget).
15. **2016** Fundación Séneca, Project extension “Development of biomedical applications in high performance architectures”, ID: 18946/JLI/13. Amount: 21.8k Euro.
16. **2016** Eurolab-4-HPC Business Prototyping Project Proposals: Call 2016. Funded by Horizon H2020-FETHPC-2014 (GA 671610). Amount: 25k Euro.
17. **2016** Grant for visiting scholar (Hugo Verli, PhD) during three months, “Search and design of new antithrombotic agents: Murcia - Porto Alegre Partnership”, ID: 19948/IV/15. Funded by Fundación Séneca de la Región de Murcia. Amount: 7.8k Euro.
18. **2015** Industrial Doctorate Grant, covers one PhD student for three yepaars, “Application of Computational Drug Discovery Methods to the Discovery of New Therapeutic Targets”. Funded by UCAM and Villapharma SL (<http://www.villapharma.com>).
19. **2015** Industrial Doctorate Grant, covers one PhD student for three years, “High Performance Computing in Pharma sector: an economical approach”. Funded by UCAM and Artificial Intelligence Talentum (<http://www.aitalentum.com/>).
20. **2015** PhD Grant, convers one PhD student for three years. Funded by Fundación Séneca de la Región de Murcia.
21. **2015** TETRACOM Technology Transfer in Computing Systems (funded by the European Union Commission Framework Programme 7 - Contract No. 609491), “Advanced Computational Drug Discovery Technologies using High Performance Computing Architectures (ACDDTHPC)”. Amount: 47.7k Euro.
22. **2014** Centro para el Desarrollo Tecnológico Industrial (CDTI). Ministerio de Ciencia e Innovación. Proyecto del Programa de Consorcios Estratégicos Nacionales en Investigación Técnica CENIT-2008-1016, “Nueva generacion de robot para el trading cuantitativo automatico con capacidades de calculo distribuido basado en aplicacion de metodos de redes neuronales y bayesianas”, ID-20140630. Amount: 391487€ (12000€ for UCAM). Principal Investigator from UCAM partner side.
23. **2014** Nils Science and Sustainability, “Discovery of novel blood anticoagulants using hybrid artificial intelligence techniques”, ID: 012-ABEL-CM-2014A. Amount: 36k Euro.
24. **2014** Fundación Séneca, “Development of biomedical applications in high performance architectures”, ID: 18946/JLI/13. Amount: 39.6k Euro.
25. **2013** PRACE Distributed European Computing Initiative (DECI-10), “Novel Anticoagulants”. 500000 GPU hours supercomputing time.
26. **2011** HPC-Europa2, “High Throughput in-silico screening in HPC architectures for the discovery of new inhibitors against blood diseases”. 25000 hours supercomputing time.
27. **2010** CESGA - Singular Science And Technology Infrastructure, “High Throughput in-silico screening in HPC architectures for the discovery of new inhibitors against blood diseases”. 200000 hours supercomputing time.
28. **2009** Karlsruhe Institute of Technology, “Mycotoxins as lead structures against Staphylococci: New antibacterial agents derived from Fumimycin”. Amount: 15k Euro.
29. **2008** Marie Curie FP7 IEF “INSILICODRUGDISCOVER”, ID:220147. Amount: 150k Euro.

Grant co-writer / Project member

1. **2020** Fundación Séneca, COVID-19. PI: Irene Martínez (IMIB). Amount: 12k Euro.
2. **2020** Junta de Andalucía, “Computational Intelligence in Drug Discovery”. ID:P18-RT-1193. PI: Pilar Ortigosa (University of Almería). Amount: 190k Euro.
3. **2020** Junta de Andalucía, COVID-19 projects, “SARS-CoV-2 inhibitors development”. ID:CV20-19149. PI: Irene Luque Fernández (University of Granada). Amount: 100k Euro.
4. **2019** Icelandic Center for Reserch (ICR) / RANNÍS, “Host directed therapy by activating innate immunity”. ID:195618-051. PI: Gudmundur Hrafn Gudmundsson. Amount: 136k Euro.
5. **2019** Natonal Institute for Medical Research Development (NIMAD), Republic of Iran, “Applying Deep Learning Algorithm for Toxicity Prediction of Angiogenesis Inhibitors Using Molecular Dynamics Trajectories as Descriptors”. ID: IR.NIMAD.REC.1398.276. PI: Fahimeh Ghasemi. Amount: 20k Euro.
6. **2018** Spanish FECYT, Precipita crowdfunding, “Metastasis and thrombosis of digestive tumors”. ID: TIN2016-81840-REDT. IP: Irene Martínez Martínez. Amount: 40k Euro.
7. **2017** MINECO, Redes de excelencia, “Red de Computación de Altas Prestaciones sobre Arquitecturas Paralelas Heterogéneas (CAPAP-H6)”. ID: TIN2016-81840-REDT. IP: Diego Llanos. Amount: 15k Euro.
8. **2016** UCAM “Aplicación de la Tecnología Virtual Interactiva a la Enseñanza en las Ciencias de la Salud”. ID:PMAFI-ID-05/15. PI: Josefina María Vegara Meseguer. Amount: 1k Euro.
9. **2016** Instituto de Fomento de la Región de Murcia, “Development of a nutraceutical against diabetes mellitus from Sclerocarya Birrea extracts”. PI: José Antonio Gabaldón Hernández. Amount: 75k Euro.
10. **2016** CORBEL (Coordinated Research Infrastructures Building Enduring Life-science Services), funded by Horizon H2020 (GA 654248) “Exploring therapeutic options for serrated and high-grade microsatellite instability colorectal carcinomas”, ID: 2428. IP: Pablo Conesa Zamora. Amount: 5k Euro.
11. **2015** Centro de Alto Rendimiento Región de Murcia, “Diseño Molecular de Nuevos Antiinflamatorios de actividad mejorada en deportistas en la Región de Murcia”. ID: CAR-32. PI: José P. Cerón-Carrasco. Amount: 5k Euro.
12. **2014** COST ACTION IC1406 “High-Performance Modelling and Simulation for Big Data Applications (cHiPSet)”. Chair of the Action: Joanna Kolodziej. Funded by Cost - European Cooperation in Science and Technology Office, EU.
13. **2014** UCAM, “Simulación Atomística de la Evolución Estructural de Aleaciones de FeCr.”, ID: PMAFI0414. PI: Pedro Castrillo Romón. Amount: 9480€.
14. **2012** Proyectos de Investigación Fundamental no orientada, “Energetically efficient heterogeneous computing systems”. ID: TIN2012-31345. PI: José M. García Carrasco. Amount: 20k Euro.
15. **2010** Distributed European Infrastructure Supercomputing Applications, “BLOODINH”. PI: Wolfgang Wenzel. 2M hours supercomputing time.
16. **2010** Fundación Séneca, “Biomedical applications in high performance architectures”. ID:15290/PI/10. PI: José M. García Carrasco. Amount: 40k Euro.

17. **2009** Fundación Mutua Madrileña, “Genetic and structural study of antithrombin. Development of new anticoagulants”. PI: Javier Corral de la Calle. Amount: 45k Euro.
18. **2011** Fundación Séneca, “Strategies for the application of virtualization to Supercomputers”, ID:00001/CS/07. PI: José M. García Carrasco.
19. **2009** Spanish Ministry of Science, “Conformational and dynamic properties of biological macromolecules, synthetic polymers and macromolecular complexes”, ID:CTQ2009-08030. PI: José García de la Torre.
20. **2008** Landesstiftung Baden-Württemberg, “Rational Optimization of cellular adhesion, cellular differentiation, and growth of hydrophobine at nanoscale”. PI: Wolfgang Wenzel.
21. **2008** Fundación Séneca, “Methodologies for the numerical simulation and experimental characterization of synthetic polymers and biological macromolecules”, ID:04531/GERM/06. PI: José García de la Torre.
22. **2007** Deutsche Forschungsgemeinschaft, “Drug Discovery through protein-ligand docking”. Project member. 2007: Deutsche Forschungsgemeinschaft, “Biomolecular structure and function”. PI: Wolfgang Wenzel.
23. **2006** Spanish Ministry of Science, “Dynamic properties of polymeric systems and biological macromolecules”, ID:CTQ2006-06381/BQU. PI: José García de la Torre.
24. **2002** Fundación Séneca, “Consolidated research groups”, ID:AR-1402625/FS/02. PI: José García de la Torre.

Patents

1. K. Klenin, **H. Pérez-Sánchez**, W. Wenzel, “Method and system for determining the solvent accessible surface area and its derivatives of a molecule”. EP2363820 A1 (2011), US8589137 B2 (2013). Licensed during 2015.
2. **H. Pérez-Sánchez**, I. Meliciani, W. Wenzel, I. Martínez-Martínez, J. Navarro-Fernández, J. Corral, V. Vicente, “A Molecular Scaffold to Modulate Thrombin/Antithrombin Activity by Heparin Binding”. EP2505202 A1 (2012), WO2012130448 A1 (2012).
3. S. Yuan, J.F. Chan, K. Yuen, H. den-Haan, J. Peña-García, J.P. Cerón-Carrasco, **H. Pérez-Sánchez**, “Zika Virus Protease Inhibitors and Methods of Use Thereof”, PCT/CN2017/088420, US 62491007 (2017). Patent licensed.
4. P. Conesa-Zamora, **H. Pérez-Sánchez**, I. Luque-Fernández, S. Montoro-García, B. Albuquerque-González, P. Campioni-Rodrigues, J. García-Solano, A. Bernabé-García, F.J. Nicolás-Villaescusa, M. Bernabé-García, M.L. Cayuela-Fuentes, J. Ruiz-Sanz, J.C. Martínez-Herrerías, T. Salo, “Imipramine for use as inhibitor of fascin1 overexpression”, EP18382696.5 (2018). Patent licensed.
5. **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, J. Peña-García, “Methods of treating coronavirus using antiviral therapies”. US62991012 (2020). Patent licensed
6. **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, J. Peña-García, A. Pérez-Garrido, A.J. Banegas-Luna, “Methods of treating and preventing coronavirus infection and disrupting coronavirus replication”. US63081464 (2020). Patent licensed.

