

CALL FOR APPLICATION

Postdoctoral Fellowship in Systems Optimization for Sustainable Resources Utilization At the African Institute for Mathematical Sciences (AIMS) in Rwanda

The Research Chair Prof. Dr. rer. nat. habil. Abebe Geletu W. Selassie at AIMS Rwanda in collaboration with the Chair of the Process Optimization Group Prof. Dr.-Ing. habil. Pu Li at TU Ilmenau is offering a Postdoctoral fellowship at AIMS Rwanda research center in Kigali. This fellowship is made available and funded by the DAAD to promote international academics exchange as well as educational co-operation with developing countries through a variety of funding and scholarship programs.

Scientific interests:

Optimization, predictive control, and computational intelligence methods for efficient use of regenerative energy resources and sustainable and equitable distribution and management of water resources:

- Mathematical analysis and computational approaches to chance constrained optimization, centralized and distributed model predictive control, and development as well as implementation of data-driven and machine learning algorithms to be applied in water distribution systems for water quality management and control.
- Development of efficient approaches to online estimation of model parameters of battery systems in microgrids aiming at optimal and reliable energy supply with intermittent renewable generation.

Eligibility:

- Ph.D. degree with an outstanding performance in applied mathematics, power engineering, water systems engineering (not more than 6 years from the starting date of the appointment)
- Specialization in mathematical optimization and/or optimal control theory and numerical methods
- Experience in implementing and deploying large-scale optimization algorithms
- Strong programming skills in C/C++ or other optimization tools
- Ability to actively work in an interdisciplinary research environment
- Academic excellence and track records in conducting research and projects with at least 2 years of teaching and research experience
- Excellent written and verbal English communication skills
- Preferably a national of an African country

Female candidates and candidates from less privileged regions or groups are especially encouraged to apply.

Documents to submit for application:

- Letter of motivation
- Curriculum Vitae (including list of publications)
- Copy of the PhD Certificate



AIMS

African Institute for
Mathematical Sciences
RWANDA

TECHNISCHE UNIVERSITÄT
ILMENAU



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Deutscher Akademischer Austauschdienst
German Academic Exchange Service

- Copies of Bachelor's and Master's degrees (including transcripts)
- Research proposal (maximum 2 pages)
- Copy of passport or national ID
- At least one reference letter

Please, send your complete application to **Prof. Abebe Geletu** (abebe.geletu@aims.ac.rw) **and Prof. Pu Li** (pu.li@tu-ilmenau.de). Applicants should submit the documents in one single PDF file.

Scholarship benefits:

The fellowship is tenable for one year, contingent on satisfactory progress, and could be extended for a second year.

Scholarship instalment	1.850,00 EUR (monthly at AIMS Rwanda) – 2.000,00 EUR (monthly during research stays in Germany)
Travel costs	Lump sum payment (if applicable)

Additional benefits are made available for the research stay at TU Ilmenau during the fellowship. Furthermore, the costs for health insurance in Germany are eligible for funding. Please note that the fellowships cannot be held concurrently with any supplementary funding.

The position is expected to **start in February 2024 or as soon as possible.**

Fellowship holders:

Successful fellows are expected to conduct research and publish results in the thematic areas of Systems Optimization for Sustainable Resources Utilization in peer-reviewed journals and international conferences. They are expected to be actively engaged in the research activities of the German Research Chair, contribute to the implementation of the cooperation between the German Research Chair and the Process Optimization Group at TU Ilmenau. Fellows are also expected to have some involvement in the academic programs of AIMS Rwanda.

Deadline:

The deadline for the postdoctoral fellowship application is **31.10.2023.**

For any questions, please email **Prof. Pu Li** (pu.li@tu-ilmenau.de) or **Prof. Abebe Geletu W. Selassie** (abebe.geletu@aims.ac.rw).

DISCLAIMER: AIMS Rwanda and TU Ilmenau reserve the right to disqualify ineligible, incomplete and/or inappropriate applications. AIMS also reserves the right not to make an appointment to the position as advertised or to extend the deadline for applications. Only successful applicants will be contacted.