Laboratory Name	Laboratory of Molecular Interactions	
Main Goals:	Supramolecular biochemistry, high resolution biomolecule and biomaterials surfaces, enzymatic inhibition, molecular orientation.	

Lab Head	Jorge Caldeira, PhD
Group	Constança Alcobio Hermano Garcia Helena Loronha
Senior Researchers	
PhD Students	Helena Loronha

Research Projects (from 2013)	Molecular View of Dental Restoration FCT Project PTDC/SAU-BMA/122444/2010 (119 755€) Molecular Design for Dental Restoration FCT Project SAICT - POL/24288/2016 (149 852 €) BIOPEPTIDES- Biopreservation of Ethanoic fermentations: antimicrobial activity, biochemical properties and molecular characterization of yeast peptides FCT Project PTDC/AGR-ALI/113565/2009 (171 738 €) DNA repair from bacteria to man Insights into structural and mechanistic features of Base Excision Repair (BER) initiation FCT Project PTDC/BBBBEP/0561/2014 (157 530 €) Improving biological control of industrial bioethanol production processes by using Saccharomyces cerevisiae's own weapons FCT Project SAICT / 2017 / 31761 (239 981 €)
Publications (10 most relevant, last 5 years)	The effect of different finishing and polishing techniques on surface roughness and gloss of two nanocomposites Inês Lopes, Paulo Monteiro, José João Mendes, João Gonçalves, Jorge Caldeira Saudi Dental Journal (2018) in press

(Surname . Title... Mandatory doi link!)	Magnetically ordered and electrostatic assembly of Pf1 virus and Cytochrome c Jorge Caldeira (2018) Translational Research and Innovation in Human and Health Science, Annals of Medicine,50:sup1, (i)- (vii), DOI: 10.1080/07853890.2018.1427460 Inhibitors for matrix metalloproteinase's, Molecular Design for Dental Restoration Heber Silva, Ruben Chaves , Helena Loronha , Fabiana Vicente, Claudia Branco, Krasimira Petrova, Ana Azul, Mario Polido, Jorge Caldeira (2018) Translational Research and Innovation in Human and Health Science, Annals of Medicine,50:sup1, (i)- (vii), DOI: 10.1080/07853890.2018.1427460 Modelos de análise espacial Bayesiana para reticulados independentes regulares e de partilha de parâmetros na melhoria estética dos dentes Martins, Rui; Lopes, Inês; Caldeira, Jorge (2018) Translational Research and Innovation in Human and Health Science, Annals of Medicine,50:sup1, (i)- (vii), DOI: 10.1080/07853890.2018.1427460 Saccharomyces cerevisiae accumulates GAPDH-derived peptides on its cell surface that induce death of non-Saccharomyces yeasts by cell-tocell contact. Branco P, Kemsawasd V, Santos L, Diniz M, Caldeira J, Almeida MG, Arneborg N, Albergaria H. FEMS Microbiol Ecol. 2017 May 1;93(5). doi: 10.1093/femsec/fix055. Antimicrobial properties and death-inducing mechanisms of saccharomycin, a biocide secreted by Saccharomyces cerevisiae. Branco P, Francisco D, Monteiro M, Almeida MG, Caldeira J, Arneborg N, Prista C, Albergaria H. Appl Microbiol Biotechnol. 2017 Jan;101(1):159-171. doi: 10.1007/s00253-016-7755-6. Epub 2016 Aug 9. Cell-to-cell contact and antimicrobial peptides play a combined role in the death of Lachanchea thermotolerans during mixed-culture alcoholic fermentation with Saccharomyces cerevisiae. Kemsawasd V, Branco P, Almeida MG, Caldeira J, Albergaria H, Arneborg N. FEMS Microbiol Lett. 2015 Jul;362(14). pii: fnv103. doi: 10.1093/femsle/fnv103. Epub 2015 Jun 24. Oxidative stress and histological changes following exposure to diamond nanoparticles in the freshwater Asian clam Corbicula fluminea (Müller, 1774). Cid A, Picado A, Correia JB, Chaves R, Silva H, Caldeira J, de Matos AP, Diniz MS. J Hazard Mater. 2015 Mar 2;284:27-34. doi: 10.1016/j.jhazmat.2014.10.055. Epub 2014 Nov 11. Identification of novel GAPDH-derived antimicrobial peptides secreted by Saccharomyces cerevisiae and involved in wine microbial interactions. Branco P, Francisco D, Chambon C, Hébraud M, Arneborg N, Almeida MG, Caldeira J, Albergaria H. Appl Microbiol Biotechnol. 2014 Jan;98(2):843-53. doi: 10.1007/s00253-013-5411-y. Epub 2013 Nov 29.

Equipment/Techniques	Atomic Force Microscopy, Electron Paramagnetic Spectroscopy, High Pressure Liquid Chromatography (Reverse Phase, Affinity, Ionic Exchange, Size Exclusion) Nuclear Magnetic Spectroscopy Infrared and Mass Spectrometry, Computational Biochemistry
Announcements	
Some Pictures	
Location	Lab 305
Links	**http://ciiem.egasmoniz.edu.pt/pt-pt/research/research-labs.aspx**