7. P. Conesa-Zamora, B. Albuquerque-González, **H. Pérez-Sánchez**, S. Montoro-García, J. García-Solano, A. Bernabé-García, FJ Nicolás-Villaescusa, M. Bernabé-García, ML Cayuela-Fuentes, J. Peña-García, I. Luque-Fernández, J. Ruiz-Sanz, JC Martínez-Herrerías, “Raltegravir for use as inhibitor of Fascin1 in cancer”. P202130062 (2021).
8. **H. Pérez-Sánchez**, I. Martínez-Martínez, J. Peña-García, A. Rodenas-Bleda, J. Peñas-Martínez, D. Zaragoza-Huesca, “Nuevo tratamiento del cáncer colorrectal”. P202130064 (2021).
9. **H. Pérez-Sánchez**, J. Peña-García, C. Martínez-Cortés, JJ. Hernández-Morante, T. Castillo, J. Maldonado, “Tratamiento para la obesidad”. P202130278, (2021).
10. **H. Pérez-Sánchez**, I. Martínez-Martínez, D. Zaragoza-Huesca, C. Martínez-Cortés, A.J. Banegas-Luna, A. Pérez-Garrido, J. Vegara-Meseguer, J. Peñas-Martínez, M. Rodenas-Bleda, S. Espín-García, “Zeaxantina para la prevención y tratamiento de la infección viral, preferiblemente por coronavirus”, P202130873 (2021).
11. **H. Pérez-Sánchez**, I. Martínez-Martínez, D. Zaragoza-Huesca, C. Martínez-Cortés, A.J. Banegas-Luna, A. Pérez-Garrido, J. Vegara-Meseguer, J. Peñas-Martínez, M. Rodenas-Bleda, S. Espín-García, “Kukoamina A para la prevención y tratamiento de la infección viral, preferiblemente por coronavirus”, P202130872 (2021).
12. **H. Pérez-Sánchez**, I. Martínez-Martínez, J. Peña-García, A. Carmona-Bayonas, M. Rodenas-Bleda, J. Peñas-Martínez, D. Zaragoza-Huesca, V. Mulero-Méndez, I. Pardo-Sánchez, S. Espín-García, “Nuevo tratamiento del cáncer colorrectal”. P202130871 (2021).

Publications (*indicates corresponding author(s))

Publications in ISI-indexed Journals

1. **H. Pérez-Sánchez**, J. García de la Torre, F.G. Díaz Baños, (2002) “Influence of field strength and flexibility on the transient electric birefringence of segmentally flexible macromolecules”. *Journal of Physical Chemistry, B.*, 106, 6754-6761.
2. J. García de la Torre, **H. Pérez-Sánchez**, A. Ortega, J.G. Hernández, M.X. Fernandes, F.G. Díaz, M.C. López Martínez, (2003) “Calculation of the solution properties of flexible macromolecules: methods and application”. *European Biophysics Journal*, 32, 477-486.
3. **H. Pérez-Sánchez**, J. García de la Torre, F.G. Díaz Baños, (2003) “Birefringence, deformation and scattering of wormlike macromolecules under an external agent. Steady-state properties in an electric field”. *Journal of Physical Chemistry, B.* , 107, 13192-13200.
4. **H. Pérez-Sánchez**, J. García de la Torre, F.G. Díaz Baños, (2005) “Transient electric birefringence of wormlike macromolecules in electric fields of arbitrary strength: A computer simulation study”. *Journal of Chemical Physics*, 122, 124902-1, 12.
5. J. García de la Torre, A. Ortega, **H. Pérez-Sánchez**, J.G. Hernandez Cifre, (2005) “MULTYHYDRO and MONTEHYDRO: Conformational search and Monte Carlo calculation of solution properties of rigid or flexible bead models”. *Biophysical Chemistry*, 116, 121-128.
6. **H. Pérez-Sánchez**, K. Tatarenko, M. Nigen, A. Imberty, Hs. Lortat-Jacob, J. García de la Torre, C. Ebel, (2006) “Organization of human interferon gamma heparin complexes from solution properties and hydrodynamics”. *Biochemistry*, 45, 13227-13238.
7. J. García de la Torre, J.G. Hernández Cifre, A. Ortega, R. Rodríguez Schmidt, M.X. Fernandes, **H. Pérez-Sánchez**, R. Pamies, (2009) “SIMUFLEX: Algorithms and tools for simulation of the conformation and dynamics of flexible molecules and nanoparticles in dilute solution”. *Journal of Chemical Theory and Computation*, 5, 2606-2618.

8. J. García de la Torre, F.G. Díaz Baños, **H. Pérez-Sánchez**, (2010) “Kerr constant of multi-subunit particles and semiflexible, wormlike chains”, *Journal of Physics : Condensed Matter*, 22(49):494104.
9. **H. Pérez-Sánchez***, W. Wenzel, (2011) “Optimization methods for virtual screening on novel computational architectures”, *Current Computer Aided Drug Design*, 7, 44-52.
10. J. Navarro-Fernández#, **H. Pérez-Sánchez#**, I. Martínez-Martínez, I. Meliciani, J.A. Guerrero, V. Vicente, J. Corral, W. Wenzel, (2012) “In-silico discovery of a compound with nanomolar affinity to antithrombin causing partial activation and increased heparin affinity”, *Journal of Medicinal Chemistry*, 55(14), 6403-6412. #(shared first authorship)
11. I. Sánchez-Linares, **H. Pérez-Sánchez***, J.M. Cecilia, J.M. García, (2012) “High-Throughput parallel blind Virtual Screening using BINDSURF”, *BMC Bioinformatics*, DOI:10.1186/1471-2105-13-S14-S13. Highly accessed.
12. G.D. Guerrero, J.M. Cebrián, **H. Pérez-Sánchez**, J.M. García, M. Ujaldón, J.M. Cecilia, (2013) “Towards energy efficiency heterogenous processors: Findings on Virtual Screening methods”, *Concurrency and Computation: Practice and Experience*, 26(10), 1832-1846. doi: 10.1002/cpe.3119.
13. G.D. Guerrero, R.M. Wallace, J.L. Vazquez-Poletti, J.M. Cecilia, J.M. García, D. Mozos, **H. Pérez-Sánchez**, (2013) “A Performance/Cost Model for a CUDA Drug Discovery Application on Physical and Public Cloud Infrastructures”, *Concurrency and Computation: Practice and Experience*, 26(10), 1787-1798. doi: 10.1002/cpe.3117.
14. Q. Zhang, G.D. Guerrero, J.M. Cecilia, J.M. García, J. Wang, **H. Pérez-Sánchez***, T. Hou*, (2013) “Accelerated Conformational Entropy Calculations using Graphic Processing Units”, *Journal of Chemical Information and Modeling*, 53, 2057-2064.
15. J.M. López-Nicolas, M. Escorial-Camps, **H. Pérez-Sánchez***, F. García-Carmona*, (2013) “Physicochemical and thermodynamic characterization of the encapsulation of methyl jasmonate by natural and modified cyclodextrins using reserved phase high pressure liquid chromatography”. *Journal of Agricultural and Food Chemistry*, 61(47), 11347-11354.
16. **H. Pérez-Sánchez***, G. Cano, J. García, (2013) "Improving Drug Discovery using Hybrid Softcomputing Methods". *Applied Soft Computing*, 20, 119-126 .
17. V. Rezaei, H. Pezeshk, **H. Pérez-Sánchez**, (2013) “Generalized Baum-Welch Algorithm Based on The Similarity Between Sequences”, *PLOS ONE*, DOI: 10.1371/journal.pone.0080565.
18. I. Navarro-González*, **H. Pérez-Sánchez***, G. Martín-Pozuelo, J. García-Alonso, M.J. Perriago, (2014) “The inhibitory effects of bioactive compounds of tomato juice binding to hepatic HMGCR: in vivo study and molecular modelling”. *PLOS ONE*, DOI: 10.1371/journal.pone.0083968.
19. G. Cano, J. García, **H. Pérez-Sánchez***, (2014) “Improvement of Virtual Screening predictions using Computational Intelligence methods”, *Letters in Drug Design & Discovery*, 11(1), 33-39.
20. Q. Bai, **H. Pérez-Sánchez**, Y. Zhang, Y. Shao, D. Shi, H. Liu, X. Yao, (2014), “Ligand Induced Change of β_2 Adrenergic Receptor from Active to Inactive Conformation and Its Implication with Close and Open of Water Channel: Insight from Molecular Dynamics Simulation, Free Energy Calculation and Markov State Model Analysis”, *Physical Chemistry Chemical Physics*, 16(30), 15874-85.

