

## Química Física

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**Áreas de conocimiento:** Química Física

**Director:** Irene Luque Fernández

**Secretario:** Beatriz Ibarra Molero

**Página web:** <http://quimicafisica.ugr.es>

**Profesorado:** CU: 6, PTU: 10, PDI Contratado y Otros: 13

### Grupos de Investigación.

FQM171 BIOFÍSICA Y BIOTECNOLOGIA MOLECULAR

- Responsable: PEDRO LUIS MATEO ALARCON

BIO223 BIOMOLECULAS

- Responsable: JOSE MANUEL SANCHEZ RUIZ

BIO189 FÍSICOQUÍMICA FARMACEUTICA

- Responsable: BARTOLOME QUINTERO OSSO

FQM361 QUÍMICA FÍSICA BIOMOLECULAR

- Responsable: ANTONIO PARODY MORREALE

### Publicaciones en revistas

- 2019 Artículo: Protein conservation method affects MamC-mediated biomineralization of magnetic nanoparticles, *Crystal Growth & Design*, 19, , 1064-1071  
ANA ISABEL AZUAGA FORTES  
SALVADOR CASARES ATIENZA
- 2019 Artículo: New polyamine drugs as more effective antichagas agents than benznidazole in both the acute and chronic phases, *European Journal of Medicinal Chemistry*, 164, , 27-46  
ENCARNACIÓN MEDINA CARMONA
- 2019 Artículo: The p12 subunit of human polymerase  $\zeta$  uses an atypical PIP-box for molecular recognition of proliferating cell nuclear antigen (PCNA), *Journal of Biological Chemistry*, , , -  
IRENE LUQUE FERNÁNDEZ  
JAVIER MURCIANO CALLES
- 2019 Artículo: Synthesis and biological evaluation of new long-chain squaramides as antichagasic agents in the BALB/c mouse model, *Bioorganic & Medicinal Chemistry*, 27, , 865-879  
ENCARNACIÓN MEDINA CARMONA
- 2019 Artículo: Structure-Function of MamC loop and its effect on the In Vitro Precipitation of Biomimetic Magnetite Nanoparticles, *Crystal Growth & Design*, 19, 5, 2927-2935  
ANA ISABEL AZUAGA FORTES  
SALVADOR CASARES ATIENZA
- 2019 Artículo: Conformational changes in the third PDZ domain of the neuronal postsynaptic density protein 95, *Acta Crystallographica. Section D: Structural Biology*, 75, , 381-391  
JAVIER MURCIANO CALLES  
JOSE CRISTOBAL MARTINEZ HERRERIAS
- 2019 Artículo: Ultrafast folding kinetics of WW domains reveal how the amino acid sequence determines the speed limit to protein folding, *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, 116, 17, 8137-8142  
IRENE LUQUE FERNÁNDEZ  
JOSE CRISTOBAL MARTINEZ HERRERIAS  
MANUEL IGLESIAS BEXIGA
- 2019 Artículo: Tuning properties of biomimetic magnetic nanoparticles by combining magnetosome associated proteins, *Scientific Reports*, , , -  
ANA ISABEL AZUAGA FORTES  
SALVADOR CASARES ATIENZA
- 2018 Artículo: Approaching the thermodynamic view of protein folding through the reproduction of Anfinsen's experiment by undergraduate physical biochemistry students, *Biochemistry and Molecular Biology Education*, 46, 3, 262-269  
EVA SANCHEZ COBOS  
IRENE LUQUE FERNÁNDEZ  
JAVIER RUIZ SANZ  
JOSE CRISTOBAL MARTINEZ HERRERIAS
- 2018 Book-Review: Natural (and Unnatural) Small Molecules as Pharmacological Chaperones and Inhibitors in Cancer, *Handbook Of Experimental Pharmacology*, 245, , 155-190  
ANGEL LUIS PEY RODRÍGUEZ
- 2018 Book-Review: Potential Pharmacological Chaperones for Cystathionine Beta-Synthase-Deficient Homocystinuria, *Handbook Of Experimental Pharmacology*, 245, , 345-383

