Research Fellow (Physics-Based Seismic Hazard Assessment in the Southeast Asian Ring of Fire)
Nanyang Technological University

Job Title	Research Fellow (Physics-Based Seismic Hazard Assessment in the Southeast Asian Ring of Fire)
Department	Earth Observatory of Singapore
Institution	Nanyang Technological University Singapore, , Singapore
Date Posted	Mar. 28, 2024
Application Deadline	Open until filled
Position Start Date	Available Immediately
Job Categories	Professional Staff
Academic Field(s)	Mechanical Engineering Engineering - Other
Job Website	https://ntu.wd3.myworkdayjobs.com/en-US/Careers/job/Research-Fellow--Physics-Based-Seismic-Hazard-Assessment-in-the-Southeast-Asian-Ring-of-Fire-_R00016619
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Job Description

The Earth Observatory of Singapore (EOS) is looking for an ambitious, highly motivated Research Fellow (post-doctoral scholar). The appointed candidate will jointly develop and apply physics-?based

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computational simulations to characterize and understand earthquakes physics and large-?scale tectonic processes in the Southeast Asian Ring of Fire. The selected candidate will join the Computational Geophysics Lab at EOS and work under the supervision of Asst Prof. Luca Dal Zilio and will be part of the "Integrating Volcano and Earthquake Science and Technology (InVEST) in Southeast Asia" project, a 5-year project that aims to provide a holistic understanding of regional tectonics, volcanoes, the linkages between the two, and their cascading hazards and impacts in Singapore and Southeast Asia. We will be hiring a large number of research staff and students to work on this project, so it promises to be a very exciting time to join our team!

The successful candidate will help to investigate the component C of InVEST, which aims to improve our understanding of cascading hazard, including earthquakes, landslides, and tsunamis, from the prospective of physics-based numerical modelling. We're looking for a collaborative individual with a passion for learning, who would enjoy working with people from a wide range of disciplines – seismology, geodesy, geology, tectonics, risk – with a goal to connecting the dots between the components.

Key Responsibilities:

- Conduct Physics-Based Numerical Simulations: Utilize advanced numerical simulations to analyse and link earthquake-triggered hazards, exposures, and vulnerabilities in the Southeast Asian Ring of Fire.
- Model Development and Data Integration: Develop numerical models informed by previously acquired geological, geophysical, and geodetic datasets, ensuring a robust and accurate representation of seismic activities.
- Data Management and Analysis: Manage, analyse, and interpret complex datasets, employing the latest methodologies and tools for accurate and efficient data processing.
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Interdisciplinary Collaboration: Engage in close collaboration with experts across diverse disciplines, integrating various datasets to enhance the understanding of regional seismic dynamics.

- Scenario Analysis and Hazard Identification: Identify potentially impactful hazard scenarios specific to the Southeast Asian region, focusing on high-risk areas and key geological features.
- Policy-Informed Research: Develop key case studies that can inform and support policy decisions, emphasizing practical applications of research findings in risk management and mitigation strategies.
- Communication with Stakeholders: Prepare research outputs in formats accessible to policymakers, risk stakeholders, and the broader community, ensuring clear and effective communication of complex scientific information.
- Dissemination of Research Findings: Present, publish, and communicate research results in scientific meetings, scholarly journals, and other relevant platforms, contributing to the broader scientific discourse.
- Mentorship and Team Support: Provide guidance and support to junior team members, students, and research assistants, fostering an environment of learning and professional growth.

JobRequirements:

- Ph.D. in Earth Science, Geology, Physics, Mechanical Engineering, or Computer Science
- Post-doctoral experience is preferred
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Expertise and interests in numerical modelling, earthquake source physics, and fracture mechanics

- Experience in computational seismology and numerical methods
- Strong expertise in programming with MATLAB/Python/Julia/C/C++
- Track record of publishing research relevant to the position in international recognised journals
- Excellent communication skills
- Able to work independently towards research direction and have team spirit.

EOS 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.

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

Contact Information

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

Contact

Singapore

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