



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service

## CALL FOR APPLICATIONS

### PhD Fellowship in **Discrete Mathematics and Probability**

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

The German research chair, Dr. Jan Hązła at AIMS Rwanda, in collaboration with Prof. Nicola Kistler at Goethe University in Frankfurt, Germany, is offering PhD fellowships at AIMS Rwanda research center in Kigali. These fellowships are 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 strong interest in research in **Discrete Mathematics and Discrete Probability with applied motivations**. The research topics will be mathematical, motivated by various applications like error-correction in data transmission, voting procedures, network processes and understanding machine learning algorithms.

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

- Theoretical computer science and related areas.
- Coding theory.
- Combinatorics.
- Social choice theory and opinion formation.
- Theory of spin glasses.

### Eligibility

- A Master's degree in mathematical sciences (two-year degree is strongly preferred).
- **Strong interest** in one of the areas indicated above.
- Any experience in the areas indicated above is a plus.
- Good coding skills (eg., Python, Matlab/Mathematica and similar) are a plus.
- Academic excellence.
- 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.

### Scholarship benefits

- The Ph.D. positions are tenable for 3 years, contingent on satisfactory progress, and could be extended for one more year.
- Monthly scholarships are 1.325 EUR (during stays in Rwanda) and 1.200 EUR (during research stays in Germany).
- Tuition fees are covered.

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- 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 stay at the Goethe University during the course of the doctoral project.
- The positions are expected to start as soon as practicable, aiming for late 2022.

## 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 Goethe University in Frankfurt. 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

- Letter of motivation.
- Curriculum Vitae.
- Copies of university degrees (including transcripts).
- Copy of passport or national ID.
- 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 by May 15, 2022. **The application is not complete without the references.**

The letter of motivation should shortly (1 page maximum) and concretely state the candidate's interests and motivations. A detailed research plan is not required.

## Application instructions

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

The applicants are encouraged to make an application to participate in a discrete mathematics workshop in Kigali on 4-9 July 2022 (see the separate call).

## Deadline

The deadline for the applications is **May 15, 2022**. Applications might be processed early, but not earlier than April 15, 2022.





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

DISCLAIMER: AIMS Rwanda and Goethe University 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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