

Research Fellow (Quantum Materials Theory)
Nanyang Technological University

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Posted Jul. 10, 2024, set to expire May 6, 2025

Job Title	Research Fellow (Quantum Materials Theory)
Department	School of Physical and Mathematical Sciences
Institution	Nanyang Technological University Singapore, , Singapore
Date Posted	Jul. 10, 2024
Application Deadline	Open until filled
Position Start Date	Available Immediately
Job Categories	Professional Staff
Academic Field(s)	Physics - General Sciences - General
Job Website	https://ntu.wd3.myworkdayjobs.com/en-US/Careers/details/Research-Fellow--Quantum-Materials-Theory-_R00017743

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Job Description

Division of Physics and Applied Physics (PAP) in School of Physical and Mathematical Sciences (SPMS) is looking for a candidate to join them as a Research Fellow in condensed matter theory with specific areas of interest that include unconventional light-matter interaction as well as quantum geometry enabled opto-electronic and nonlinear responses.

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The College of Science seeks a diverse and inclusive workforce and is committed to equality of opportunity. We welcome applications from all and recruit on the basis of merit, regardless of age, race, gender, religion, marital status and family responsibilities, or disability.

Key Responsibilities:

- Investigate light-matter interaction and opto-electronics in a range topological and strongly correlated materials
- Perform theoretical research into the opto-electronic response of quantum materials with specific interests in quantum geometry enabled responses
- Perform analytical as well as numerical simulations of quantum materials, specifically coding simulations of the electronic dynamics in strongly correlated electronic matter
- Support research activities in the research group including writing numerical simulations and code, collaborating with experimental groups as well as other theoretical groups
- Assist with guiding students in the group including providing technical numerical and analytical guidance for calculations and computations for the students
- Facilitate group activities as well such as the group's research meetings and research seminars

Job Requirements:

- PhD in Physics
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Experience in condensed matter theory research, specifically in nonlinear responses of quantum materials

- Adeptness in numerical simulations of quantum materials, especially in the obtaining responses in materials from effective models, as well as the ability to numerically simulate strong correlated electronic matter
- Excellent skills in the techniques of condensed matter theory, with detailed experience in nonlinear responses (e.g., photocurrent responses) as well as familiarity with methods that to calculate the electronic properties of strongly correlated matter (e.g., exact diagonalization, Hartree-Fock, etc)

We regret to inform that only shortlisted candidates will be notified.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

School of Physical and Mathematical Sciences
Nanyang Technological University
Singapore