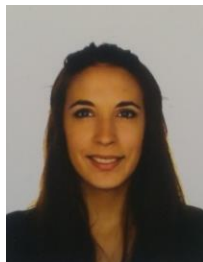


## PERSONAL INFORMATION

Ana Cristina Ralha de Abreu



📍 Calle Mineros 13, 04230 Huércal de Almería, Almería, Spain

☎ +351 914716831

✉ acabreu@ual.es

Sex - Female | Date of birth - 12/07/1988 | Nationality - Portuguese

## WORK EXPERIENCE

March 2017 – ongoing  
(for 3 years)

**Postdoc at University of Almeria**

Department of Chemistry and Physics; Group of Advanced NMR Methods and Metal-based Catalysts; advisor Prof. Dr. Ignacio Fernández de las Nieves;

Project: *Retos-Colaboración* RTC-2016-5239-2 financed by *Ministerio de Educación y Ciencia*, entitled “Improving organoleptic quality in ecological agriculture using metabolomics techniques”.

Feb 2012 – Jan 2017

**PhD in Chemical and Biological Engineering**, at:

**Faculty of Engineering of University of Porto** (FEUP, Portugal), with Prof. Dr. Manuel Simões; and **Institute of Biology of Leiden** (IBL, The Netherlands), with Prof. Dr. Young Hae Choi (~2 years);

Guest researcher at **Erasmus MC: University Medical Center Rotterdam** (The Netherlands) with Prof. Dr. Willem van Wamel (~6 months).

Project: SFRH/BD/84393/2012 financed by *Fundação para a Ciência e Tecnologia*, entitled “Reversing antibacterial resistance of *Staphylococcus aureus*: the use of phytochemicals as antibiotic-adjuvants and resistance-modifying agents towards more effective therapies”.

Sept. 2012 – July 2013;  
Sept. 2010 – July 2011

**Teacher**

Assistant in two courses (Integrated Project in Biological Engineering I and II) of the 3rd and 4th years of the Integrated Masters in Bioengineering and Chemical Engineering (FEUP).

Oct. 2011 – Feb. 2012

**Researcher**

Researcher on the Project Bioresist - The influence of biofilm phenotype on its resilience and resistance - PTDC/EBB-EBI/105085/2008 at FEUP.

## EDUCATION

Sept. 2006 – July 2011 **Integrated Master in Bioengineering - specialization in Biological Engineering**

- At **FEUP** and **Institute of Biomedical Sciences of Abel Salazar** (ICBAS, Portugal); **final score of 16 out of 20**;
- Master dissertation at FEUP with Dr. Manuel Simões on the study of the antimicrobial activity of isothiocyanates and characterization of their mode of action (**19 out of 20**);
- ERASMUS project at **University of Santiago de Compostela** (Dept. of Chemical Engineering, Spain, 2010), about delignification of lignocellulosic materials for bioethanol production.

## PERSONAL SKILLS

<b>Languages</b>	Portuguese (mother-tongue), English (advanced), Spanish (advanced), French (beginner)
<b>Communication skills</b>	Good communication skills acquired through many oral presentations during international scientific conferences and meetings with some associated companies during my stay in IBL.
<b>Organizational / managerial skills</b>	Organizational, motivational and hardworking skills; experience in team work due to several projects and partnerships during my PhD project; experience in supervision of lab projects and the Master thesis of three students; involvement in the EUR-ACE certification of the Integrated Master of Bioengineering at FEUP; involvement in the design of the group website at FEUP.
<b>Technical skills and competences</b>	Microbiology techniques (cell culture, antimicrobial assays, biofilms), bioreactors, microscopy techniques, flow cytometry, multivariate data analysis (PCA, PLS, OPLS), plant metabolomics, experience with 1D and 2D- NMR, LC-MS, GC-MS, HPLC, MPLC, chemistry of natural products (isolation, separation, purification and elucidation of metabolites from plants), animal cell cultures. Three weeks course on metabolomics (at IBL).
<b>Computer skills and competences</b>	MestreNova, Bruker, Amix, Simca, Matlab, SPSS, ChemDraw, SigmaPlot, Good command of Microsoft Office tools (Word, Excel and PowerPoint).
<b>Driving licence</b>	B1, B

