



CALL FOR APPLICATIONS

Postdoctoral Fellowship in **Discrete Mathematics and Probability**

At the African Institute for Mathematical Sciences (AIMS) in Rwanda

The German research chair at AIMS Rwanda, Dr. Jan Hązła, in collaboration with Prof. Ludger Overbeck from Justus Liebig University Giessen, is offering a postdoc fellowship at AIMS Rwanda in Kigali. The 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

We are looking for excellent candidates with interest and background in research in **Discrete Mathematics and Discrete Probability**. The research topics are mathematical, motivated by various applications like error-correction in data transmission, theory of network processes and understanding machine learning algorithms.

Among others, we are seeking for candidates with interest and background in one of the following areas:

- Probabilistic analysis of error correcting codes. (Which codes have good error correcting properties and why?)
- Theory of network processes. (Some opinion formation and exchange models converge to consensus, others exhibit polarization. Which properties are responsible for those behaviors?)
- Theory of machine learning. (Which problems are provably difficult to learn by stochastic gradient descent for a given neural network architecture?)

Eligibility

- A PhD degree in mathematical sciences (PhD graduation at most 6 years before the start of the fellowship).
- **Interest and experience** in the areas indicated above. (Strong plus if a candidate has at least one paper with results of interest to the adviser.)
- Excellent coding skills sufficient to run research-level experiments.
- Academic excellence and track record in conducting research.
- Good communication skills in English.
- Preferably a national of an African country.

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

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Scholarship benefits

- The postdoc fellowship will be awarded for one year.
- Monthly scholarships are 1.850 EUR (during stays in Rwanda) and 2.000 EUR (during research stays in Germany).
- Travel costs (if applicable) are covered.
- Health insurance costs are covered.
- Additional benefits are made available for mobility when commencing and finishing the scholarship in Rwanda and for research stays in Germany during the course of the fellowship.
- The position is expected to start in the second half of 2025.

Fellowship holders

Successful fellows are expected to conduct research in the thematic areas indicated in the section “Scientific interests”. They are expected to publish their results in peer-reviewed journals and conferences, and to be actively engaged in the research activities of the German Research Chair, as well as contribute to the implementation of the cooperation between the Chair and Justus Liebig University in Giessen. Fellows are also expected to have some involvement in the AIMS Rwanda academic programs. Fellows will be affiliated with AIMS Rwanda, but they will be encouraged to conduct scientific visits in Germany.

Application documents

- A short research statement (1 page) stating the candidate’s research interests.
- Curriculum Vitae.
- Copy of the PhD certificate.
- Copy of passport or national ID.
- At least two reference letters. Please indicate the names and email addresses of the referees in the application. They will be contacted to submit their confidential references. **The application is not complete without the references.**

Application instructions

Please send completed applications by email to jan.hazla@aims.ac.rw with subject line containing “DAAD postdoc application”. Applicants should submit the documents in a **single PDF file**. The applications not according to those instructions risk rejection without reading.





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Deadline

An application will be considered if it is submitted before **August 31, 2025**. Late applications can be considered at our discretion.

For questions, please email jan.hazla@aims.ac.rw. **Please see <https://jhazla.github.io> for more details and updates.**

DISCLAIMER: AIMS Rwanda and JLU Giessen 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.**



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