

Curriculum Vitae

PERSONAL DATA

Maria Adelaide de Carvalho Miranda



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PROFESSIONAL EXPERIENCE

- 11 July 2011 – Present
Research Engineer
International Iberian Nanotechnology Laboratory, Braga, Portugal.
Scientific research developed at the Applied Nano Optics Group, Nanophotonics Department, under the supervision of Dr. Pieter De Beule.
- 1 May 2009 – 10 July 2011
Technical Staff Member
Installation Committee of the International Iberian Nanotechnology Laboratory, Braga, Portugal.
In collaboration with: Instituto Avanzado de Estudios Madrileños Nanociencia (IMDEA), Prof. Rodolfo Miranda, Madrid, Spain; INESC Microsistemas e Nanotecnologias (INESC-MN) with Prof. Paulo Freitas, Lisboa, Portugal.
- 1 January 2005 – 31 December 2010
Ph.D. student
Chemistry and Biochemistry Department, Faculty of Sciences of Porto University, Porto, Portugal.
Ph.D. student of the Chemistry and Biochemistry Department of the Sciences Faculty of Porto University under the supervision of Prof. Eulália Pereira and Prof. Baltazar de Castro.
Collaboration through all the doctorate with Prof. Patrícia Carvalho, Instituto Superior Técnico, Lisboa, Portugal.
Internship at Sandia National Laboratories, from 31st of July to 31st of October 2007, in collaboration with Prof. John A. Shelnett, Albuquerque, New Mexico, United States of America.
- 1 January 2004 – 31 December 2004
Researcher
ICETA/REQUIMTE/Chemistry and Biochemistry Department, Faculty of Sciences of Porto University, Porto, Portugal.
Researcher on the project entitled "Nanostructures of noble metals in organized media: towards technological applications" under the supervision of Prof. Eulália Pereira.
- 5 January 2003 – 31 December 2003
Researcher
ICETA/REQUIMTE/Chemistry and Biochemistry Department, Faculty of Sciences of Porto University, Porto, Portugal.
Researcher on the project entitled "Design of novel metallo-surfactants with catalytical relevance: physico-chemical/morphological characterization and reactivity studies" under the supervision of Prof. Baltazar de Castro and Prof. Eulália Pereira.

ACADEMIC DEGREES

7 MARCH 2011

DOCTORAL DEGREE

Department of Chemistry and Biochemistry of Sciences Faculty of Porto University, Porto, Portugal.

The thesis presented is entitled "Green Photocatalytic Synthesis of Gold Nanoparticles" and the work performed under the supervision of Prof. Eulália Pereira and Prof. Baltazar de Castro.

**ARTICLES and
CONFERENCE PROCEEDINGS**

Miranda, Adelaide and De Beule, Pieter A. A. Microscopic thin film optical anisotropy imaging at the solid-liquid interface. *Review of Scientific Instruments*, 2016, 87, 043701.

Miranda, Adelaide and Martins, Marco and De Beule, Pieter A. A. Simultaneous differential spinning disk fluorescence optical sectioning microscopy and nanomechanical mapping atomic force microscopy. *Review of Scientific Instruments*, 2015, 86, 093705.

Sara Pimenta, Susana Freitas, Adelaide Miranda, Pieter De Beule, Elisabete Castanheira, Graça Minas. Design and fabrication of SiO₂/TiO₂ and MgO/TiO₂ based high selective optical filters for diffuse reflectance and fluorescence signals extraction. *Biomed Opt Express*, 2015, 6(8):3084-98.

Cardoso, S.; Freitas, P.; Miranda, A.; Ferreira, D.; Minas, G. Spectral optical detection of biomolecules using a white light source-based spectrophotometric platform. *Sensors*, 2011 IEEE, 703-706, 28-31.

Adelaide Miranda, Eliana Malheiro, Peter Eaton, Patrícia A. Carvalho, Baltazar de Castro, Eulália Pereira. Synthesis of gold nanocubes in aqueous solution with remarkable shape-selectivity. *Journal of Porphyrins and Phthalocyanines*, 2011, 15, 5-6, 441-448.

