

## Oscar Llorca bio-sketch

Oscar Llorca was born on Jan 10<sup>th</sup> 1968 in Tudela, Navarre. In 1996, Oscar Llorca obtained his Ph.D. in Molecular Biology at the National Centre for Biotechnology (CNB) in Madrid under the supervision of JL Carrascosa and JM Valpuesta. At the CNB, Llorca performed influential work on the structural characterization of prokaryotic and eukaryotic chaperonins using electron microscopy. He joined the Chester Beatty Laboratories (Institute of Cancer Research, London) in 2000 as a postdoctoral scientist in the section of Cell and Molecular Biology supported by a prestigious Marie Curie Fellowship. In June 2002, Oscar Llorca became a Group Leader at the Centre for Biological Research (CIB) in Madrid, belonging to the Spanish National Research Council (CSIC). In June 2017m we became director of the Structural Biology Programme at CNIO. His group has made influential work applying cryo-EM methodologies to the study of macromolecular complexes and molecular mechanisms in DNA repair, RNA degradation and chaperons.

### 10 selected publications:

1. Famelis N, Rivera-Calzada A, Degliesposti G, Wingender M, Mietrach N, Skehel JM, Fernandez-Leiro R, Bötcher B, Schlosser A, **Llorca O\***, Geibel S\* (\*co-corresponding). *Architecture of the mycobacterium Type VII secretion system.*  
**Nature** **2019** 576(7786):321-325.
2. Muñoz-Hernández H, Pal M, Rodríguez CF, Fernández-Leiro R, Prodromou C, Pearl LH, **Llorca O\***. *Structural mechanism for regulation of the AAA-ATPases RUVBL1-RUVBL2 in the R2TP co-chaperone revealed by cryo-EM.*  
**Sci Adv.** **2019** May 1;5(5):eaaw1616.
3. Martino F, Mohinder Pal, Muñoz-Hernández H, Rodríguez CF, Núñez-Ramírez R, Gil-Carton D, Degliesposti G, Skehel JM, Roe SM, Prodromou C, Pearl LH\*, **Llorca O\***. *RPAP3 provides a flexible scaffold for coupling HSP90 to the human R2TP co-chaperone complex.*  
**Nat Commun.** **2018** Jul 31;9(1):3063.
4. Melero R, Hug N, López-Perrote A, Yamashita A, Cáceres JF\*, **Llorca O\***. *The RNA helicase DHX34 functions as a scaffold for SMG1-mediated UPF1 phosphorylation.*  
**Nat Commun.** **2016** 7:10585.
5. Alcorlo M, Tortajada A, Rodríguez de Córdoba S\*, **Llorca O\***. *Structural basis for the stabilization of the complement alternative pathway C3 convertase by properdin.*  
**Proc Natl Acad Sci U S A.** **2013** Aug 13;110(33):13504-9.
6. Melero R, Buchwald G, Castaño R, Raabe M, Gil D, Lázaro M, Urlaub H, Conti E\*, **Llorca O\***. *The cryo-EM structure of the UPF-EJC complex shows UPF1 poised toward the RNA 3' end.*  
**Nat Struct Mol Biol.** **2012** Apr 22;19(5):498-505, S1-2.

7. Alcorlo M, Martínez-Barricarte R, Fernández FJ, Rodríguez-Gallego C, Round A, Vega MC, Harris CL, de Córdoba SR\*, **Llorca O\***. *Unique structure of iC3b resolved at a resolution of 24 Å by 3D-electron microscopy.*  
**Proc Natl Acad Sci U S A.** 2011 Aug 9;108(32):13236-40.
8. Arias-Palomo E, Yamashita A, Fernández IS, Núñez-Ramírez R, Bamba Y, Izumi N, Ohno S, **Llorca O\***. *The nonsense-mediated mRNA decay SMG-1 kinase is regulated by large-scale conformational changes controlled by SMG-8.*  
**Genes Dev.** 2011 Jan 15;25(2):153-64.
9. Klinge S, Núñez-Ramírez R, **Llorca O\***, Pellegrini L\* (\*co-corresponding). 3D architecture of DNA Pol alpha reveals the functional core of multi-subunit replicative polymerases.  
**EMBO J.** 2009 Jul 8;28(13):1978-87.
10. Torreira E, Tortajada A, Montes T, Rodríguez de Córdoba S\*, **Llorca O\***. 3D structure of the C3bB complex provides insights into the activation and regulation of the complement alternative pathway convertase.  
**Proc Natl Acad Sci U S A.** 2009 Jan 20;106(3):882-7.