

# CURRICULUM VITAE

RITA MARIA MOURÃO SALAZAR BRANQUINHO

Ph.D., Nanoscience and Nanotechnology

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## CURRENT POSITION:

Assistant Professor at Materials Science Department, Faculdade de Ciências e Tecnologia da Universidade NOVA de Lisboa, FCT, UNL (since 2014). Researcher at the Materials Research Center, CENIMAT (since 2008).

## CONTACTS:

CENIMAT; FCT – UNL

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## EDUCATION

### 2012

Ph.D. in Nanoscience and Nanotechnology at FCT-UNL, Portugal. Thesis titled 'Label-free detection of biomolecules with Ta<sub>2</sub>O<sub>5</sub>-based field effect devices'.

### 2003

Post-graduation in Applied Analytical Chemistry at FC-UL, Portugal.

### 2002

Degree in Applied Chemistry at FCUL, Portugal.

Language skills: Excellent English (*First Certificate in English* by Cambridge School with final grade A); good conversation and reading in French, Spanish.

## TRAINING

### 2015

Course on Project Management (PMBOK & MS Project) Professor José Pedro Silva, SERS – Engineers' Syndicate, Lisbon, Portugal.

### 2013

Training course on Thermal Analysis: Differential scanning calorimetry (DSC) & Thermogravimetric analysis (TGA) by Paralab.

Short Course on Fourier Transform Infrared spectroscopy (FTIR) by ThermoScientific.

### 2009

Course on Electrochemical Impedance Spectroscopy: Theory, Applications, and Laboratory Instruction. Professor Ray Taylor, University of Texas Health Science Center, Houston, TX.

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## ACADEMIC EXPERIENCE

Lectures in the Materials Science Engineering and the Micro and Nanotechnologies Engineering Master Programs. Supervises MSc. and PhD. students of Materials Engineering, Micro and Nanotechnologies, Biomedical e Biochemistry courses.

## SCIENTIFIC EXPERIENCE

Over 10 years' experience in scientific research in the development of materials and devices for biosensing applications. Manages the Biosensor and Chemical Synthesis Lab. at CENIMAT, since 2008.

## Research Expertise

Chemical synthesis of metallic and oxide nanoparticles and oxide thin films. Clean room techniques including photolithographic processes and high vacuum deposition of metals and metal oxides. Development and characterization of oxide materials and devices for electronic and pH, enzyme and DNA sensor applications. Current research interests include the development of solution-based oxide materials; including dielectric, semi-conductive and conductive oxides, using low temperature solution combustion synthesis for applications in printable transparent devices.

## Participation in R&D projects

To date participated in 9 R&D projects (Merck Chemicals; H2020 1D-NEON; FP7 i-FLEXIS; FP7 POINTS; MultiNOx; BloodFET and others) with several academic and industrial partners:

University of Cambridge, UK; IISB Fraunhofer Institute, Germany; University of Bologna, Italy; University of Cagliari, Italy; University of Trieste, Italy; University of Galati, Romania; Merck Chemicals, UK; Multivalent, UK, IGCatalysts, UK; Promethean Particles, UK; VTT, Finland; StoraEnso, Finland; Eurorad, France, Tagsys RFID, France; CEA, France; Bioage, Italy; Nanograde, Switzerland.

## PEER-REVIEWED PUBLICATIONS

Author/co-author of 20 papers in international peer-reviewed journals (h-index=6, as December 2016) and 1 book chapter, Solution Combustion Synthesis: Applications in Oxide Electronics, in Combustion Processes, InTech 2016.

## Selected publications

Rita Branquinho, A. Santa, E. Carlos, D. Salgueiro, P. Barquinha, R. Martins, & E. Fortunato, 'Solution Combustion Synthesis: Applications in Oxide Electronics' (2016) In Developments in Combustion Technology. InTech. doi: 10.5772/64761

L. Santos, D. Nunes, Rita Branquinho, D. Salgueiro, P. Barquinha, R. Martins, E. Fortunato, 'Solvochemical Synthesis of Gallium – Indium-Zinc-Oxide Nanoparticles for Electrolyte-Gated Transistors', ACS Appl. Mater. Interfaces, 7 (2015) 638–646. doi: 10.1021/am506814t

Rita Branquinho, B. Veigas, J.V. Pinto, R. Martins, E. Fortunato, P.V. Baptista, 'Real-time monitoring of PCR amplification of proto-oncogene c-MYC using a Ta<sub>2</sub>O<sub>5</sub> electrolyte–insulator–semiconductor sensor', Biosensors and Bioelectronics, 28 (2011) 44–49. doi:10.1016/j.bios.2011.06.039.