Adelaide Miranda, Eliana Malheiro, Elżbieta Skiba, Pedro Quaresma, Patrícia A. Carvalho, Peter Eaton, Baltazar de Castro, John A. Shelhutt and Eulália Pereira. One-Pot Synthesis of Triangular Gold Nanoplates Allowing Broad and Fine Tuning of Edge Length. *Nanoscale* 2010, 2, 2209-2216.

Pedro Quaresma, Leonor Soares, Lúvia Contar, Adelaide Miranda, Inês Osório, Patrícia A. Carvalho, Ricardo Franco and Eulália Pereira. Green Photocatalytic Synthesis of Stable Au and Ag Nanoparticle. *Green Chemistry*, 2009, 11, 1889–1893.

Pedro Baptista, Eulália Pereira, Peter Eaton, Gonçalo Doria, Adelaide Miranda, Inês Gomes, Pedro Quaresma and Ricardo Franco. Gold Nanoparticles for the Development of Clinical Diagnosis Methods. *Analytical and Bioanalytical Chemistry*, 2008, 391: 943 – 950.

Luísa. J. Teixeira, Marta Seabra, Elisa Reis, M. T. Girão da Cruz, M. Conceição Pedroso de Lima, Eulália Pereira, M. Adelaide Miranda, M. Paula M. Marques. Cytotoxic Effects of Metal Complexes of Biogenic Polyamines: Polynuclear Platinum (II) Chelates. *Journal of Medicinal Chemistry*, 2004, 47, 2917–2925.

**ORAL COMMUNICATIONS
AND INVITED TALKS**

Simultaneous advanced microscopies for live cell signaling dynamics investigations. Adelaide Miranda, Marco Martins and Pieter A. A. De Beule. VII Conference on AFM for Life Sciences and Nanomedicine, 11-15th of April 2016, Porto, Portugal.

Simultaneous combined microscopy for cellular signaling events on the nanoscale. Pieter De Beule, Marco Martins, Adelaide Miranda. IUVESTA. School on Nano-Optics, INL, 11-15th of April 2016, Braga, Portugal.

Novel imaging devices for optical and mechanical characterization of supported lipid bilayers at the nanoscale. Adelaide Miranda, Marco Martins and Pieter A. A. De Beule. NanoPt2016, 16-19th of February 2016, Braga, Portugal.

Simultaneous advanced microscopies for live cell signaling dynamics investigations. Adelaide Miranda, Marco Martins and Pieter A. A. De Beule. 60th Annual Meeting Biophysical Society. LA, USA. *Biophysical Journal* 110 (3), 517a, 2016.

Simultaneous differential spinning disk fluorescence optical sectioning microscopy and nano-mechanical mapping atomic force microscopy applied to surface adhered liposomal structures. Adelaide Miranda, Marco Martins, Diana Viegas, Pieter De Beule, mmc2015, 29th of June to 2nd of July 2015, Manchester Central, United Kingdom.

Ellipsometric studies of supported lipid bilayers. Adelaide Miranda, Pieter De Beule. INL/Aveiro Workshop held at INL on the 22nd of April 2014, Braga, Portugal.

Anisotropic Silver Nanoparticles: Photochemical Synthesis and Characterization of Nanowires. Adelaide Miranda, Patrícia A. Carvalho, Eulália Pereira, International Conference NanoSMat 2007, 9-11th of July 2007, Algarve, Portugal.

Gold Nanotriangles Photo-Synthesis with Remarkable pH Dependence. Maria A. Miranda, Elżbieta Skiba, Peter

Eaton, Patrícia A. Carvalho, Eulália Pereira, 3rd International Congress in Nanotechnology, 30th of October to 2nd of November 2006, San Francisco, United States of America.

POSTER COMMUNICATIONS

Characterization of intracellular trafficking of nutrient transporters using combined fluorescence optical sectioning and nanomechanical mapping atomic force microscopy in mammalian cells. Rosana Alves, Daphné Dambournet, Alexander Sorkin, Adelaide Miranda, Pieter A. A. De Beule, David Drubin and Sandra Paiva. XIX. Annual Linz Winter Workshop. 3-6th February 2017. Advances in Single-Molecule Research for Biology & Nanoscience, Linz, Austria.

