Postdoc in nanostructured thermoelectrics at INL@Portugal

Submitted by yury.kolenko@inl.int on Fri, 2018-10-19 02:03

Description

Ref.10.18.51 – Research Fellow – Nanostructured Thermoelectrics

Research Centre: International Iberian Nanotechnology Laboratory – INL
Number of vacancies: 1
Duty Station: Braga, Portugal
Career Stage: Up to 3 years after PhD
Open date for applications: 18th October 2018
Closing Date for applications: 9th November 2018

The International Iberian Nanotechnology Laboratory – INL (http://www.inl.int), was founded under an international legal framework to perform interdisciplinary research and to deploy and articulate nanotechnology for the benefit of society. INL aims to become the world-wide hub for nanotechnology addressing society’s grand challenges in Aging & Wellbeing and Mobility & Urban Living and developing a Safe & Secure Society.

Project: Unconventional Thermoelectrics Based on Self-Organized Binary Nanocrystal Superlattices – BORN

Description: The main goal of the project is to investigate electrical and thermal transport properties of self-organized nanocrystal thin-films. Initially, the research will focus on the synthesis of monodisperse thermoelectric nanocrystals, such as PbTe, SnTe, and Bi2Te3. Then, the bottom-up self-organization of the nanocrystals into long-range-ordered thin-films of binary nanocrystal superlattices will be explored. Finally, the transport properties of the resultant thin films will be studied, exploiting strong quantum confinement and proximal interactions in these nanocrystal ensembles. This research will be complemented with theoretical modelling and experimental studies in collaboration and interaction with scientists from CF-UM-UP (Minho University) and Korgel Research Group (University of Texas at Austin).

Description of the functions and key primary responsibilities:
The successful candidate will work in the Nanochemistry Group in the department of Micro and Nanofabrication. She/he will be assigned the following working plan:

- Synthesis of monodisperse nanocrystals.
- Self-assembly of the nanocrystals into binary nanocrystal superlattices.
- Bottom-up fabrication of thin-films of the binary nanocrystal superlattices.
- Structural, morphological and transport property characterization of the thin-films.

To apply and to see more information, please follow the link:
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