21. G.D. Guerrero, B. Imbernón, **H. Pérez-Sánchez**, F. Sanz, J.M. García, J.M. Cecilia, (2014), "A Performance/Cost Evaluation for a GPU-Based Drug Discovery Application on Volunteer Computing", *BioMed Research International*, DOI:10.1155/2014/474219.
22. **H. Pérez-Sánchez**, G. Cano, J. García-Rodríguez, (2014), "Descubrimiento de Fármacos basado en Cribado Virtual Refinado con Enfoques Neuronales Paralelos", *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, DOI:10.1016/j.rimni.2014.06.004.
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16. "Biophysical Society's 53rd Annual Meeting", held in Boston (USA), 2009. Poster entitled "Flexscreen: High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.

17. "Computer Simulation and Theory of Macromolecules 2009", held in Hünfeld (Germany), 2009. Poster entitled "Analysis of protein interactions for Antithrombin complexes with all-atom free energy simulations", I. Meliciani, **H. Pérez-Sánchez**, W. Wenzel.
18. "Computer Simulation and Theory of Macromolecules 2009", held in Hünfeld (Germany), 2009. Poster entitled "Improving Binding Mode Prediction for Lipophilic Binding with a SASA Solvent Model", K. Lorenzen, K. Klenin, **H. Pérez-Sánchez**, W. Wenzel.
19. "Protein Kinases and Structure-Based Drug-Design", held in Massachusetts (USA), 2009. Poster entitled "Flexscreen: High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
20. "eCheminfo 2009 Drug Discovery Design Methods and Applications", held in Oxford (United Kingdom), 2009. Poster entitled "High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
21. "Molecular Graphics and Modelling Society (MGMS) International Meeting", held in Erlangen (Germany), 2009. Poster entitled "High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
22. "Massively-Parallel Computational Biology on GPU (INFORMATIK 2009, the 39th annual meeting of the Gesellschaft für Informatik)", held in Lübeck (Germany). Oral communication entitled "Implementation of an effective non-bonded interactions kernel for biomolecular simulations on the Cell processor", **H. Pérez-Sánchez** and W. Wenzel.
23. "2009 Accelrys European User Group Meeting", held in Barcelona (Spain), 2009. Oral communication entitled "Flexscreen: High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
24. "4th German Conference on Chemoinformatics", held in Goslar (Germany), 2009. Poster entitled "High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
25. "Screening Europe 2010", held in Barcelona (Spain), 2010. Oral communication entitled "Flexscreen: High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
26. "4th Meeting on High Performance Computing in Molecular Simulations (HPCMS-IV)", held in Madrid (Spain), 2010. Oral communication entitled "Flexscreen: High Throughput in-silico Screening against flexible protein receptors", **H. Pérez-Sánchez**, B. Fischer, H. Merlitz and W. Wenzel.
27. "5th International Conference on Practical Applications of Computational Biology & Bioinformatics (PACBB11)", held in Salamanca (Spain), 2011. Oral communication entitled "Effective Non-Bonded Interactions Kernel for Virtual Screening on emergent parallel architectures", G.D. Guerrero, **H. Pérez-Sánchez**, W. Wenzel, J.M. Cecilia, J.M. García.
28. "XXIII Congress of the International Society on Thrombosis and Haemostasis", held in Kyoto (Japan), 2011. Poster entitled "Effect of the extracellular RNA in the anticoagulant function of antithrombin", Navarro-Fernández J., Martínez-Martínez I., **H. Pérez-Sánchez**, Miñano A., Bohdan N., de la Morena-Barrio M.E., Águila S., Vicente V., Corral J.
29. "XI Congreso de la Sociedad de Biofísica de España", held in Murcia (Spain), 2011. Poster entitled "High Throughput Virtual Screening against flexible protein receptors; implementation on GPUs and application to the discovery of novel scaffolds for the modulation of antithrombin anticoagulant activity", **H. Pérez-Sánchez**, G. D. Guerrero, I. Sánchez-Linares, J. M. Cecilia, J. M. García, I. Martínez-Martínez, J. Navarro-Fernández, V. Vicente-García, J. Corral, I. Meliciani and W. Wenzel.

30. "IWSG-Life 2011 (3rd International Workshop on Science Gateways for Life Sciences)", held in London (United Kingdom), 2011. Oral communication entitled "A Pipeline Pilot based SOAP implementation of FlexScreen for High-Throughput Virtual Screening", **H. Pérez-Sánchez**, I. Kondov, J. M. García, K. Klenin and W. Wenzel
31. "International Conference on Parallel Computing (ParCo) 2011", held in Ghent (Belgium), 2011. Oral communication entitled "Accelerating Grid Kernels for Virtual Screening on Graphics Processing Units", I. Sánchez-Linares, **H. Pérez-Sánchez** and J.M. García.
32. "9th International Conference on Computational Methods in Systems Biology (CMSB2011)", held in Paris (France), 2011. Oral communication entitled "Accelerating multiple target drug screening on GPUs", I. Sánchez-Linares, **H. Pérez-Sánchez**, G.D. Guerrero, J.M. Cecilia and J.M. García.
33. "Network Tools and Applications in Biology (NETTAB 2011), Clinical Bioinformatics", held in Pavia (Italy), 2011. Oral communication entitled "MURCIA: Fast parallel solvent accessible surface area calculation on GPUs and application to drug discovery and molecular visualization", E. J. Cepas Quiñonero, **H. Pérez-Sánchez**, W. Wenzel, J. M. Cecilia and J. M. García.
34. "Network Tools and Applications in Biology (NETTAB 2011), Clinical Bioinformatics", held in Pavia (Italy), 2011. Poster entitled "BINDSURF: a fast blind Virtual Screening methodology on GPUs", I. Sánchez-Linares, **H. Pérez-Sánchez**, J. M. Cecilia and J. M. García.
35. "Protein Targets: Discovery of Bioactive Compounds. Fifth International Conference BIFI 2012", held in Zaragoza (Spain), 2012. Oral communication entitled "High Throughput Virtual Screening against flexible protein receptors; implementation on GPUs and application to the discovery of novel scaffolds for the modulation of antithrombin anticoagulant activity", **H. Pérez-Sánchez**, G. D. Guerrero, I. Sánchez-Linares, J. M. Cecilia, J. M. García, I. Martínez-Martínez, J. Navarro-Fernández, V. Vicente-García, J. Corral, I. Meliciani and W. Wenzel.
36. "20th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing PDP 2012", held in Munich (Germany), 2012. Oral communication entitled "Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures", G.D. Guerrero, **H. Pérez-Sánchez**, J.M. Cecilia, and J.M. García.
37. "12th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE 2012)", held in La Manga (Spain), 2012. Oral communication entitled "Analytical solvent accessible surface area calculation on GPUs", E. J. Cepas Quiñonero, P. Koehl, **H. Pérez-Sánchez**, and J. M. García.
38. "Applied Computing 2012 (IADIS)", held in Madrid (Spain), 2012. Poster entitled "Parallel blind Virtual Screening with implicit solvation models", **H. Pérez-Sánchez**, E. J. Cepas Quiñonero, J.M. Cecilia, and J. M. García.
39. "International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2013)", held in Granada (Spain), 2013. Oral communication entitled "Impact of implicit solvation models on database enrichment in GPU based blind Virtual Screening", G.D. Guerrero, J.M. Cecilia, J.M. García, **H. Pérez-Sánchez**.
40. "International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2013)", held in Granada (Spain), 2013. Oral communication entitled "A GPU based Conformational Entropy Calculation Method", Q. Zhang, J.M. García, J. Wang, T. Hou, **H. Pérez-Sánchez**.

41. "13th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE 2013)", held in Almeria (Spain), 2013. Oral communication entitled "Improvement of Virtual Screening predictions using Support Vector Machines", G. Cano, M. Manrubia-Cobo, H. den-Haan, J. García-Rodríguez, **H. Pérez-Sánchez**.
42. "13th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE 2013)", held in Almeria (Spain), 2013. Oral communication entitled "A GPU based Volunteer Computing Platform for the discovery of bioactive compounds", **H. Pérez-Sánchez**, G.D. Guerrero, F. Sanz, J.M. Cecilia.
43. "13th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE 2013)", held in Almeria (Spain), 2013. Oral communication entitled "Application of Ant Colony Optimization in an hybrid coarse-grained and all-atom based Protein Structure prediction strategy", J. Peña, J. M. Cecilia, **H. Pérez-Sánchez**.
44. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2014", held in Granada (Spain), 2014. Oral Communication entitled "Parallel Computation of Non-Bonded Interactions in Drug Discovery: Nvidia GPUs vs. Intel Xeon Phi", J. Fang, A. Lucia Varbanescu, B. Imbernón, J. M. Cecilia, **H. Pérez-Sánchez**.
45. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2014", held in Granada (Spain), 2014. Oral Communication entitled "Application of parallel blind docking with BINDSURF for the study of platinum derived compounds as anticancer drugs", J. P. Cerón-Carrasco, J. Cerezo, J. Zúñiga, A. Requena, J. Contreras-García, S. Chavan, M. Manrubia-Cobo, B. Imbernón, J. M. Cecilia, **H. Pérez-Sánchez**.
46. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2014", held in Granada (Spain), 2014. Oral Communication entitled "An Efficient Solvent Accessible Surface Area calculation applied in Ab Initio Protein Structure Prediction", D. Bonetti, **H. Pérez-Sánchez**, A. Delbem.
47. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2014", held in Granada (Spain), 2014. Oral Communication entitled "The role of High Performance Computing in Bioinformatics", **H. Pérez-Sánchez**, J. M. Cecilia, I. Merelli.
48. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2014", held in Granada (Spain), 2014. Poster entitled "An improved Fuzzy Clustering methodology applied to the study of Protein Conformational Ensembles", D. Man, I. Timón-Pérez, J. Soto, A. Flores-Sintas, J. M. Cecilia, **H. Pérez-Sánchez**.
49. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Molecular Dynamics Simulations of Ligand Recognition upon Binding Antithrombin: A MM/GBSA Approach", X. Zhang, **H. Pérez-Sánchez**, F. Lightstone.
50. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Improving activity prediction of Adenosine A2B receptor antagonists by machine learning methods", F. Ghasemi, A. Mehri, J. Peña-García, H. den-Haan, A. Pérez-Garrido, A. Fassih , **H. Pérez-Sánchez**.
51. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Support Vector Machines Prediction of drug solubility on GPUs", G. Cano, J. García-Rodríguez, S. Orts-Escolano, D. Kumar-Yadav, A. Pérez-Garrido , **H. Pérez-Sánchez**.
52. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "DIA-DB: a web-accessible database for the prediction of diabetes drugs", A. Sánchez-Pérez, A. Muñoz, J. Peña-García, H. den-Haan, N. Bekas, A. Katsikoudi, A. G. Tzakos, **H. Pérez-Sánchez**.

53. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Molecular docking and Biological evaluation of functionalized benzo[h]quinolines as Colon cancer agents", R. Pratap, D. Kumar-Yadav, S. Singh, R. Rai, N. Kumar, H. Uhm, H. Singh, **H. Pérez-Sánchez**.
54. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Applications of High Performance Computing in Bioinformatics, Computational Biology and Computational Chemistry", B. Imbernón, A. Llanes, J. Peña-García, J.L. Abellán, **H. Pérez-Sánchez**.
55. "Academic Drug Discovery", held in Cambridge (United Kingdom), 2015. Poster entitled "Efficient Partnering Model Between Academia and Industry For The Commercialization of Drug Discovery Services Based On A Novel Flexible Blind Docking Approach", **H. Pérez-Sánchez**, J. Peña-García, C. Witte, H. den-Haan, R. Rodríguez-Schmidt, A. Roca-Sabater, S. Navarro, A. Vicente-Contreras.
56. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Oral Communication entitled "HYDROWEB, an online tool for the calculation of hydrodynamic properties of macromolecules", **H. Pérez-Sánchez**, J. Peña-García, H. den-Haan, R. Rodríguez-Schmidt, A.N. Raposo, M. Bouarkat, S.A. Sabeur and F.G. Díaz-Baños.
57. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "GrantFinder, a web based tool for the search of research grant calls", J. Peña-García, H. den-Haan, A. Caballero, B. Imbernón, J.P. Cerón-Carrasco, A. Vicente-Contreras, **H. Pérez-Sánchez**.
58. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "A hybrid machine learning and molecular modeling methodology for the prediction of novel blood anticoagulants", R. Rodríguez-Schmidt, J. Peña-García, A. Pérez-Garrido, H. den-Haan, A. Bueno-Crespo, J.P. Cerón-Carrasco, A. Thapa, J. Atli-Benediktsson, J. Soto, **H. Pérez-Sánchez**.
59. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "ZincFetcher: a tool for easy compound filtering from ZINC database", J. Peña-García, A. Pérez-Garrido, A. Muñoz, H. den-Haan, B. Imbernón, J.P. Cerón-Carrasco, D. Mrozek, A. Thapa, J. Soto, A. Banegas-Luna, **H. Pérez-Sánchez**.
60. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "Molecular modeling studies of thieno[3,2-c]pyran analogues as inhibitor against the anti-inflammatory target COX-2", D. Kumar-Yadav, S. Misra, P. Sharma, **H. Pérez-Sánchez**, H. Singh and S. Kumar.
61. "VIII Seminario de Invierno CAPAP-H", held in Elche (Spain), 2017. Oral communication entitled "Computación de altas prestaciones en bioinformática estructural y su transferencia tecnológica al sector farmacéutico", **H. Pérez-Sánchez**.
62. "46th International Conference on Parallel Processing Workshops (ICPPW)", held in Bristol (UK), 2017. Oral communication entitled "Implementation of an Efficient Blind Docking Technique on HPC Architectures for the Discovery of Allosteric Inhibitors", **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, J.M. Cecilia.

Conference contributions presented by co-authors

1. "52 Congreso de la Sociedad Española de Hematología y Hemoterapia y 26 Congreso de la Sociedad Española de Trombosis y Hemostasia" (52th Congress of the Spanish Society

- of Hematology and Hemotherapy and 26th Congress of the Spanish Society of Thrombosis and Hemostasis”, held in Las Palmas de Gran Canaria (Spain), 2010. Oral communication entitled "Identificación de un principio con capacidad potenciadora de la actividad de la antitrombina en presencia de heparina (Identification of a compound that increases activity of Antithrombin in presence of Heparin)", J. Navarro Fernández, I. Martínez Martínez, **H. Pérez-Sánchez**, I. Meliciani, W. Wenzel, M.E. de la Morena Barrio, V. Vicente1, J. Corral. (First price award "most outstanding scientific contribution" from 1400 attendees).
2. "Programming and Tuning massively parallel systems (PUMPS 2013)", held in Barcelona (Spain), 2013. Poster entitled "BINDSURF: A Fast Blind Virtual Screening Methodology on GPUs", J.M. Cecilia, **H. Pérez-Sánchez**, G.D. Guerrero, J. M. García.
 3. "XII Jornadas de Redes de Investigación en Docencia Universitaria", held in Alicante (Spain), 2014. Poster entitled "El proceso de enseñanza-aprendizaje en la formación interuniversitaria: una experiencia a nivel de máster universitario", J. Azorín, A. Fuster Guilló, M. Saval Calvo, J. García Chamizo, A. Jimeno Morenilla, H. Mora Mora, F. Pujol López, J. Luis Sánchez Romero, **H. Pérez-Sánchez**, S. Orts Escolano, V. Morell Giménez.
 4. "Dietetic Congressus 2014", held in Lodz, (Poland), 2014. Poster (*best poster award*) entitled "Impact of the microencapsulation of polyphenols from coffee beans and their bioavailability in proteins", G. Budryn, D. Zaczyńska, B. Pałecz, S. Balica, **H. Pérez-Sánchez**.
 5. "The 19th World Congress on Advances in Oncology and 17th International Symposium on Molecular Medicine", held in Athens (Greece), 2014. Oral communication entitled "Protein-ligand binding using spatial statistics and data mining techniques", V. Rezaei, **H. Pérez-Sánchez**.
 6. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "A GPU solution of the HP Protein Folding Problem based on UEGO", J.M. García-Martínez, E.M. Garzón, J.M. Cecilia, **H. Pérez-Sánchez**, P.M. Ortigosa.
 7. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2015", held in Granada (Spain), 2015. Oral Communication entitled "Enhancing the parallelization of Non-Bonded Interactions Kernel for Virtual Screening on GPUs", B. Imbernón, A. Llanes, J. Peña-García, J.L. Abellán, **H. Pérez-Sánchez**, J. M. Cecilia.
 8. "I Jornadas Doctorales Escuela Internacional de Doctorado de la Universidad de Murcia" held in Murcia (Spain), 2015. Poster entitled "DIA-DB: Herramienta web para la predicción de fármacos para la diabetes", H. den-Haan, A. Sánchez Pérez, A. Muñoz, J. Peña García, N. Bekas, A. Katsikoudi, A. G. Tzakos, **H. Pérez-Sánchez**.
 9. "I Jornadas Doctorales Escuela Internacional de Doctorado de la Universidad Católica de Murcia" held in Murcia (Spain), 2015. Poster entitled "Plegado de proteínas aplicando algoritmos metaheurísticos paralelizados", A. Llanes-Castro, **H. Pérez-Sánchez**, A. Sánchez-Pérez, J.M. Cecilia.
 10. "23rd Congress of the International Union for Biochemistry and Molecular Biology 44th Annual Meeting of the Brazilian Society for Biochemistry and Molecular Biology", held in Foz do Iguaçu (Brazil), 2015. Poster entitled "Effects of TMI binding on antithrombin", P.R. Arantes, **H. Pérez-Sánchez**, H. Verli.
 11. "I Congreso Internacional Current trends and new challenges in olive oil sector", held in Murcia (Spain), 2015. Oral communication entitled "Oleocanthal in extra-virgin olive oil: The chemistry behind its beneficial effects", J.P. Cerón-Carrasco, H. den-Haan, J. Peña-García, A. Thapa, **H. Pérez-Sánchez**.

