Researcher - Thermoelectric Materials

KR-20 Researcher - Thermoelectric Materials

Contract: Full Time/Fixed Term

One postdoctoral position is available in the Advanced Energy Materials group at the Tyndall National Institute under the supervision of Dr. Kafil M. Razeeb. This is a funded position for up to 2 years.

The aim of this project is to fabricate nanostructured thin film thermoelectric materials using hydrothermal/electroplating technique. The research will include the development of novel nanostructured thin film based on bismuth telluride, investigating the electronic, thermal and thermoelectric properties of the thin films. The goal is to increase the efficiency of the material by tuning its elemental composition and microstructure.

This is a highly collaborative project between the groups at Tyndall National Institute which is funded by Science Foundation Ireland (Republic of Ireland) and Department of Education and Learning (Northern Ireland). It will also involve collaboration with experimental groups at Tyndall, Ben Gurion University (Israel) and Stanford (USA), working on material synthesis and characterization, including ultrafast X-ray techniques.

The successful applicant will work as part of a multidisciplinary research team, which has a focus in the development of thermoelectric materials.

Key Responsibilities

The research/duties of this particular position will involve elements of the following:

- Review of state of the art (publications in journals, conferences and patents)
- Fabrication of nanostructured thermoelectric materials using different chemical techniques
- Electrical, thermal characterization and validation of fabricated materials
- Independent approach to carry the project work forward
- Ability to write articles in journals/conferences.
- Ability to partially supervise/assist postgraduate student/s
- Participate in Education and Public Engagement activities, as required.
- Ensure all activities are compliant with the Tyndall Quality Management system.
- Ensure all activities are compliant with the required Health and Safety standards.
- Carry out any additional duties as may reasonably be required within the general scope and level of the post.

Essential Criteria

- Experience in electrochemistry related fabrication techniques are essential
- Experience in thermoelectric materials and device fabrication techniques are required
- Electrical and thermal characterization techniques for materials and devices are desirable
- Experience in clean room fabrication techniques are beneficial

Desirable Criteria

PhD in Materials Sciences/ Chemistry/ Physics or related discipline from an approved university. A
strong background in Materials Chemistry or Electrochemistry is required.

Informal enquiries can be made in confidence to Dr. Kafil M. Razeeb at kafil.mahmood@tyndall.ie

Appointment may be made on the IUA Researcher Scale €37,221 - €44,266. Salary placement on appointment will be in accordance with public sector pay policy.

**Application Instructions**

**Step 1** - Click [here](#) to download and complete the Application form and indicate the Job Reference KR-20.

**Step 2** - Return the completed application form, together with your CV and motivation letter to [careers@tyndall.ie](mailto:careers@tyndall.ie).

Please note that Garda vetting and/or an international police clearance check may form part of the selection process.

The University, at its discretion, may undertake to make an additional appointment(s) from this competition following the conclusion of the process.

At this time, Tyndall National Institute does not require the assistance of recruitment agencies.

Tyndall National Institute at University College, Cork is an Equal Opportunities Employer.