



Okinawa Institute of Science and Technology

Postdoctoral Researcher in Analysis and Partial Differential Equations Unit

The Okinawa Institute of Science and Technology Graduate University (OIST; see www.oist.jp) is a dynamic new graduate university of science and technology in Okinawa Prefecture, Japan. The university is located on 85 hectares of protected forestland overlooking beautiful shoreline and coral reefs. The campus is striking architecturally, and the facilities are outstanding ([OIST campus video tour](#)). There are no academic departments, which facilitates multidisciplinary research. Outstanding resources and equipment are provided and managed to encourage easy access and collaboration. English is the official language of the University, and the university research community is fully international, with more than 50 countries represented. OIST is rapidly gaining recognition in the worldwide academic community as a model for excellence in education and research.

Position summary:

There are four openings for the postdoctoral researcher position at the [Analysis and Partial Differential Equations \(PDE\) unit](#) led by Professor Ugur G. Abdulla. The aim of the Analysis & PDE unit is to reveal and analyze the mathematical principles reflecting natural phenomena expressed by PDEs. Research focuses on fundamental analysis of PDEs, regularity theory of elliptic and parabolic PDEs, with special emphasis on the regularity of finite boundary points and the point at ∞ , its measure-theoretical, probabilistic and topological characterization, well-posedness of PDE problems in domains with non-smooth and non-compact boundaries, global uniqueness, analysis and classification of singularities, asymptotic laws for diffusion processes, regularity theory of nonlinear degenerate and singular elliptic and parabolic PDEs, free boundary problems, optimal control of free boundary systems with distributed parameters. Current areas of interest include Potential Theory, Harmonic Analysis, Probability Theory, Functional Analysis, Calculus of Variations and Optimal Control, Optimization, Mathematical Biosciences and Quantum Biology. Some of the current research projects in Applied Mathematics include laser ablation of biomedical tissues; preventing aerodynamic stall by in-flight ice accretion in the aerospace industry; cancer detection through Electrical Impedance Tomography and optimal control theory; identification of parameters in large-scale models of systems biology; optimal control of reactive oxygen species in quantum biology.

Position:

Postdoctoral Scholar, Analysis and Partial Differential Equations Unit

Working Location:



1919-1 Tancha, Onna-son, Okinawa, Japan 904-0495

Report To:

Professor Ugur G. Abdulla

Starting Date:

July 2022 onward

Responsibilities:

1. Engage in ongoing and active research
2. Participate and contribute in the activities of the Analysis & PDE unit and OIST math group

Qualifications:

(Required)

PhD in Mathematics

Term:

Full-time 1 year contract. Contract can be renewed on a yearly basis up to a total of 3 years.

Working hours:

9:00-17:30 (Discretionary)

Compensation:

Compensation commensurate with experience, in accordance with the OIST Employee Compensation Regulations.

Benefits:

- Relocation, housing and commuting allowances
- Annual paid leave and summer holidays
- Health insurance (Private School Mutual Aid <http://www.shigakukyosai.jp/>)
- Welfare pension insurance (kousei-nenkin)
- Worker's accident compensation insurance (roudousha-saigai-hoshou-hoken)

How to Apply:

Apply through mathjobs.org



or send by post to the following address:

Analysis and Partial Differential Equations Unit
Okinawa Institute of Science and Technology Graduate University
1919-1, Onna, Onna-son, Okinawa 904-0495, Japan

Submission Documents:

- Cover letter in English that discusses connection with Prof. Ugur Abdulla's research
 - Curriculum vitae in English
 - Research summary and proposal in English (up to 5 pages)
 - 3~5 Reference Letters
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- * Please be sure to indicate where you first saw the job advertisement.
 - * Prior to the start of employment all new hires are required to successfully complete a background check. Personal information including employment history and academic background should be submitted to third-party administrators after a conditional offer of employment.

Application Due Date:

May 31, 2022

Applications will be reviewed on a continuing basis.

Declaration:

- * OIST Graduate University is an equal opportunity, affirmative action educator and employer and is committed to increasing the diversity of its faculty, students and staff. The University strongly encourages women and minority candidates to apply.
- * Information provided by applicants or references will be kept confidential, documents will not be returned. All applicants will be notified regarding the status of their applications.
- * Please view our policy for rules on external professional activities (<https://groups.oist.jp/acd/information-disclosure/>).
- * Further details about the University can be viewed on our website (www.oist.jp).