



Mafalda Alves Fernandes Bispo

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Present Research Interest

Immunoconjugates for Photodynamic Therapy of Age-related Macular Degeneration: from synthesis to photochemical/physical/biological studies.

Work experience

Bundesanstalt für Materialforschung und -
prüfung (BAM), Berlin, Germany

Nov 2015 — Dez 2016

Early Stage Researcher

Early Stage Researcher 5 at Singlet Oxygen Strategy (SO2S), a multi-partner network funded by a Marie Curie Initial Training Networks (ITN) under the European Union programme FP7-PEOPLE-2012-ITN.

<http://so2s.ugent.be/>

Supervisor: Dr. Rudolf J. Schneider

Project theme: Synthesis and characterization of an immunoconjugate that specifically target choroidal neovascular cells present in wet Age-related Macular Degeneration (AMD). *In vitro* and *in vivo* studies that demonstrate the capacity of the immunoconjugate as a promisor photosensitizer in the treatment of AMD by Photodynamic Therapy (PDT).

Nanoscience and Molecular Materials
research group - University Autonoma of
Madrid

Oct 2014 — Mar 2015

Internship

This internship was part of my master thesis, under supervision of Professor Tomás Torres Cebada, among the Erasmus Plus program.

Project theme: Organic synthesis of water soluble silicon phthalocyanines and study of their photochemical/physical/biological properties for application in Photodynamic Therapy in the treatment of bladder cancer.

Events companies

Set 2012 — Out 2015

Hostess/promoter

As a part time job, I worked as a host of events (conferences, dinners) and as a promoter of many brands.

Education

Master in Biochemistry with specialization
in Clinical Biochemistry

Set 2013 — Oct 2015

University of Aveiro

EQF level 7

Final mark: 17 out of 20

Degree on Biochemistry

University of Aveiro

EQF level 6

Final mark: 14 out of 20

Set 2010 — Jun 2013

High School Education in Science and Technologies

Escola Secundária Augusto Gomes

EQF level 3

Final mark: 16 out of 20.

Set 2007 — Jun 2010

Skills and Competences

Instrumental Techniques and Methods

Cellular and Molecular Biology:

In vitro: Cellular viability and uptake assays. Cell culture of human bladder cancer cell lines. Immunocytochemistry.

In vivo: Biodistribution assays in black 6 mice

Fluorescence spectroscopy to determine the intracellular levels of ROS after PDT, fluorescence quantum yields studies and affinity of ligands with proteins.

UV-Visible and fluorescence spectroscopy for photostability, aggregation, singlet oxygen generation and partition coefficients.

Organic Chemistry: Experience in porphyrinoids synthesis and structural characterization by Nuclear Magnetic Resonance (NMR) and Mass Spectrometry (MS).

Personal Competences

Native Language: Portuguese

Other languages:

English - Level C2 (speaking, writing and understanding)

Spanish - Level B2 (speaking, writing and understanding)

French - Level A1 (speaking and writing) and level A2 (understanding)

Communication skills

Ability to hear and to explain clearly;

Good teamwork;

Part-time jobs as a hostess in events that improved my communication abilities.

Organization skills

Organizational skills, accuracy and method;

Ability to lead a team.

Computer skills

Competent with almost all Microsoft Office programs. User of Microsoft Windows 10.
Knowledge of MatLab, ChemDraw, PyMOL and MestReNova.

Interests

Sports (Dance, swimming, gym, radical sports: bridgejumping, skydiving);
Classical piano;
Reading (romances, mystery and humor);
Photography;
Fashion events;
Travelling;
Voluntary service: delivery of books and toys in a children's institution, Aldeia SOS, in Green Cape and support to an institution of high risk children on the island of São Miguel - Azores.

Publications and Communications

Master Thesis

September 2014 - October 2015

"Galacto-silicon Phthalocyanines for Bladder Cancer Treatment" (final mark: **19 out of 20**)

Autonomous University of Madrid (Madrid, Spain) under the supervision of Prof. Tomás Torres Cebada.

Department of chemistry of University of Aveiro – Working group "Química Orgânica, Produtos Naturais e Agro-alimentares (QOPNA)"; under the supervision of Dr. João Paulo Costa Tomé.

IBILI - Institute for Biomedical Imaging and Life Sciences of Medical Faculty of Coimbra under the supervision of Dr. Rosa Cristina Simões Fernandes.