Optical scattering of cellular exo- and endocytosis. Dylan Marques, Adelaide Miranda, Ana G. Silva, Pieter A. A. De Beule. XIX. Annual Linz Winter Workshop. 3-6th February 2017, Advances in Single-Molecule Research for Biology & Nanoscience, Linz, Austria.

PEGylated chol-phospholipids-based nanoparticles for encapsulation of marine toxins to cancer therapy. Marisa P. Sárria, Ivo Lopes, Vânia Vilas-Boas, Enrique Carbo-Argibay, Bruno Silva, Adelaide Miranda, Pieter De Beule, Begoña Espiña. Liposomes, Exosomes, and Virosomes: From Modelling Complex Membrane Processes to Medical Diagnostics and Drug Delivery, 11-16th September 2016, Ascona, Switzerland.

Lipoplexes for gene delivery characterized by fluorescence correlation spectroscopy. Juliane Lopes de Assis, Iago López Grobas, Paula Viegas Pereira Signoretti, Aline Marie Fernandes, Adelaide Miranda, Bruno F. B. Silva, Rafael Hospodar Felipe Valverde Marcelo Einicker-Lamas and Pieter Albert Artuur De Beule. 60th Annual Meeting Biophysical Society. 27th February – 2nd March 2016, Los Angeles, USA.

Microscopic thin film optical anisotropy imaging at the solid-liquid interface. Carvalho Miranda, Maria Adelaide; De Beule, Pieter A. A. International Conference on Spectroscopic Ellipsometry (ICSE-7), 6-10th of June, Berlin, Germany

Improved spectral imaging ellipsometry for nanoscale solid-liquid interface investigations. A. Miranda, P. A. A. De Beule, Nanotech France 2015 International Conference & Exhibition, the 15-17th of June, 2015, Paris, France.

Anisotropy Imaging of Supported Lipid Bilayers via Spectroscopic Imaging Ellipsometry. Pieter A. A. De Beule, Adelaide Miranda, Optics in the Life Sciences, 12-15th of April 2015, Vancouver, Canada.

Towards Far-Field Microscopic Imaging of Supported Lipid Bilayer Optical Anisotropy. Carvalho Miranda, Maria Adelaide; De Beule, Pieter A. A. 58th Annual Meeting of the Biophysical-Society, Biophysical Journal, 106 (2), 1, 95A-95A.

Electronic and structural characterization of interfaces of TCNQ on Cu(001). C. Rodrigo, A. Miranda, J. Alvarez, M.J. Capitán, R. Otero, R. Miranda. Escuela de Verano Europea "Materials for Energetics", University Milano-Bicocca, 14-19th of September, Milan, Italy.

Influence of the concentration of CTAB and photocatalyst on the size of Au nanotriangles synthesized by a photocatalytic method. Adelaide Miranda, Eliana Malheiro, Patrícia A. Carvalho, Eulália Pereira, Nanospain 2009, 9-12th of March, 2009, Zaragoza, Spain.

Gold Nanocubes: novel photo-synthetic method and morphological characterization. Adelaide Miranda, Patrícia A. Carvalho, Baltazar de Castro, Eulália Pereira, Trends in Nanotechnology 2008, 1-5th of September, 2008, Oviedo, Spain.

Metal Nanoparticles for Bionanoprobes and Molecular Detection. João Cortez, Gonçalo Doria, Inês Gomes, Pedro Quaresma, Adelaide Miranda, Nuno C. Santos, Peter Eaton, Eulália Pereira, Pedro Baptista, Ricardo Franco, NanobioEurope, 9-13th of June, 2008, Barcelona, Spain.

Novel Synthetic Method for the Preparation of Au Nanoplates with Tunable Size. A. Miranda, P.A. Carvalho, P. Eaton, B. de Castro, E. Pereira, NSTI Nanotech 2008, 1-5th of June, 2008, Boston, United States of America.

Gold Anisotropic Nanoparticles: Synthesis and Characterization. Adelaide Miranda, Patrícia A. Carvalho, Eulália Pereira, Baltazar de Castro, NanoSpain 2008, 14-18th of April, 2008, Braga, Portugal.

Silver Nanowires: Photocatalytic Synthesis and Characterization. Inês Osório, Adelaide Miranda, Patrícia A.

