

## Curriculum Vitae

### Personal information

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**Name** Manuela Alexandra Coelho Fernandes  
**Nationality** Portuguese  
**Date of birth** 28<sup>th</sup> August 1990  
**e-mail** [manuela.coelho@ua.pt](mailto:manuela.coelho@ua.pt)

### Education

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**Since March 2014** – Ph.D Student in Advanced Materials and Processing (3rd cycle), University of Aveiro.

Subject: “Grain boundary engineering in functional electronic materials” with the supervision of Prof. Paula Vilarinho (University of Aveiro), Prof. Ana Senos (University of Aveiro) and Prof. Patrícia Carvalho (Instituto Superior Técnico, Lisbon).

**January 2014** – Master’s degree in Materials Engineering (2nd cycle), University of Aveiro.

Master thesis: “Microstructural design in titanates”, with the supervision of Prof. Ana Senos and Prof. Paula Vilarinho.

**July 2012** – Degree in Materials Engineering (1st cycle), University of Aveiro.

Project with Materials: “Estudo das anomalias de crescimento de grão na sinterização de Titanato de Estrôncio” with the supervision of Prof. Ana Senos.

### Additional Short-term Training

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2015 – Training in the Transmission Electron Microscope JEOL 2010F (Imaging, Diffraction and *in-situ* heating) by University of Texas at Austin

2013 – Training in the Scanning Electron Microscope Hitachi S-4100 SEM/EDS by University of Aveiro.

2012 – Microscopy: A tool for advancement of science, by Sociedade Portuguesa de Microscopia, Lisbon.

### Personal skills

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<b>Mother tongue</b>	Portuguese
<b>Other languages</b>	English
Understanding	Good
Speaking	Good
Writing	Good

## Publications

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### Papers

N. B. Selvaraj, M. Fernandes, T. Denneulin, E. Snoeck, P. M. Vilarinho, A. M. R. Senos, HRTEM Studies of Stress Assisted Sintered BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>, Microscopy and Microanalysis, 21 (S5), 47-48, August 2015.

L. Amaral, M. Fernandes, Ian M. Reaney, Martin P. Harmer, Ana M. R. Senos, Paula M. Vilarinho, "Grain Growth Anomaly and Dielectric Response in Ti-rich Strontium Titanate Ceramics", The Journal of Physical Chemistry C, 117, pp 24787-24795, 2013.

L. Amaral, M. Fernandes, A. M. R. Senos, P. M. Vilarinho and M. P. Harmer, "Grain Growth Anomaly in Ti-rich Strontium Titanate as Revealed by Electron Microscopy", Microscopy and Microanalysis, 18 (5), pp 123-124, 2012.

### Posters

2016 - Manuela A. C. Fernandes, Nivas B. Selvaraj, Paula M. Vilarinho, Ana M. O. R. Senos, Effect of the sintering atmosphere on the grain growth of BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>, Electronic Materials and Applications, Orlando, Florida, USA.

2015 - Manuela A. C. Fernandes, Nivas B. Selvaraj, João C. C. Abrantes, Paula M. Vilarinho, Ana M. R. Senos, Microstructural characterization of pressure-assisted sintering of BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>, Jornadas CICECO 2015, Aveiro, Portugal.

2013 - Nivas Babu Selvaraj, Manuela Fernandes, Luis Amaral, João C.C. Abrantes, Ana M.R.Senos; Paula M. Vilarinho, *Electrical response of grain boundaries of BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> ceramics*, Materiais 2013, Coimbra, Portugal.

2013 - Nivas Babu Selvaraj, Manuela Fernandes, Luis Amaral, João C.C. Abrantes, Ana M.R.Senos; Paula M. Vilarinho, *Analysis of the effect of applied pressure during sintering on the microstructure and electrical conductivity of BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> ceramics*, X CICECO meeting, Aveiro, Portugal.

2012 - Manuela Fernandes, Luís Amaral, Ana M.R. Senos, Paula M. Vilarinho, Martin P. Harmer, *Detailed scanning electron microscopy studies of nonstoichiometric strontium titanate ceramics*, Microscopy: a tool for the advancement of science, Lisboa, Portugal.

### Oral presentations

2016 - Manuela A. C. Fernandes, Pedro L. Marques, Paula M. Vilarinho, Ana M. O. R. Senos, Paulo J. Ferreira, Microstructural evolution of K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> thin films by in-situ TEM sintering, 13th FEMS Junior Euromat Conference, Lausanne, Switzerland

2015 - Manuela Fernandes; Nivas B. Selvaraj; João C. C. Abrantes; Ana M. R. Senos; Paula M. Vilarinho, *Role of applied pressure on BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> microstructure development*, 14th Conference of the European Ceramic Society, Toledo, Spain.

2015 - Manuela Fernandes; Nivas B. Selvaraj; João C. C. Abrantes; Ana M. R. Senos; Paula M. Vilarinho, *Role of pressure-assisted sintering in BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub> microstructure*, *Materiais 2015*, Porto, Portugal.

2014 – Ana M. R. Senos, Manuela Fernandes, Nivas B. Selvaraj, Christine Jamin, Olivier Guillon, Paula M. Vilarinho, *Grain growth studies in BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>*, *International Conference on Sintering 2014*, Dresden, Germany.

2013 - A.M.R.Senos; L. Amaral; N.B Selvaraj; M. Fernandes; C. Jamin; O. Guillon; P.M. Vilarinho, *Microstructure evaluation of the constrained sintering effects in BaLa<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>*, *Microscopy at frontiers of Science*, Tarragona, Spain.

2013 - Ana M. R. Senos, Luis Amaral, Manuela Fernandes, Martin P. Harmer, Paula M. Vilarinho, *Grain growth anomaly and dielectric response in Ti-rich strontium titanate ceramics*, *Euromat 2013*, Sevilla, Spain.

2013 – Ana M.R.Senos; Luís Amaral; Manuela Fernandes; C. Jamin; O. Guillon; M. P. Harmer, Paula M. Vilarinho, *Design of grain boundary characteristics in titanates by using sintering variables*, *Materials Science & Technology 2013*, Canada.

2013 – Luís Amaral, Manuela Fernandes, Ana M. R. Senos, Paula M. Vilarinho, Martin P. Harmer, Christine Jamin, Olivier Guillon, *Grain boundary and interfaces in the design of the electrical response of functional oxides*, *X CICECO meeting*, Aveiro, Portugal.

## **Awards**

Best oral presentation in Functional Materials, “Microstructural evolution of K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> thin films by in-situ TEM sintering”, 13th FEMS Junior Euromat Conference, Lausanne, Switzerland, 2016