12. "I Congreso Internacional Current trends and new challenges in olive oil sector", held in Murcia (Spain), 2015. Oral communication entitled "Computational prediction of the application of luteolin and apigenin from olive oil as anti-diabetic agents", H. den-Haan, J.P. Cerón-Carrasco, J. Peña-García, M.M. Moreno, A.G. Tzakos, **H. Pérez-Sánchez**.
13. "Third International Congress on Cocoa Coffee and Tea", held in Aveiro (Portugal), 2015. Poster entitled "Evaluation of interactions of food protein hydrolysates with hydroxycinnamic acids from coffee bean in free form or included in β -cyclodextrin", G. Budryn*, D. Zaczyńska, B. Pałecz, D. Rachwał-Rosiak, J. Oracz, S. Belica, H. den-Haan, J. Peña-García, **H. Pérez-Sánchez**.
14. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "Multiobjective based scoring function for ligand based virtual screening", S. Puertas Martín, H. den-Haan, J. López Redondo, **H. Pérez-Sánchez**, P. Martínez Ortigosa.
15. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Poster entitled "Fuzzy vs Kmeans clustering in QSAR data partition. A comparative study", F. Girón-Rodríguez, A. Pérez-Garrido, **H. Pérez-Sánchez**, J. Soto.
16. "International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2016", held in Granada (Spain), 2016. Oral communication entitled "Parallel Ant Colony Optimization for the HP Protein Folding Problem", A. Llanes, C. Velez, A. M. Sánchez, **H. Pérez-Sánchez**, José M. Cecilia.
17. "II Jornadas Doctorales Escuela Internacional de Doctorado de la Universidad Católica de Murcia" held in Murcia (Spain), 2016. Oral communication entitled "Facilitando el acceso a las técnicas quimioinformáticas a usuarios no expertos", H. den-Haan, J. Peña-García, J. P. Cerón-Carrasco, **H. Pérez-Sánchez**.
18. "II Jornadas Doctorales Escuela Internacional de Doctorado de la Universidad Católica de Murcia" held in Murcia (Spain), 2016. Poster entitled "Desarrollo de una arquitectura software de cribado virtual basado en ligandos en una base de datos de antidiabéticos utilizando técnicas de Big Data", A.J. Banegas-Luna, J. Peña-García, H. den Haan, A. Caballero, **H. Pérez-Sánchez**.
19. "II Jornadas de Doctorales Escuela Internacional de Doctorado de la Universidad Católica de Murcia" held in Murcia (Spain) 2016. Oral communication entitled "Técnicas heurísticas paralelas para el descubrimiento de nuevos fármacos", B. Imbernón, J.M. Cecilia, **H. Pérez-Sánchez**.
20. "XIII Global Optimization Workshop, GOW'16", held in Minho (Portugal), 2016. Oral communication entitled "Multiobjective based scoring function for ligand based virtual screening", S. Puertas Martín, J. López Redondo, H. den-Haan, **H. Pérez-Sánchez**, P. Martínez Ortigosa.
21. "5th International Iberian Biophysics Congress" held in Porto (Portugal), 2016. Poster entitled "Stability of nanocomposites over ionic force", M Collado-González, MG Montalbán, R Trigo, J Peña-García, **H. Pérez-Sánchez**, G Vállora, FG Díaz-Baños.
22. "6th EuCheMs Chemistry Congress" held in Sevilla (Spain), 2016. Poster entitled "Stable nanocomposites from chitosan and silk fibroin", M Collado-González, MG Montalbán, R Trigo, J Peña-García, **H. Pérez-Sánchez**, G Vállora, FG Díaz Baños. Best poster award.
23. "IX Congreso Interacional de Enfermedades Raras", held in Murcia (Spain), 2016. Poster entitled "Identification of 2,6-dithiopurine as a potential phamacological chaperone for Fabry disease", H. den-Haan, V.Citro, J. Peña-García, **H. Pérez-Sánchez**, M.V. Cubellis. Best poster award.

24. "II Jornadas Científicas del IMIB-Arrixaca", held in Murcia (Spain), 2017. Poster entitled "A novel anti-fascin compound show anti-migratory and anti-invasive properties in colorrectal cancer cell lines ", S. Montoro-García, B. Alburquerque-González, A. Bernabé-García, H. den-Haan, I. Luque, **H. Pérez-Sánchez**, F.J. Nicolas-Villaescusa, P. Conesa-Zamora.
25. "Digital Infrastructures for Research 2017", held in Brussels (Belgium), 2017. Oral communication entitled "BRUSELAS: A HPC based software architecture for drug discovery on large molecular databases", A. Banegas-Luna, A. Caballero, **H. Pérez-Sánchez**.
26. "2nd International Gazi Symposium Series", held in Gazi (Turkey), 2017. Poster entitled "Profiling auspicious butyrylcholinesterase inhibitory activity of Hyuganin C", F.S. Senol, I.E. Orhan, K. Skalicka-Wozniak, S. Trædal-Henden, J.P. Cerón-Carrasco, H. den-Haan, J. Peña-García, **H. Pérez-Sánchez**.
27. "The Third International Mediterranean Symposium on Medicinal and Aromatic Plants", held in Cyprus, 2017. Poster entitled "Exploring in vitro butyrylcholinesterase inhibitory activity of Hyperforin", F.S. Senol, I.E. Orhan, K. Skalicka-Wozniak, S. Trædal-Henden, J.P. Cerón-Carrasco, H. den-Haan, J. Peña-García, **H. Pérez-Sánchez**.
28. "Jornadas Sarteco 2017", held in Málaga, Spain, 2017. Oral communication entitled "Cribado virtual mediante un algoritmo evolutivo global paralelo", S.P. Martín, J.L. Redondo, H. den-Haan, **H. Pérez-Sánchez** and P.M. Ortigosa.
29. "Jornadas Sarteco 2017", held in Málaga, Spain, 2017. Oral communication entitled "Técnicas heurísticas paralelas para el descubrimiento de nuevos fármacos", B. Imbernón, J.M. Cecilia, **H. Pérez-Sánchez**, D. Giménez.
30. "LX Congreso Nacional de la SEHH, XXXIV Congreso Nacional de la SETH", held in Granada, Spain, 2018. Oral communication entitled "Efecto de inhibidores basados en la antitrombina en la actividad de una proteasa implicada en cáncer", G. Luengo-Gil, **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, S. Espin, V. Vicente, I. Martínez-Martínez.
31. "7th International Conference on Metaheuristics and Nature Inspired Computing META'18", held in Marrakech, Morocco, 2018. Oral communication entitled "Virtual screening in electrostatic potential using an evolutionary algorithm", S. Puertas-Martín, J. L. Redondo, **H. Pérez-Sánchez**, P. M. Ortigosa.
32. "LeGo- International Global Optimization Workshop", held in Leiden, The Netherlands, 2018. Oral communication entitled "Multi-objective Evolutionary Algorithm For Evaluation Of Shape And Electrostatic Similarity", S. Puertas-Martín, J. L. Redondo, **H. Pérez-Sánchez**, P. M. Ortigosa.
33. "Innovations in Pharmacy: advances & perspectives", held in Salamanca, Spain, 2018. Oral communication entitled "In silico study of potential antidiabetic activity of phenolic compounds from *Psidium guajava*", F. Girón-Rodríguez, E. Díaz-de-Ceiro, A. Pérez-Garrido, H. den-Haan, J. Peña-García, J.A. Gabaldón, V. Verardo, A. Segura-Carretero, **H. Pérez-Sánchez**.
34. "III Jornadas Científicas del IMIB-Arrixaca", held in Murcia, Spain, 2018. Poster entitled "Anti-inflammatory peptides from Spanish dry-cured ham: in vitro endothelial cell response and docking studies", S. María-Martínez, **H. Pérez-Sánchez**, J.A. Gabaldón, S. Montoro-García.
35. "III Jornadas Científicas del IMIB-Arrixaca", held in Murcia, Spain, 2018. Poster entitled "Análisis de la eficacia de fármacos agonistas del receptor nicotínico-ACH para la regulación del apetito como coadyuvante para el tratamiento de la obesidad", J.J. Hernández-Morante, I. Díaz-Soler, C. Manuel-Martínez, **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, H. den-Haan, I. Martínez-Martínez, G. Luengo-Gil, I. Bermúdez Díaz.

36. “III Jornadas Científicas del IMIB-Arrixaca”, held in Murcia, Spain, 2018. Oral communication entitled “New role of antidepressant imipramine as fascin1 inhibitor in colorectal cancer cells”, B. Alburquerque-González, S. Montoro-García, A. Bernabé-García, M. Bernabé-García, P. Campioni-Rodrigues, I. Gutierrez-García, L. Rivera-Soria, M.N. Morales-Suárez, A. Fernández-Valera, J. García-Solano, I. Luque-Fernández, T. Salo, F.J. Nicolás-Villaescusa, M.L. Cayuela-Fuentes, **H. Pérez-Sánchez**, P. Conesa-Zamora.
37. “II Jornadas Científicas del IMIB-Arrixaca”, held in Murcia (Spain), 2017. Poster entitled “A novel anti-fascin compound show anti-migratory and anti-invasive properties in colorectal cancer cell lines ”, S. Montoro-García, B. Alburquerque-González, A. Bernabé-García, H. den-Haan, I. Luque, **H. Pérez-Sánchez**, F.J. Nicolas-Villaescusa, P. Conesa-Zamora.
38. “25th Biennial Congress of the European Association for Cancer Research”, held in Amsterdam (The Netherlands), 2018. Poster entitled “New anti-migratory and anti-invasive effects of a fascin inhibitor on colorectal cancer cells”, P. Conesa-Zamora, S. Montoro-García, B. Alburquerque-Gonzalez, A. Bernabé-García, P. Campioni-Rodrigues, H. den-Haan, F.J. Nicolas, **H. Pérez-Sánchez**, T. Salo. ESMO Open 2018;3:doi: 10.1136/esmoopen-2018-EACR25.441.
39. “XXXIV Congreso Nacional de la Sociedad Española de Trombosis y Hemostasia”, held in Granada, Spain, 2018. Oral communication entitled “Efecto de inhibidores basados en la antitrombina en la actividad de una proteasa implicada en cáncer”, G. Luengo-Gil, **H. Pérez-Sánchez**, J.P. Cerón-Carrasco, S. Espín, V. Vicente, I. Martínez-Martínez.

