

NATIONAL UNIVERSITY OF SINGAPORE

Postdoctoral Research Fellow Positions in Computational Materials Physics/Science

Applications are invited for two postdoctoral research fellow positions at the National University of Singapore.

Position 1:

Job scope: The candidate is expected to develop computational techniques and carry out computational studies to investigate electronic and transport properties of topological insulators (TIs). This is part of a project aimed to develop TI-based spin and optical devices. The objectives of the computational studies are (1) to address materials issues arising from experimental studies, such as effects of defects, strain, external fields, *etc.*, (2) to predict new TIs, (3) to investigate transport properties, such as spin transport torque and spin pumping, and (4) to provide theoretical understandings of the physics underlying the intriguing properties of the TIs, and thus design rules for experimental work.

Qualification: Applicants should have a Ph.D degree in physics or materials science from a reputable university, with relevant experience in studying topological insulators.

Duration: Initial appointment will be for two years. Contract is renewable subject to satisfactory performance.

Position 2:

Job scope: The candidate is expected to work on a project of Materials Genome for 2D Materials. He/she will assist the principle investigator in high-throughput first-principles calculations of structures and properties of various 2D materials, collecting relevant data from literature, building up a database for 2D materials, and designing new 2D materials.

Qualification: Applicants should have a Ph.D degree in physics, materials science, or computational science from a reputable university, with good experience in first-principles calculations of physical properties of various types of materials. In addition, experience in management of modern database (non-SQL) and programming using Python are preferred (but not required). Candidates without such experience should show a strong interest in database related topics.

Duration: 2.5 years.

Application: Interested candidates should submit their CVs, including full list of publications, by email to

Professor Yuan Ping Feng
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National University of Singapore
2 Science Drive 3
Singapore 117551
Email: phyfyp@nus.edu.sg

Applications will be reviewed in **late November** and shortlisted applicants will be informed by end of November. But application remains open until the positions are filled.