



Simposio Internacional / *International Symposium:*

Nuevas perspectivas en la investigación sobre el cáncer *New insights in cancer discovery*

Madrid, 26 y 27 de octubre de 2017 / October 26-27, 2017

RAFAEL FERNÁNDEZ LEIRO

Organismo Fundación Centro Nacional de Investigaciones Oncológicas

Rafael Fernandez Leiro is a Junior Group Leader at the Spanish National Cancer Research Center (CNIO).

He obtained his PhD in 2011 from the University of A Coruña in Spain where he worked in protein engineering using directed evolution techniques and structure-led rational design. During his PhD he visited the Rocasolano Institute in Madrid where he was trained in X-ray crystallography. After obtaining the PhD he joined the Lamers lab at the LMB in Cambridge to work on DNA repair and replication. The timing couldn't have been better as the cryo-EM "resolution revolution" was just happening and the LMB was at the center of it. For the next 6 years he worked with Meindert Lamers and Sjors Scheres to study multiple DNA replication and repair complexes and understand how these systems are regulated using cryo-EM and biochemistry.

He has recently joined CNIO to lead the "Genome Integrity & Structural Biology" group that will focus on the study of the function and biological implications of macromolecular complexes responsible for the maintenance of the integrity of the genome and the role they play in disease.

Recent selected publications

- Fernandez-Leiro R et al. (2017) "A pipeline approach to single-particle processing in RELION". Acta Cryst. Section D: Structural Biology 73,392-340.
- Vizoso-Vázquez A et al. (incl Fernandez-Leiro R) (2017) "The dual function of Ixr1 in transcriptional regulation and recognition of cisplatin-DNA adducts is caused by differential binding through its two HMG-boxes". BBA - Gene Regulatory Mechanisms 1860, 256-269.
- Fernandez-Leiro R et al. (2017) "Self-correcting mismatches during high-fidelity DNA replication". Nature Structural and Molecular Biology 24, 140-143.
- Herguedas B et al. (incl Fernandez-Leiro R) (2016). "Structure and organization of heteromeric AMPA-type glutamate receptors". Science 352, aad3873-aad3873.
- Fernandez-Leiro, R et al. (2016) "Unravelling biological macromolecules with cryo-electron microscopy". Nature 537, 339-346.
- Fernandez-Leiro R et al. (2015). "cryo-EM structures of the E. coli replicative DNA polymerase reveal dynamic interactions with clamp, exonuclease and τ ". eLife 4, e11134