

CV (January, 2018)

Name Ana Luísa Moreira de Carvalho

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Academic education

- November 2002: PhD in Structural Biochemistry at FCT-UNL and Centro de Investigaciones Biológicas - CSIC.
- January 1998: MSc degree in Biophysics at FC-UL and ITQB-UNL.
- June 1996: First year of the MSc course in Biophysics and Medical Physics at IBEB-FC-UL).
- July 1995: Graduation in Chemistry at FCT-UNL.
- July 1990: High-school degree.

Present academic duties

- 2003-... Research Assistant Professor of Research Unit UCIBIO at FCT-NOVA
- 2003-... Coordinator of the FCT-NOVA team, part of the Portuguese Block Allocation Group (BAG-Portugal), at the European Synchrotron Radiation Facility ([ESRF](#)).
- 1998-... Responsible for the management and operation of the X-ray diffraction facilities at FCT-NOVA.
- Teaching support in the Biochemistry section of the Chemistry Department at FCT-NOVA (1st, 2nd and 3rd cycles) and organization and teaching in several post-graduation hands-on courses.

PRIZES and Distinctions

- Best poster award at the Summer Course in Glycosciences (12–16 June 2016), in Groningen, Netherlands (attributed to PhD student Viviana Correia)
- Best poster award at GLUPOR11, Viseu, Portugal, 6-10 September, 2015 (attributed to PhD student Diana Ribeiro)
- Best poster award at 1st FEBS-INSTRUCT Crystallization Course: Advanced methods in macromolecular crystallization VI, Nové Hradý, Czech Republic, 2014 (attributed to PhD student Diana Ribeiro)
- Bluepharma / Universidade de Coimbra Innovation Award (2013 edition), attributed to project's PI Paula Videira (FCM-UNL)
- António Xavier Prize (2013 edition), awarded to PhD student Aldino Viegas, for the Best National Thesis in the field of NMR.
- Santander-Totta/NOVA Scientific Merit Award (2012/2013 edition)
- Best poster award at 3rd ENURS & ESRF Day, IPL, Leiria, Portugal, 8 April, 2014 (attributed to PhD student Viviana Correia)
- Best poster award at the 9th Carbohydrate Bioengineering Meeting, Lisbon, 2011 (attributed to PhD student Aldino Viegas)
- 2nd best poster presentation at III Bienal of GERMN (attributed to PhD student Aldino Viegas)
- External examiner in several PhD and MSc dissertations
- Referee of international peer-reviewed journals

Financed projects (as PI)

- PTDC/BBB-BEP/0869/2014 "B.EST.CBM: An integrative structural biology approach to characterize the protein-carbohydrate microbial recognition"
- RECI/BBB-BEP/0124/2012 "Modern Structural Biology: Resources for the advancement of in-house X-ray Crystallography"
- PTDC/QUI-BIQ/100359/2008 "The Cellulosome assembly: structure, function and specificity of new cellulases and supramolecular complexes"
- Projecto Acções Integradas Luso-Espanholas Acordo FCT-CSIC: 2010/11 "Structural properties of xenobiotic reductases responsible for aromatic ring reduction" (co-proponent with Pieter van Dillewijn, CSIC, Granada)
- PTDC/QUI/68286/2006 "A combined approach of X-ray Crystallography, NMR and Computational Chemistry for the study of the molecular interactions that define the ligand specificity in cellulosomal Carbohydrate Binding Modules"
- "Molecular Determinants of Ligand Specificity in Family 11 Carbohydrate Binding Modules: An X-ray Crystallography, NMR and Computational Chemistry combined approach" Project supported by Laboratório Associado ReQuimTe - Química Verde - Tecnologia e Processos Limpos (co-proponent with Eurico Cabrita)

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- Financed projects (as member of team)**
- PTDC/BIA-MIC/5947/2014 "Molecular determinants of bacterial cellulosome diversity in different ecological niches" PI at FCT-NOVA
 - PTDC/DTP-FTO/1981/2014 "ACTONP53: Targeting p53 family proteins: on the route to new anticancer agents" PI at FCT-NOVA
 - PTDC/BBB-BEP/3058/2012 "Novel approaches for protein crystallization using ionic liquid-based systems" PI at FCT-NOVA
 - EXPL/BBB-BEP/0506/2012 "Development of cohesin-microarrays for ... specificities of novel cellulolytic species"
 - PTDC/QUI-QUI/112537/2009 "A carbohydrate microarray platform for discovery of ligands in polysaccharides recognised by microbial carbohydrate-binding modules"
 - PTDC/BIA-PRO/103980/2008 "Structure and function of novel Glycoside Hydrolases and Carbohydrate-Binding Modules of *Clostridium thermocellum* cellulosome"
 - PTDC/QUI/64733/2006 "Xanthine Oxidase-Related Enzymes: Structure, Function and Specificity"
 - PTDC/BIA-PRO/69732/2006 "Estrutura e função de novos módulos de ligação a carboidratos e complexos coesina-dockerina do *Clostridium thermocellum*"
 - POCI/PPCDT/BIA-PRO/59118/2004 "Molecular determinants of ... and cohesin-dockerin complexes"

