

# Rui Lopes

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## Curriculum Vitae

### Education

- 2011–Present **Doctor of Philosophy in Materials Science**, *The National Physical Laboratory and the University of Leeds*, London - United Kingdom, .  
Industrial PhD in s pecialized in Magnetolectric coupling in nanosctrutures
- 2008–2010 **Masters Degree**, *The University of Aveiro*, Aveiro - Portugal, .  
Energy harvesting using piezoelectric material
- 2005–2008 **Bachelor in Engineering in physics**, *The University of Aveiro*, Aveiro - Portugal, .

### Doctor of Philosophy in Materials Science

- Title *Magnetolectric coupling and surface scanning*
- Supervisors Professor Markys Cain & Professor Andrew Bell
- Description This thesis explored the magnetolectric coupling at the nanoscale. To achieve this study many scanning probe microscopy (SPM) techniques were used such as PFM, MFM, Dip-pen, SKTM to study the behaviour of single phase and composite multiferroic at nanoscale.

### Masters Thesis

- Title *Energy harvesting using piezoelectric material*
- Supervisors Professor Andrei Kholkin & Professor Vitor Amaral
- Description In this thesis it was study the potential of energy harvesting using piezoelectric materials, PZT and lead free materials. Piezoresponse Force Microscopy was greatly used to characterize piezoelectric materials.

### Experience

#### Professional

- 2011–Present **Research Scientist**, NATIONAL PHYSICAL LABORATORY, Teddington-London, Functional Materials Division.  
Charecterization of Multiferroic materials
- 2010–2011 **Fellowship**, UNIVERSITY OF AVEIRO, Aveiro-Portugal, Multifunctional Ferroic Ceramics and Nanostructures.  
Energy harvesting using lead free materials

## Training

- 2011 **Litography**, NATIONAL PHYSICAL LABORATORY, Teddington - Uk, Litography processes.  
Training in litography under Patrick See supervision
- 2011 **Electrical Safety course**, STRATA TECHNOLOGY, Sunbury - Uk, Health and safety with electricity.  
Training in electric safety given by Strata Technology
- 2012 **PFM Training**, OAK RIDGE NATIONAL LABORATORY, Oak Ridge, Piezoresponse Force Microscopy.  
Training in PFM under Sergei V. Kalinin supervision
- 2013 **Finite elements**, UNIVERSITY OF ESSEN, Essen - Germany, Finite elements.  
Training in finite elements under Professor Doru Lupascu
- 2013 **X-ray and Neutron Scattering**, NATIONAL PHYSICAL LABORATORY, Teddington-United Kingdom, Good practice how to prepare samples for X-ray and Neutron Scattering spectroscopy.  
X-ray and Neutron Scattering in Multiferroics Research: Third meeting - 14 November 2013 organisation
- 2014 **Industrial Training**, ROBERT BOSCH GMBH, Stuttgart-Germany, Industrial training, how to connect industry and research and the role of R and D in industry.  
Industrial training under Daniele Rosato supervision

## Publications

- 2011 R.P. Lopes, A. L. Kholkin, Energy Harvesting for Smart Miniaturized Systems in Energy Harvesting with Piezoelectric and Pyroelectric Materials, ed. N. Muensit, Trans Tech Publications, 2010.
- 2012 Evidence of ferroelectricity and phase transition in pressed diphenylalanine peptide nanotubes BdiKin, Igor and Bystrov, Vladimir and Kopyl, Svitlana and Lopes, Rui P. G. and Delgadillo, Ivonne and Gracio, Jose and Mishina, Elena and Sigov, Alexander and Kholkin, Andrei L., Applied Physics Letters, 100, 043702 (2012), DOI:<http://dx.doi.org/10.1063/1.3676417>

## Computer skills

- Advanced MATLAB, ORIGIN, GWYDDION  
Advanced Computer Hardware and Support

### Miscellaneous

- 2001 **First degree CISCO SYSTEM.**

## Communication Skills

- 2014 Oral Presentation at MRS Spring in *San Fransisco*.  
2013 Poster at Piezo 2013 *Les Arcs*  
2013 Poster at ISAF *Prague*

## — Languages

Portuguese **Mothertongue**

English **Advanced**

French **Intermediate**

*IELTS overall band score of 7.5 in 2011*  
*Live for 12 years in the french part of Switzerland*

## — Interests

- Football
- Cooking
- Team sports

- Collectibles
- Documentaries
- New technologies