## WORK OUTCOMES

<b>Publications in peer reviewed journals</b>	<ul style="list-style-type: none"> <li>- <b>Abreu, A. C.</b>, Coqueiro, A, Sultan, A. R., et al. (2016) Looking to Nature for new concepts in antimicrobial treatments: isoflavonoids from <i>Cytisus striatus</i> as antibiotic adjuvants against MRSA. <i>Sci Rep</i>,7: 3777.</li> <li>- <b>Abreu, A. C.</b>, Paulet, D., Coqueiro, A et al. (2016) Antibiotic adjuvants from <i>Buxus sempervirens</i> to promote effective treatment of drug-resistant <i>Staphylococcus aureus</i> biofilms. <i>RSC Advances</i> 6, 95000-95009.</li> <li>- <b>Abreu, A. C.</b>, Saavedra, M. J., Simões, L. C., et al. (2016) Combinatorial approaches with selected phytochemicals to increase antibiotic efficacy against <i>Staphylococcus aureus</i> biofilms. <i>Biofouling</i> 32, 1103-1114.</li> <li>- Borges, A., <b>Abreu, A. C.</b>, Dias, C. et al. (2016) New perspectives on the use of phytochemicals as an emergent strategy to control bacterial infections including biofilms. <i>Molecules</i>, 21:877.</li> <li>- Abdelmohsen, M. M., Hassanein, H. D., Hassan, R. A., <b>Abreu, A. C.</b>, et al. (2016) Phytochemical analysis, <i>in vitro</i> evaluation of antioxidant and antimicrobial activities of phenolic extracts from <i>Posidonia oceanica</i> (L.) Delile leaves. <i>J Chem Pharm Res</i>, 8:449-457.</li> <li>- Gonçalves, A. L., <b>Abreu, A. C.</b>, Coqueiro, A., et al. (2016) Co-cultivation of <i>Synechocystis salina</i> and <i>Pseudokirchneriella subcapitata</i> under varying phosphorus concentrations evidences an allelopathic competition scenario. <i>RSC Advances</i>, 6:56091-56100</li> <li>- <b>Abreu, A. C.</b>, Serra, S., Borges, A., et al. (2015) Combinatorial activity of flavonoids with antibiotics against drug-resistant <i>Staphylococcus aureus</i>. <i>Microb Drug Res</i>, 21:600-609.</li> <li>- Hassanein, H.M., Elsayed W.M., <b>Abreu, A. C.</b>, et al. (2015) Polyphenolic constituents and antimicrobial activity of <i>Rhapis excels</i> (Arecaceae, Coryphoideae). <i>Res J Pharm Biol Chem Sci</i> 6:1714-1722.</li> <li>- <b>Abreu, A. C.</b>, Serra, S., Borges, A., et al. (2014) Evaluation of the best method to assess antibiotic potentiation by phytochemicals against <i>Staphylococcus aureus</i>. <i>Diagn Microbiol Infect Dis</i>, 79:125-134.</li> <li>- Borges, A., <b>Abreu, A. C.</b>, Ferreira, C., et al. (2014) Antibacterial activity and mode of action of selected glucosinolate hydrolysis products against bacterial pathogens. <i>J Food Sci Technol</i> 52: 4737–4748.</li> <li>- Pimenta, F., <b>Abreu, A. C.</b>, Simões, L. C., et al. (2014) What should be considered in the treatment of bacterial infections by multi-drug therapies: A mathematical perspective? <i>Drug Res Updates</i> 17:51-63.</li> <li>- Monte, J., <b>Abreu, A. C.</b>, Borges, A, et al. (2014) Antimicrobial activity of selected phytochemicals against <i>Escherichia coli</i> and <i>Staphylococcus aureus</i> and their biofilms. <i>Pathogens</i> 3:473-498.</li> </ul>
---	--

- **Abreu, A. C.**, Tavares, R. R., Borges, A., et al. (2013) Current and emergent strategies for disinfection of hospital environments. *J Antimicrob Chemother* 68:2718-2732
- **Abreu, A. C.**, Borges, A., Mergulhão, F, et al. (2013) Use of phenyl isothiocyanate for biofilm prevention and control. *International Biodeter Biodegrad* 86:34-41.
- **Abreu, A. C.**, Borges, A., Saavedra, M. J., et al. (2013) Antibacterial activity of phenyl isothiocyanate on *Escherichia coli* and *Staphylococcus aureus*. *Med Chem* 9: 756-761.
- Borges, A., Serra, S., **Abreu, A. C.**, et al. (2013) Evaluation of the effects of selected phytochemicals on quorum sensing inhibition and *in vitro* cytotoxicity. *Biofouling* 30:183-195.
- **Abreu, A. C.**, McBain, A. J., Simões, M. (2012) Plants as sources of new antimicrobials and resistance-modifying agents. *Nat Prod Rep* 29, 1007-1021 (**120 citations on googlescholar**)
- Pereira, M., **Abreu, A. C.**, Simões, M. (2012) Action of kanamycin against single and dual species biofilms of *Escherichia coli* and *Staphylococcus aureus*. *J Microbiol Res* 2,84-88.
- Simões, L. C., Lemos, M., Pereira, A. M., **Abreu, A. C.**, et al. (2011) Persister cells in a biofilm treated with a biocide. *Biofouling* 27; 403-411.

### Book Chapters

- **Abreu, A. C.**, Borges, A., Malheiro, J., et al. (2013) Resurgence of the interest in plants as sources of medicines and resistance-modifying agents. In: Mendez-Vilas A, ed. Microbial pathogens and strategies for combating them: science, technology and education. ISBN: 978-84-942134-0-3. Formatex, Microbiology Book Series; 2:1287-1297, Spain.
- Borges, A., **Abreu, A. C.**, Malheiro, J., et al. (2013) Biofilm prevention and control by dietary phytochemicals. In: Mendez-Vilas A, ed. Microbial pathogens and strategies for combating them: science, technology and education. ISBN: 978-84-939843-9-7. Formatex, Microbiology Book Series; 1:32-41, Spain.

### Work presented in International Scientific Conferences

- International Conference on Antimicrobial Research (ICAR), Malaga, Spain, 2016 – **speaker (2 works)**
- International Conference on Natural Products Utilization: From Plants to Pharmacy Shelf, Bansko, Bulgaria, 2013 – **speaker and poster presentation**
- 5<sup>th</sup> Symposium on Bioengineering, Porto, Portugal, 2013 - **speaker**
- Biofilms7, Porto, Portugal, 2016 - **poster presentation**
- European congress of clinical microbiology and infectious diseases (ECCMID), Barcelona, Spain, 2014 - **Eposter presentation**
- 62nd International Congress of the Society for Medicinal Plant and Natural Product Research (GA), Guimarães, Portugal, 2014 - **poster presentation**.
- 1st Symposium on Medicinal Chemistry of University of Minho, Portugal, 2013 - **poster presentation**.
- ICAR, Lisbon, Portugal, 2012 - **poster presentation**.