- Peer-reviewed international publications**
- Citation metrics (Web of Knowledge): Total articles in publication list: 45; Articles with citation data: 41; Sum of the times cited: 875; Average citations per article: 21.34; h-index: 14
- Selected 13:*
- Bule, P. et al., 2017. "Assembly of Ruminococcus flavefaciens cellulosome revealed by structures of two cohesin-dockerin complexes." *Scientific Reports*. 7.1: 759.
 - dos Santos, R. et al, 2017. "Renaissance of protein crystallization and precipitation in biopharmaceuticals purification." *Biotechnology Advances*.
- Corresponding author
- Brás, J.L.A. et al., 2016. Diverse specificity of cellulosome attachment to the bacterial cell surface. *Scientific Reports*, 6, p.38292. Available at: <http://dx.doi.org/10.1038/srep38292>.
- Corresponding author
- Kowacz, M. et al, 2015. "Ionic-Liquid-Functionalized Mineral Particles for Protein Crystallization." *Crystal Growth & Design*. 15: 2994-3003.
- Corresponding author
- Ribeiro, D. et al., 2014. Use of Gold Nanoparticles as Additives in Protein Crystallization. *Crystal Growth & Design*, 14(1), 222-227. doi:10.1021/cg4014398
- Corresponding author
- Bras, J. L. A. et al., 2012. Novel *Clostridium thermocellum* Type I Cohesin-Dockerin Complexes Reveal a Single Binding Mode. *The Journal of biological chemistry*, 287(53), 44394-44405. doi: 10.1074/jbc.M112.407700
 - Bras, J. L. A. et al., 2011. Structural insights into a unique cellulase fold and mechanism of cellulose hydrolysis. *Proceedings of the National Academy of Sciences of the United States of America*, 108(13), 5237-5242. doi: 10.1073/pnas.1015006108
 - Kowacz, M. et al, 2012. "Hofmeister effects of ionic liquids in protein crystallization: Direct and water-mediated interactions." *Crystengcomm*. 14: 4912-4921.
- Corresponding author
- Bras, J. L. A et al., 2012. *Escherichia coli* expression, purification, crystallization, and structure determination of bacterial cohesin-dockerin complexes. *Methods in enzymology*, 510, 395-415.
 - Bras, J.L.A. et al, 2011. "Structural insights into a unique cellulase fold and mechanism of cellulose hydrolysis" *Proceedings of the National Academy of Sciences of the United States of America*. 108: 8525.
- Corresponding author
- Viegas, A. et al, 2008. "Molecular determinants of ligand specificity in family 11 carbohydrate binding modules - an NMR, X-ray crystallography and computational chemistry approach." *Febs Journal*. 275: 2524-2535.
- Corresponding author
- Carvalho, A. L. et al., 2007. Evidence for a dual binding mode of dockerin modules to cohesins. *Proceedings of the National Academy of Sciences of the United States of America*, 104(9), 3089-3094. doi: 10.1073/pnas.0611173104
 - Carvalho, A. et al., 2003. Cellulosome assembly revealed by the crystal structure of the cohesin-dockerin complex. *Proceedings of the National Academy of Sciences of the United States of America*, 100(24), 13809-13814. doi: 10.1073/pnas.1936124100

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- Courses/**
- ISBio2015: Integrative Structural Biology tools for the study of protein-ligand interactions, 6-12 October, DQ-FCT-
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- events organization** NOVA (co-organization with Eurico Cabrita and teaching). INSTRUCT-COST supported training course (<http://eventos.fct.unl.pt/isbio>).
- ISBio2014: Integrative Structural Biology tools for the study of protein-ligand interactions, 6-12 October, DQ-FCT-NOVA (co-organization with Eurico Cabrita and teaching). INSTRUCT-COST supported training course.
 - Member of the Organizing Committee of the event *2014, International Year of Crystallography* at FCT-NOVA (<http://xtal.dq.fct.unl.pt/iycr2014>), includes regular conferences by national and international speakers, a photo competition (*Crystals & Symmetry*) and an exhibition, from April 2014 to April 2015.
 - Summer Course (editions 2009-2012: Hands-On Course in Proteins and Proteomics, FCT-NOVA (co-organization and teaching in the X-ray Crystallography module).
 - Member of the Organizing Committee of the event *2011, International Year of Chemistry* at FCT-NOVA (<http://www.dq.fct.unl.pt/IYC2011>).
 - Chair of the Session for Young Scientists at IBIO2010, BIT's 3rd Annual World Congress of Industrial Biotechnology, 24-27 July, Dalian, People's Republic of China.
 - REQUIMTE Advanced Courses (editions 2000-2010): Protein Crystallography, FCT-NOVA (co-organization and teaching).
 - Collaborator in the organization of the course "Structure and Function of Metalloproteins", at ITQB, 1998.
 - Collaborator in the organization of the XVIIth European Crystallographic Meeting, at IST, 1997.
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