Graduation final project

February - July, 2010

"Galacto-conjugated photosensitizer: synthesis, photo-physical, -chemical and -biological properties" (final mark: **18 out of 20**)

Department of chemistry of University of Aveiro – Working group "Química Orgânica, Produtos Naturais e Agro-alimentares (QOPNA)"; under the supervision of Dr. João Paulo Costa Tomé and PhD student Patrícia Pereira.

IBILI - Institute for Biomedical Imaging and Life Sciences of Medical Faculty of Coimbra under the supervision of Dr. Rosa Cristina Simões Fernandes.

Poster presentation

Mafalda Bispo, Patrícia M. R. Pereira, Francesca Setaro, M. Salomé Rodriguez-Morgade, Tomás Torres, Rosa Fernandes, João P. C. Tomé. "Novel galactodendritic silicon phthalocyanines", XXIV National Meeting of the Portuguese Society of Chemistry, July 1-3, 2015, Department of Chemistry of University of Coimbra, Coimbra, Portugal.

Patrícia M. R. Pereira, Sandrina Silva, **Mafalda Bispo**, José Ramalho, Célia Gomes, Henrique Girão, Leandro M. O. Lourenço, Bernardo A. Iglesias, Venkatramaiah Nutalapati, Catarina Ramos, Filipe A. Paz, Maria G. P. M. S. Neves, José A. S. Cavaleiro, Carlos A. F. Ribeiro, Rosa Fernandes, João P. C. Tomé. "*In vitro* and *in vivo* screening for design of new photodynamic agents", Research Day 2015, May 2015, University of Aveiro, Portugal
Winner of best poster in the sciences field of University of Aveiro.

Alícia A. Rodrigues, **Mafalda Bispo**, Rafael Q. Fernandes, Rita Ferreira. "Parkinson's Disease: The Role of Aging", Biochemistry Day 2015, May 2015, University of Aveiro, Portugal

Patrícia M. R. Pereira, Leandro M. O. Lourenço, **Mafalda Bispo**, Sandrina Silva, José A. S. Cavaleiro, Carlos A. F.

Ribeiro, Rosa Fernandes, João P. C. Tomé. "Glyco-Porphyrins and -Phthalocyanines for Cancer Photodynamic Therapy", 15^o BMOS - Brazilian Meeting on Organic Synthesis, November 2013, Brazil.

Patrícia M. R. Pereira, Sandrina Silva, Leandro M. O. Lourenço, **Mafalda Bispo**, Célia M. F. Gomes, Maria G. P. M. S. Neves, José A. S. Cavaleiro, Carlos A. F. Ribeiro, João P. C. Tomé, Rosa Fernandes. "Carbohydrate-driven porphyrinoids to induce cell demise by photodynamic therapy", Microbiotec 2013, December 2013, University of Aveiro, Portugal.

Mafalda Bispo, Patrícia M.R. Pereira, Sandrina Silva, Carlos A.F. Ribeiro, José A.S. Cavaleiro, Rosa Fernandes et João P. C. Tomé. "Galactodendritic chlorin: from photophysical to photobiological studies", XXIII National Meeting of the Portuguese Society of Chemistry, June 12-14, 2013, University of Aveiro, Portugal.

Scientific Activities

Participation on the "XXIV National Meeting of the Portuguese Society of Chemistry", 1st July, 2015, Department of Chemistry of University of Coimbra, Coimbra, Portugal

Participation in the recruitment workshop of the Marie-Curie PhD project: INTEGRATE, as one of the 30 selected candidates, on the 5th and 6th of May, Verona, Italy.

Participation on the "Workshop of Immunologie", March 19, 2014, University of Aveiro, Aveiro, Portugal

Participation on the "XXII National Meeting of the Portuguese Society of Chemistry", June 12, 2013, University of Aveiro, Aveiro, Portugal

Participation on the "IV National Conference of Biomedical Sciences", March 14, 2013, University of Aveiro, Aveiro, Portugal

Participation on the "V Annual Meeting of Biochemistry Students", March 30, 2012, University of Coimbra, Coimbra, Portugal

References

Professor Tomás Torres

Universidad Autonoma de Madrid (UAM), Madrid, Spain

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Dr. Rudolf Schneider

Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

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Dr. João Tomé

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Dr. Rosa Fernandes

Institute of Biomedical and Imaging Life sciences (IBILI), Coimbra, Portugal

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