Invited talks

1. “High Throughput in-silico Screening against flexible protein receptors”, held at the *Institut de Biologie Structurale* in Grenoble (France), February 2009.
2. “High Throughput in-silico Screening against flexible protein receptors”, held at the *Center for Theoretical Biological Physics* in San Diego, CA (USA), February 2009.
3. “Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures” in “JGPU 2012 Jornadas de divulgación de aplicaciones científicas y visión por computador sobre procesadores gráficos”, held in Alicante (Spain), May 2012.
4. “Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures” in “Curso de programación de aplicaciones científicas y de visión por computador sobre procesadores gráficos”, held in La Nucia (Spain), July 2012.
5. “Drug Discovery using Virtual Screening”, held at the University Medical Center Hamburg-Eppendorf in Hamburg (Germany), July 2012.
6. “Exploitation of GPUs for the discovery of new drugs”, in “SCC-Computing, Strategic collaboration with China on super-computing based on Tianhe-1A”, held at the BIFI, University of Zaragoza (Spain), November 2012.
7. “Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures” in “JGPU 2013 Jornadas de divulgación de aplicaciones científicas y visión por computador sobre procesadores gráficos”, held in Alicante (Spain), May 2013.
8. “Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures” in “Curso de verano de programación de aplicaciones científicas y visión por computador sobre procesadores gráficos”, held in Alicante (Spain), July 2013.
9. “Drug Discovery using Virtual Screening”, held at the Hospital Universitario “Virgen de la Arrixaca” Murcia (Spain), June 2013.

10. "High Performance Computing. Applications in Computational Intelligence and Computational Chemistry" in *Instituto Universitario de Investigación en Informática* (University of Alicante), held in Alicante (Spain), November 2013.
11. "Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures" in "JGPU 2014 IV Jornadas de divulgación de aplicaciones científicas y visión por computador sobre procesadores gráficos", held in Alicante (Spain), May 2014.
12. "Exploitation of High Performance Computing Architectures for the Discovery of New Anticoagulants", held at the University of Almería (Spain), July 2014.
13. "Computational discovery of bioactive compounds binding to hepatic HMGCR" in "3rd International Conference and Exhibition on Nutrition & Food Sciences", held in Valencia (Spain), September, 23 - 25, 2014.
14. "Exploitation of massively parallel architectures for the discovery of bioactive compounds" in "Humboldt-Kolleg / International Conference, Theory and Computation in Sciences and Bio-Sciences TCSBS 2014", held in Tlemcen (Algeria), November, 15 - 18, 2014.
15. "Entrepreneurship from Science, a challenge for smart growth", workshop from Fundación Séneca de la Región de Murcia, held in Murcia (Spain), 4th May 2015.
16. "Targeting protein clouds with electronic bullets", in "Reshaping Drug Discovery: The Intrinsically Disordered Proteome as Drug Target", held in Ioannina (Greece), 19th June 2015.
17. "Aplicaciones de la Bioinformática Estructural en el contexto de las Enfermedades Raras", in "VIII Congreso Nacional de Enfermedades Raras", held in Murcia (Spain), 15th October 2015.
18. "Bioinformatics and High Performance Computing (BIO-HPC) de la UCAM", in "4a Sesión del Ciclo Jóvenes Investigadores de la Región de Murcia, de La Real Academia de Medicina y Cirugía de la Región de Murcia", held in Murcia, 26th May 2016.
19. "Aplicación de la química computacional para el descubrimiento de chaperonas moleculares en el contexto de la enfermedad de Fabry", in "IX Congreso Interacional de Enfermedades Raras", held in Murcia (Spain), 17th November 2016.
20. "TISU: Workshop on Transfer to Industry and Start-Ups", in HiPEAC 2017, held in Stockholm (Sweden), 25th January 2017.
21. "Química computacional: descubrimiento de nuevos fármacos sin pisar el laboratorio, ¿es posible?", in "Seminarios IMIB-Arrixaca 2017", held in Murcia (Spain), 6th June 2017.
22. "Desarrollo en arquitecturas computacionales masivamente paralelas de una metodología para el descubrimiento y optimización de compuestos bioactivos y su aplicación a problemas de relevancia biológica", in "Forum Fundación Séneca Nuevo Liderazgo Científico de la Región de Murcia", held in Murcia (Spain), 3th July 2017.
23. "Bringing heterogeneous HPC architectures to the market for the discovery of new drugs", in "European HPC Summit Week 2018", held in Ljubljana (Slovenia), 30th May 2018.
24. "Drug discovery on high performance computing architectures", at Faculty of Pharmacy, University of Freiburg (Germany), 13th June 2018.
25. "Development and application of structural bioinformatics methods in drug discovery on high performance computing architectures and its technology transfer to the biotech sector", in "12th RES (Spanish Supercomputing Network) Users' Meeting & 7th HPC Advisory Council Conference", held in Valencia (Spain), 20th September 2018.
26. "Computational approaches in drug discovery", at Faculty of Chemistry, Silesian University of Technology (Poland), 22nd November 2019.

Workshops

- Distributed European Infrastructure for Supercomputing Applications Symposium and Training Session, held in Barcelona Supercomputing Center, 2007.
- “eCheminfo 2009 Drug Discovery Design Methods and Applications”, held in Oxford (United Kingdom), 2009.

Academic activities

Course Management

- Coordinator of the Master in Bioinformatics (2012/2013), University of Murcia.

Memberships in Professional Societies and Interest Groups

- European Association for Chemical and Molecular Sciences.
- HiPEAC Network.
- European Research Network COST Action CM1207, “GLISTEN: GPCR-Ligand Interactions, Structures, and Transmembrane Signalling”.
- European Research Network COST Action IC1305, “NESUS: Network for Sustainable Ultrascale Computing”.
- European Research Network COST Action IC1406, “High-Performance Modelling and Simulation for Big Data Applications (cHiPSet)”.
- IEEE Technical Committee on Scalable Computing (TCSC): Technical Area on Science Gateways.
- CAPAP-H. Red de computacion de altas prestaciones sobre arquitecturas paralelas heterogeneas.
- Research Network Natural Products against Neglected Diseases - ResNet NPND.
- REDEFAR. Red Española de Descubrimiento de Fármacos.

Reviewer and Editor

Grants

- **2015-2016** WHRI-ACADEMY (William Harvey International Translational Research Academy) Postdoctoral grants (UK).
- **2017** Conseil & Recherche (on behalf of Aix-Marseille Université foundation A*MIDEX, France).
- **2017** Observatorio Colombiano de Ciencia y Tecnología (Colombia).
- **2017** CSIC (Comisión Sectorial de Investigación Científica, from Universidad de la República del Uruguay), research projects (Programa Iniciación a la investigación 2017).
- **2018** H2020 SC 1 Health, demographic change and wellbeing (European Commission).
- **2019** Helmholtz European Partnering (Germany).
- **2019** Caixaimpulse (Spain).
- **2020** Spanish Ministry of Science and Innovation (Spain).

Journal Guest Editor

1. Special Issue on “Distributed, Parallel, and GPU-accelerated Approaches to Computational Biology (COMPBIO2013)”, for the Journal: *Concurrency and Computation: Practice and Experience*, (2012)
2. Special Issue on “Computational Approaches to Drug Discovery”, for the Journal: *Drug Designing*, (2012).
3. Special Issue on “High-Performance Computing and Big Data in Omics-based Medicine”, for the Journal: *BioMed Research International*, (2013).
4. Special Issue on “Integrated Bio-Search: Selected Works from the 12th International Workshop on Network Tools and Applications in Biology (NETTAB 2012)”, for the Journal: *BMC Bioinformatics*, (2014).
5. Special Issue on “High Performance Computing in Drug Discovery”, for the Journal: *Current Drug Targets*, (2015).
6. Special Issue on “Selected Papers from 4th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2016)”, for the Journal: *Molecules*, (2016).

Reviewer of Journals (only 15 journals from more than 100 are listed)

- PLOS ONE
- BMC Bioinformatics
- Journal of Chemical Information and Modeling
- Journal of Theoretical and Computational Chemistry
- Concurrency and Computation Practice and Experience
- Journal of Agricultural and Food Chemistry
- Journal of Grid Computing
- Protein and Peptide Letters
- Current Topics in Medicinal Chemistry
- ACS Medicinal Chemistry Letters
- Algorithms for Molecular Biology
- Neurocomputing
- Biomed Research International
- Current Bioinformatics
- Journal of Chemistry

Journal Editorial Board

- Theoretical Biology and Medical Modelling
- Current Bioinformatics

Reviewer of Books

- Professional reviewer for several scientific and technical books for Elsevier.
- Reviewer for INTECH Press.

Book Editor

- Book editor: “Bioinformatics”, ISBN 980-953-307-202-4, INTECH Press (20000 downloads during 2013-2017 period).