- ANGEL LUIS PEY RODRÍGUEZ  
- 2018 Artículo: Improving the Activity and Stability of Human Galactokinase for Therapeutic and Biotechnological Applications., *ChemBioChem*, 19, , 1088-1095  
ANGEL LUIS PEY RODRÍGUEZ  
NOEL MESA TORRES  
- 2018 Book-Review: Evolutionary Divergent Suppressor Mutations in Conformational Diseases., *Genes*, 9, 7, 352-  
ANGEL LUIS PEY RODRÍGUEZ  
NOEL MESA TORRES  
- 2018 Artículo: Biophysical and functional perturbation analyses at cancer-associated P187 and K240 sites of the multifunctional NADP(H):quinone oxidoreductase 1., *International Journal of Biological Macromolecules*, 118, , 1912-1923  
ANGEL LUIS PEY RODRÍGUEZ  
- 2018 Artículo: Insight into the specificity and severity of pathogenic mechanisms associated with missense mutations through experimental and structural perturbation analyses, *Human Molecular Genetics*, 27, 12, 2205-2215  
ANGEL LUIS PEY RODRÍGUEZ  
ENCARNACIÓN MEDINA CARMONA  
NOEL MESA TORRES  
- 2018 Artículo en prensa: Structural and functional insights on the roles of molecular chaperones in the mistargeting and aggregation phenotypes associated with primary hyperoxaluria type I., *Advances in Protein Chemistry and Structural Biology*, 114, , -  
ANGEL LUIS PEY RODRÍGUEZ  
NOEL MESA TORRES  
- 2018 Artículo: Structural basis for polyamine binding at the dCACHE domain of the McpU chemoreceptor from *Pseudomonas putida*, *JMB: Journal of Molecular Biology*, , , -  
BERTRAND MOREL  
- 2018 Artículo: An auxin controls bacterial antibiotics production, *Nucleic Acids Research*, 30, 46(21), 11229-11238  
BERTRAND MOREL  
- 2018 Artículo: Dynamic micellar oligomers of amyloid beta peptides play a crucial role in their aggregation mechanisms, *Physical Chemistry Chemical Physics*, 20, 31, 20597-20614  
BERTRAND MOREL  
FRANCISCO CONEJERO LARA  
- 2018 Artículo: Global Protein Stabilization Does Not Suffice to Prevent Amyloid Fibril Formation, *ACS Chemical Biology*, 13, 8, 2094-2105  
BERTRAND MOREL  
FRANCISCO CONEJERO LARA  
- 2018 Artículo: Combining Structural Aggregation Propensity and Stability Predictions To Redesign Protein Solubility, *Molecular Pharmaceutics*, 15, 9, 3846-3859  
BERTRAND MOREL  
- 2018 Artículo: Protein folding cooperativity and thermodynamic barriers of the simplest beta-sheet fold: a survey of WW domains, *The Journal of Physical Chemistry B*, 122, 49, 11058-11071  
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MANUEL IGLESIAS BEXIGA  
RAQUEL GODOY RUIZ  
- 2018 Artículo: Historia Actual Online, *Historia Actual Online*, 46, 2, 73-89  
PEDRO LUIS MATEO ALARCON  
- 2018 Artículo: Synthesis and Biological in vitro and in vivo Evaluation of 2-(5-Nitroindazol-1-yl)ethylamines and Related Compounds as Potential Therapeutic Alternatives for Chagas Disease, *ChemMedChem*, 13, 19, 2104-2118  
ENCARNACIÓN MEDINA CARMONA  
- 2018 Artículo: Phosphorylation compromises FAD binding and intracellular stability of wild-type and cancer-associated NQO1: Insights into flavo-proteome stability, *International Journal of Biological Macromolecules*, , , -  
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ENCARNACIÓN MEDINA CARMONA  
NOEL MESA TORRES

#### Capítulos de libros (con ISBN)

- 2018 Título Capítulo: Biocalorimetry: differential scanning calorimetry of protein solutions, Título Libro: Enthalpy and internal energy: liquids, solutions and vapours: The Royal Society of Chemistry (RSC),