Carvalho, Eulália Pereira, NanoSpain2008, 14-18th of April, 2008, Braga, Portugal.

Silver Nanowires: synthesis and characterization. Adelaide Miranda, Patrícia A. Carvalho, Eulália Pereira, 7^a Conferência de Química Inorgânica, 30th of November to 1st of December, 2007, Fátima, Portugal.

A photochemical approach for preparing gold nanotriangles: synthesis and morphological characterization. Maria A. Miranda, Elzbieta Skiba, Peter Eaton, Patrícia A. Carvalho, Eulália Pereira, 4th NanoSpain Workshop, 12-15th of March, 2007, Seville, Spain.

Controlled Photochemical Synthesis of Gold Nanoparticles. Elzbieta Skiba, Maria A. Miranda, Patrícia A. Carvalho, Eulália Pereira, 4th REQUIMTE Meeting, p. 99, 31th of March to 1st of April, 2006, Fátima, Portugal.

Gold Nanotriangles Synthesis by UV/VIS Irradiation. M.^a Adelaide Miranda, Patrícia A. Carvalho, Eulália Pereira, Microscopy in Motion – XLth Meeting of the SPME-BC, PM03, 8-9th of December, 2005, Lisboa, Portugal.

Gold Nanotriangles Synthesis by UV/VIS Irradiation. M.^a Adelaide Miranda, Patrícia A. Carvalho, Eulália Pereira, 8th FIGIPAS Meeting in Inorganic Chemistry, 6-9th of July, 2005, Athens, Greece.

Complexos de Ferro(II) Anfífilos – Isotérmicas de Langmuir e Estudo Voltamétrico. Adelaide Miranda, Eulália Pereira, Paula Garcia, Paula Gameiro, Ana Barbosa, Carlos Pereira, F. Silva, Baltazar de Castro, Abstracts Book from the XIX Encontro da Sociedade Portuguesa de Química, p. 267, 15-17th of April, 2004, Coimbra, Portugal.

CV studies of self-assembled films of rac-cis-[Fe(4,4'-dialkylbpy)₂(CN)₂]. Adelaide Miranda, Eulália Pereira, Paula Garcia, Paula Gameiro, Ana Cristina Freire, Baltazar de Castro, Abstract Book from 3rd REQUIMTE Meeting, p. 50, 9-10th of January, 2004, Fátima, Portugal.

SCIENTIFIC SOCIETY MEMBERSHIPS

Biophysical Society

REVIEWER

Sensors, MDPI

PATENTS

EPO patent application: Miranda A, Martins M, De Beule PAA. A vibration damping connector and use of the vibration damping connector. 2015. Patent Number: EP3128354 (A1), Patent Assignee: INT IBERIAN NANOTECHNOLOGY LAB

SCIENTIFIC ADVISOR ACTIVITY

As a co-coordinator, within the INL-Brazil collaboration agreement (CAPES/INL call) with Prof. Marcelo Einicker Lamas from the Universidade Federal do Rio de Janeiro within the project “Geração de Células-Tronco de Pluripotência Induzidas (iPS) derivadas de fibroblastos humanos utilizando a nanotecnologia de lipossomas como agentes de reprogramação”:

Paula Signoretti (May to August 2014). PhD student research fellow from Federal University of Rio de Janeiro.

Aline Marie Fernandes (May to July 2014 and September-October 2015). Postdoctoral research fellow from Federal University of Rio de Janeiro.

Juliane Lopes de Assis (May to September 2015). PhD student from Federal University of Rio de Janeiro.

Summer internships at INL:

Claudia Oliveira, with the project “Fluorescence correlation spectroscopy of lipid nano-carriers”, 2016

Iago Grobas, USC, Spain, with the project “Fluorescence correlation spectroscopy of lipid nano-carriers”, 2015

Pablo Cat, Spain, with the project “Surface stabilization of surface adhered lipid vesicles”, 2012

AWARDS

Recognition and Merit Award for the Ph.D. in Chemistry granted by Faculty of Sciences of Oporto University (2011).

Ph.D. scholarship with the reference SFRH/BD/17566/2004 granted by Fundação para a Ciência e a Tecnologia.

Poster award, second place, Trends in Nanotechnology 2008 Conference, Oviedo, Spain.