

RESEARCH ASSISTANT POSITIONS AT THE NATIONAL UNIVERSITY OF SINGAPORE (NUS)

Job Description

Graphene is a one-atom-thick allotrope of carbon atoms arranged in a honeycomb-like pattern. What makes graphene unique is its sp^2 hybridisation and its one atomic thickness. It breaks many records in terms of strength, electricity, and heat conduction. These properties led to many ground breaking discoveries and the Nobel Prize in Physics in 2010. But graphene has also excited many companies such as APPLE, SONY or SAMSUNG, since it is key to many new applications in the area of energy storage, internet of things (IOT) and, flexible and wearable electronics.

Professor Barbaros Özyilmaz's group is actively looking for talent to join our team to develop Graphene technologies. You will be collaborating with various industry partners and working on the implementation of large-scale prototyping equipment for applications and in developing practical applications in the fields of Smart Sensors, Functional Coatings, Energy Storage and Synthesis.

List of Possible Research Topics:

- Synthesis and application of (nano-porous) graphene or other (nano-porous) 2D materials.
- Development of process technology for 2D materials, e.g. laminating, patterning and contacting.
- Development of applications for 2D materials ranging from flexible electronics, gesture sensing, magnetic hard disc coating, barrier films, smart windows, OLED and organic solar cells...
- Development of spintronics devices and study of proximity effects in 2D heterostructures.

These topics offer exciting potential for new technological breakthroughs and scientific discoveries. With this, selected candidates will have the opportunity to pursue a part-time MSc or PhD at either the Physics Department or the Materials Science and Engineering Department under Professor Barbaros Özyilmaz. For a better understanding of our group, please visit: <http://graphene.nus.edu.sg/barbaros>.

Duties & Responsibilities

- Develop, prepare, and characterize samples for large-scale prototyping system.
- Operate, maintain, and purchase fabrication equipment and consumables.
- Make and test device proto-types.
- Interact and coordinate collaborations with industry partners.

Requirements

- Master's degree in Science/ Engineering with 1-2 years of relevant work or internship experience in thin film fabrication and characterization is preferred. It is very desirable to have relevant publications in recognized conferences/ journals.
- Outstanding track record of academic achievement and excellent laboratory skills that are relevant to the projects.
- Excellent interpersonal and communication skills.
- Strong drive and motivation to excel in Material Science.

Please send your CV to barbaros@nus.edu.sg.