Londres, UK, 2018, 978-1-78262-711-1  
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ANA ISABEL AZUAGA FORTES  
JAVIER RUIZ SANZ  
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FRANCISCO CONEJERO LARA  
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JOSE CRISTOBAL MARTINEZ HERRERIAS

#### Contribuciones en congresos

- 2019 Conferencias impartidas en Otras Actividades Divulgativas: Evolución Dirigida De Proteínas: Imitar La Evolución Molecular En El Laboratorio. Mi Trabajo Con La Premio Nobel De Química 2018, Frances Arnold, Charlas de divulgación a institutos, 28/01/2019, Instituto Ave María San Cristóbal, Otra actividad de divulgación  
JAVIER MURCIANO CALLES
- 2018 Sesión no plenaria en Congreso: Using multidisciplinary biophysical techniques to unveil protein aggregation mechanisms, Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences, 23/05/2018, Brasov, (Romania), Congreso  
DAVID RUZAFÁ RUIZ
- 2018 Sesión no plenaria en Congreso: Using multidisciplinary biophysical techniques to unveil protein aggregation mechanisms, Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences, 23/05/2018, Brasov, (Romania), Congreso  
FRANCISCO CONEJERO LARA  
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BERTRAND MOREL
- 2018 Conferencias impartidas en Seminario: Protein stability and dynamics in cancer-associated NQO1, a model for loss-of-function genetic diseases, Seminars of the Department of Biology, University of Copenhagen, 25/06/2018, COPENHAGUEN, DENMARK, Seminario  
ANGEL LUIS PEY RODRÍGUEZ
- 2018 Poster en Congreso: Structural and thermodynamic determinants of HIV-1 inhibition by small proteins targeting gp41, 41 Congreso de la Sociedad Española de Bioquímica y Biología Molecular, 10/09/2018, Santander, España, Congreso  
FRANCISCO CONEJERO LARA  
BERTRAND MOREL
- 2018 Poster en Congreso: Structural and thermodynamic determinants of HIV-1 inhibition by small proteins targeting gp41, International Work-Conference on Bioinformatics and Biomedical Engineering, 25/04/2018, FACULTAD DE CIENCIAS, UNIVERSIDAD DE GRANADA, Congreso  
BERTRAND MOREL  
FRANCISCO CONEJERO LARA
- 2018 Poster en Congreso: Estudio inmunológico del lavado broncoalveolar: aproximación diagnóstica en enfermedades pulmonares intersticiales difusas, XII Congreso Nacional del Laboratorio Clínico, 24/10/2018, BILBAO, Congreso  
MARIA DEL SEÑOR LÓPEZ VÉLEZ
- 2018 Poster en Congreso: Evaluación de las cadenas ligeras libres sericas en la supervivencia de pacientes con mieloma múltiple, XII Congreso Nacional del Laboratorio Clínico, 24/10/2018, BILBAO, Congreso  
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- 2018 Poster en Congreso: Impacto de la inmunosupresión específica de la inmunoglobulina no clonal en pacientes con mieloma múltiple, XII Congreso Nacional del Laboratorio Clínico, 24/10/2018, BILBAO, Congreso  
MARIA DEL SEÑOR LÓPEZ VÉLEZ
- 2018 Poster en Congreso: Molecular Recognition of Polymerase p12 subunit by PCNA, VIII Ibero American NMR Meeting, 26/04/2018, , , - Lisboa, Portugal, Congreso  
JAVIER MURCIANO CALLES  
IRENE LUQUE FERNÁNDEZ
- 2018 Conferencias impartidas en Otras Actividades Divulgativas: Evolución dirigida de proteínas: imitar la evolución molecular en el laboratorio. Mi trabajo con la premio Nobel de Química 2018, Frances Arnold, Charla divulgación investigación, 13/12/2018, FACULTAD DE CIENCIAS DE LA UNIVERSIDAD DE GRANADA, Otra actividad de divulgación  
JAVIER MURCIANO CALLES
- 2018 Comunicación en congreso: Zinc transporters in blood as useful indicators of severity of systemic inflammation and outcome for critically ill patients., 40th ESPEN Congress on Clinical Nutrition and Metabolism, 01/09/2018, Madrid, España, Congreso



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