Conference organization

Program Committee Member

1. The 11th International Conference on Modeling and eApplied Simulation (MAS2012), Wien, Austria, 2012.
2. International Conference on Central Nervous System - Drugs Effects & Novel Drug Development 2012.
3. Workshop on Computational Intelligence Applications in Bioinformatics (CIAB2012), organized within 13th International Conference on Engineering Applications of Neural Networks (EANN 2012).
4. CAAD-2012, International Conference and Exhibition on Computer Aided Drug Design & QSAR (29-31 October 2012, Chicago–North Shore, USA).
5. Pharma-2012, 2nd World Congress on Pharmaceutical Regulatory Affairs (23–24 November 2012 at HICC Hyderabad, India).
6. International Conference on Chemical Engineering (ICCE’12), San Francisco, USA, 24-26 October, 2012.
7. 21th Euromicro International Conference on Parallel, Distributed and network-based Processing (PDP 2013), 27th February - 1st March 2013 Queen’s University Belfast, Northern Ireland.
8. NETTAB 2012 workshop focused on Integrated Bio-Search. November 14-16, 2012, Como, Italy.
9. BIOINFORMATICS 2013 (“4th International Conference on Bioinformatics Models, Methods and Algorithms”). February 11-14, 2013, Barcelona, Spain.
10. ICT-EURASIA 2013 (“Information & Communication Technology-Eurasia Conference”). March 25-29, 2013, Yogyakarta (Indonesia).
11. The 1st Global Virtual Conference 2013 (GV-CONF 2013), Goce Delchev University Macedonia & THOMSON Ltd. Slovakia, April 8- 12., 2013.
12. MedChem & CADD-2013 (2nd International Conference on Medicinal Chemistry & Computer Aided Drug Designing). October 15-17, 2013, Las Vegas, USA.
13. International Conference on Computational Science 2013 (ICCS 2013). June 5-7, 2013. Barcelona, Spain.
14. 1st International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2013), Granada, Spain, April 2013.
15. IADIS Applied Computing 2013, (23-25 October, Texas, USA).

16. The 2013 International Conference on High Performance Computing & Simulation (HPCS 2013), July 01 – 05, 2013. Helsinki, Finland.
17. BIOINFORMATICS 2014 (“5th International Conference on Bioinformatics Models, Methods and Algorithms”). March 3-6, 2014, Eseo, France.
18. HiBB 2013 Euro-Par (“High Performance Bioinformatics and Biomedicine”). August 26-30, 2013, Aachen, Germany.
19. 2nd WSEAS International Conference on BIOMEDICINE and HEALTH ENGINEERING (BIHE ’13). June 1-3, 2013, Brasov, Romania.
20. 1st International Conference on Computational Science and Engineering (CSE ’13). August 6-8, 2013, Valencia, Spain.
21. International Joint Conference SOCO’13-CISIS’13-ICEUTE’13, September 11th–13th, 2013, Salamanca, Spain.
22. International Conference on Intelligent Biology and Medicine (ICIBM 2013), August 11-13, 2013, Nashville, TN, USA.
23. The 12th International Conference on Modeling and Applied Simulation (MAS2013), Athens, Greece, 2013.
24. 2nd International Conference on Computational Chemistry and Biology – ICCCB 2013. October 26-27, 2013, Hong Kong.
25. International Conference on “Recent Trends in Biomedical Sciences” and 32nd Annual Meeting of the Society for Reproductive Biology and Comparative Endocrinology. January 7-9, 2014, TamilNadu, India.
26. International Conference on Physiological Computing Systems (PhyCS 2014) January 7-9, 2014, Lisbon, Portugal.
27. 22nd Euromicro International Conference on Parallel, Distributed and network-based Processing (PDP 2014), 12th February - 14th February 2014 Turin, Italy.
28. 2nd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2014), Granada, Spain, April 2014.
29. International Conference on Computational Science 2014 (ICCS 2014). June 10-12, 2014. Cairns, Australia.
30. 15th Engineering Applications of Neural Networks Conference (EANN 2014), 5th-7th September 2014 Sofia, Bulgaria.
31. The 13th International Conference on Modeling and Applied Simulation (MAS2014). September 22-24, 2014, Bordeaux, France.
32. The 6th International Workshop in Science Gateways (IWSG 2014), 3-5 June 2014, Dublin, Ireland.
33. 5th International Workshop on High Performance Bioinformatics and Biomedicine (HiBB), held in conjunction with Euro-Par 2014, August 25-29, 2014, Porto, Portugal.
34. The International Conference on Chemical Engineering 2014, 22-24 October 2014. San Francisco, USA.
35. CCGrid-Health 2014 – Workshop on Clusters, Clouds and Grids for Health In conjunction with CCGrid 2014 – 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, May 26-29, 2014, Chicago, IL, USA.

36. BIOINFORMATICS 2015 (“6th International Conference on Bioinformatics Models, Methods and Algorithms”). January 12-15, 2015, Lisbon, Portugal.
37. International Conference on Physiological Computing Systems (PhyCS 2015) February 11-13, 2015, Angers, France.
38. 2014 IEEE Symposium on Computer and Informatics (ISCI 2014) September 28-29, 2014, Kota Kinabalu, Malaysia.
39. 23rd Euromicro International Conference on Parallel, Distributed and network-based Processing (PDP 2015), 4th March - 6th March 2015 Turku, Finland.
40. International Conference on Intelligent Biology and Medicine (ICIBM 2014), December 4-6, 2014, San Antonio, TX, USA.
41. 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, April 2015.
42. 17th IEEE International Conference on Computational Science and Engineering (CSE 2014), Chengdu, China, December 19-21 2014.
43. International Conference on Computational Science 2015 (ICCS 2015). June 1-3, 2015. Reykjavik, Iceland.
44. The 7th International Workshop in Science Gateways (IWSG 2015), 3-5 June 2015, Budapest, Hungary.
45. The Seventh International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO 2015). 24-29 May 2015, Rome, Italy.
46. BIOINFORMATICS 2016 (“7th International Conference on Bioinformatics Models, Methods and Algorithms”). February 21-23, 2016, Rome, Italy.
47. Applied Computing 12th International Conference 2015, (24-26 October, Dublin, Ireland).
48. 3rd International Conference on Physiological Computing Systems (PhyCS 2016) July 29-31, 2016, Lisbon, Portugal.
49. 6th International Workshop on High Performance Bioinformatics and Biomedicine (HiBB 2016). November 9-12, Washington, USA.
50. 24th Euromicro International Conference on Parallel, Distributed and network-based Processing (PDP 2016), 17th-19th February Crete, Greece.
51. IEEE World Congress on Computational Intelligence (IEEE WCCI 2016), 25th-29th July, Vancouver, Canada.
52. 8th International Workshop on Science Gateways, IWSG’ 16. 8th-10th June 2016, Rome, Italy.
53. BIOINFORMATICS 2017 (“8th International Conference on Bioinformatics Models, Methods and Algorithms”). February 21-23, 2017, Porto, Portugal.
54. 4th International Conference on Physiological Computing Systems (PhyCS 2017) July 27-28, 2017, Lisbon, Portugal.
55. CCGRID 2017, 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing. May 14-17, 2017. Madrid, Spain.
56. 25th Euromicro International Conference on Parallel, Distributed and network-based Processing (PDP 2017), 6th-8th March St. Petersburg, Russia.

57. International Workshop in Science Gateways (IWSG 2017), 12-14 June 2017, Poznan, Poland.
58. International Conference on Chemical Engineering (ICCE'17), San Francisco, USA, 25-27 October, 2017.
59. 8th International Workshop on High Performance Bioinformatics and Biomedicine (HiBB), 15-17 October, 2017, Kansas City, USA.

Track Chair

1. "High Performance Simulation of biological systems", (with José M. Cecilia), The 11th International Conference on Modeling and Applied Simulation, Wien, Austria, 2012.
2. "High Performance Simulation of Biological Systems", (with José M. Cecilia), The 12th International Conference on Modeling and Applied Simulation, Athens, Greece, 2013.
3. "High Performance Computing in Bioinformatics", (with Ivan Merelli), 2nd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2014), Granada, Spain, 2014.
4. "High Performance Simulation of Biological Systems", (with José M. Cecilia), The 13th International Conference on Modeling and Applied Simulation, Bordeaux, France, 2014.
5. "Metaheuristics applied to Bioinformatics and Computational Biology", (with José M. Cecilia), 5th International Conference on Metaheuristics and Nature Inspired Computing, META'2014, Marrakech, Morocco, 2014.
6. "Nutrition and Basic Science", (with Caroline Dani), 3rd International Conference and Exhibition on Nutrition and Food Science, Valencia, Spain, 2014.
7. "High Performance Simulation of Biological Systems", (with José M. Cecilia), The 14th International Conference on Modeling and Applied Simulation, Bergeggi, Italy, 2014.
8. "High Performance Computing in Bioinformatics, Computational Biology and Computational Chemistry", (with José M. Cecilia, Hesham Ali), 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, 2015.
9. "Advances in Drug Discovery", (with José M. Cecilia), 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, 2015.
10. "High Performance Computing in Bioinformatics, Computational Biology and Computational Chemistry", (with José M. Cecilia), 4th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2016), Granada, Spain, 2016.
11. "High Performance Simulation of Biological Systems", (with José M. Cecilia), The 15th International Conference on Modeling and Applied Simulation, Larnaca, Cyprus, 2016.
12. "Advances in Drug Discovery", (with José P. Cerón-Carrasco and Alfonso Pérez-Garrido), 4th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2016), Granada, Spain, 2016.
13. "High Performance Simulation of Biological Systems", (with José M. Cecilia), The 16th International Conference on Modeling and Applied Simulation, Barcelona, Spain, 2017.
14. "Workshop – 5th Novel High Performance Computing algorithms and platforms in Bioinformatics (BIO-HPC'17)", (with José M. Cecilia), 46th International Conference on Parallel Processing (ICPP), Bristol, August, 2017.
15. "Workshop – 6th Novel High Performance Computing algorithms and platforms in Bioinformatics (BIO-HPC'18)", (with José M. Cecilia and José P. Cerón-Carrasco), 47th International Conference on Parallel Processing (ICPP), Eugene, August, 2018.

Steering Committee Member

1. 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, April 2015.
2. 4th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2016), Granada, Spain, April 2016.
3. 5th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2017), Granada, Spain, April 2017.
4. 6th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2018), Granada, Spain, April 2018.

PhD Theses Committee member

1. Carla Alves, “Computational and Experimental Strategies for Assessing the Conformational and Dynamic Properties of Proteins and Peptides”, Universidade da Madeira, November 2011.
2. Ricardo Rodríguez Schmidt, “Simulation of Properties of Polymers in Solution”, University of Murcia, November 2012.
3. Javier Moraga Galindo, “Characterization of the enzymes involved in the biosynthesis of toxins excreted by fungi from Botrytis and Trichoderma”, University of Cadiz, July 2013.
4. Francisco Manuel Ortuño Guzmán, “Development of Advanced Computational Systems for Multiple Sequence Alignments by using Heterogeneous Biological Information”, University of Granada, July 2014.
5. Santiago García Sánchez, “Optimization Processes in Electron Microscopy and Virtual Screening on GPUs”, University King Juan Carlos, June 2015.
6. Diego Darío Guerrero Fernández, “Supercomputing Platform for Bioinformatics”, University of Málaga, July 2015.

Advising and Supervising experience

Postdocs

1. **2014-2015** Afshin Fassihi (Medicinal Chemistry)
2. **2015-2017** Ricardo Rodríguez Schmidt (Chemical Engineering)
3. **2015-2018** José P. Cerón-Carrasco (Computational Chemistry)
4. **2020-** Antonio Jesús Banegas Luna (Computer Engineering)
5. **2020-** Carlos Martínez Cortés (Computer Engineering)

Technicians

1. **2014-2021** Jorge Peña-García (Computer Engineering)

PhD students

1. **2012-2014** Gaspar Cano (University of Alicante, co-supervised with Prof. José García Rodríguez). Thesis with title “Métodos de inteligencia artificial aplicados a química computacional en entornos de computación de alto rendimiento (Artificial Intelligence methods applied to Computational Chemistry in High Performance Computing environments)”
2. **2014-2016** Antonio Llanes Castro (UCAM, co-supervised with Prof. José María Cecilia Canales). Thesis with title “Estrategias computacionales para la simulación multiescala de biomoléculas (Computational strategies for the multiscale simulation of biomolecules)”
3. **2014-2017** Fahimeh Ghasemi (Isfahan University of Medical Sciences, Iran, co-supervised with Prof. Afshin Fassihi). Thesis with title “Deep learning methods in Drug Discovery”
4. **2015-2018** Baldomero Imbernón Tudela (UCAM, co-supervised with Prof. José M. Cecilia). Thesis with title “Desarrollo de métodos de descubrimiento de fármacos en arquitecturas computacionales masivamente paralelas (Development of Drug Discovery methodologies on massively parallel computational architectures)”
5. **2014-in progress** Javier Pérez Sianes (University of Valladolid, co-supervised with Prof. Fernando Díaz). Thesis with title “Desarrollo de técnicas inteligentes en el ámbito de la bioinformática (Development of intelligent techniques in bioinformatics)”
6. **2015-2019** Antonio Jesús Banegas Luna (UCAM, co-supervised with Prof. José P. Cerón-Carrasco). Thesis with title “Desarrollo de herramientas bioinformáticas fácilmente usables y accesibles via web con aplicabilidad general en contextos farmacológicos, agrícolas y cosméticos (Development of web accessible bioinformatics tools with application in pharmacological, agrochemical and cosmetics contexts)”
7. **2016-2020** Savíns Puertas Martín (University of Almería, co-supervised with Prof. Juana López Redondo). Thesis with title “Computación de altas prestaciones para la resolución de problemas de optimización en bioinformática (High Performance Computing in optimization problems in Bioinformatics)”
8. **2017-in progress** David Hernández Silva (UCAM, co-supervised with Prof. María Luisa Cayuela). Thesis with title “Ageing and Telomerase”
9. **2020-in progress** Miguel Carmena Bargaño (UCAM). Thesis with title “Application of Machine Learning Methods in Molecular Dynamics”
10. **2020-in progress** Fernando Montero Segovia (UGR, co-supervised with Irene Luque). Thesis with title “Towards the development of broad application antiviral agents”
11. **2021-in progress** Jochem Nelen (UCAM).

PhD students, Industrial Doctorate

1. **2015-2019** Helena den Haan (UCAM, co-supervised with Prof. Alfonso Pérez-Garrido). Company: Villapharma SL. Thesis with title “Desarrollo de nuevas metodologías para el descubrimiento de compuestos bioactivos y su aplicación a problemas de relevancia biológica (Development of novel methodologies for the discovery of bioactive compounds and its application to problems of biological relevance)”
2. **2015-2019** Antonio Vicente Contreras (UCAM). Company: Artificial Intelligence Talentum SL. Thesis with title “El mercado de divisas (FOREX) como un modelo elástico de red (FOREX market as an elastic network model)”

3. **2017-2020** Maria Paredes Ramos (UDC, co-supervised with Prof. José Manuel López Vilarino and Prof. Manuel E. Sastre de Vicente). Company: Estrella de Galicia. Thesis with title “Empleo de la química computacional en el estudio del comportamiento de receptores sintéticos y biológicos frente a moléculas biológicamente activas”

Masters’ students

1. **2010-2011** Ginés David Guerrero Hernández (University of Murcia). Master Thesis with title “Parallelization of Virtual Screening in Drug Discovery on Massively Parallel Architectures”.
2. **2012-2013** Miguel Manrubia Cobo (University of Murcia). Master Thesis with title “Descubrimiento de fármacos por cribado virtual en la librería de Villapharma Research SL (Drug Discovery by Virtual Screening with the library of Villapharma Research)”.
3. **2012-2013** Helena den Haan (University of Murcia). Master Thesis with title “Cribado virtual de un subset de ligandos de la base de datos ZINC para el descubrimiento de compuestos con afinidad por varias proteínas de relevancia biomédica (Virtual Screening of a subset of ligands from ZINC database)”.
4. **2016-2017** Lea Purschke (University of Freiburg, co-supervised with Prof. Stefan Günther). Master Thesis with title “Development of a target prediction pipeline based on substructures of pharmaceutical compounds”.

Dissertation students

1. **2012-2013** Jorge de la Peña (UCAM). Dissertation with title “Análisis, diseño e implementación del algoritmo de la colonia de hormigas aplicado al plegado de proteínas (Analysis, design and implementation of Ant Colony optimisation algorithm applied to protein folding)”
2. **2013-2014** José Luis Gallego Imbernón (UCAM). Dissertation with title “Predicciones de cribado virtual mediante el algoritmo Extreme Learning Machine (Virtual Screening predictions with Extreme Learning Machine)”
3. **2013-2014** Francisco Javier Sánchez Galián (UCAM). Dissertation with title “Implementación en la GPU del algoritmo AMR (Adaptive Mesh Refinement) (GPU implementation of the AMR algorithm)”
4. **2014-2015** José Carlos Cano Lorente (UCAM). Dissertation with title “Desarrollo de un software de predicción financiera (Development of a software for financial prediction)”
5. **2014-2015** Juan Antonio Nicolás Álvarez (UCAM). Dissertation with title “Desarrollo de un entorno gráfico para una aplicación bioinformática (Development of a GUI for a bioinformatics application)”
6. **2014-2015** Mariano David Carrasco Martínez (UCAM). Dissertation with title “Técnicas de inteligencia artificial aplicadas al descubrimiento de fármacos (Artificial intelligence techniques applied to drug discovery)”
7. **2014-2015** Ana Isabel García Santiago (UCAM). Dissertation with title “Crazy Fold – Versión Leap Motion (Leap Motion version of Crazy Fold)”
8. **2020-2021** Juan José Guardiola (UCAM). Dissertation with title “Mejora de la interfaz gráfica y la funcionalidad del servidor web BRUSELAS”

Graduate students

1. **2010-2011** Irene Sánchez-Linares (Computer Engineering, University of Murcia)
2. **2011-2012** Eduardo José Cepas Quiñonero (Computer Engineering, University of Murcia)

Erasmus Plus

- **2015** Cathalijne Witte (HZ University of Applied Sciences, The Netherlands)
- **2017** Lea Purschke (University of Freiburg, Germany)

Internships

- **2011** Merche Castillo (University of Murcia)
- **2014** Nabila Bekhti (Djilali Liabès Sidi-Bel-Abbès University, Algiers)
- **2017** Hocine Saadi (Research Center on Scientific and Technical Information, Algiers)
- **2018** Beat Wolf (Hochschule für Technik und Architektur Freiburg, Switzerland)
- **2018** Teresa Mínguez (Oxford-Brookes University, United Kingdom)
- **2018** Nazli Mert Ozupek (Dokuz Eylül University, Turkey)
- **2019** Jonas Karl Agutaya (Kumamoto University, Japan)
- **2020** Francisco Chamizo (University of Seville, Spain)
- **2021** Maria Bzowka (Silesian University of Technology, Poland)

Languages

- **Spanish** Mother tongue
- **English** Advanced C1 Level (Cambridge University) in 2016
- **French** Intermediate diploma by the Université Joseph Fourier (Grenoble, France) in 2003
- **German** Advanced C1 Level (European Credit Transfer System) by the Karlsruhe Institute of Technology in 2009

Professional services

- High Performance Computing Consultancy.
- Bioinformatics Consultancy.

Other publications

- **H. Pérez-Sánchez**, (2010) “Aleatoreidad” (Poetry), ISBN 978-88-548-3273-2, Aracne Editrice (Italy).