Higher Education Cooperation with the African Institute for Mathematical Sciences (AIMS) in Rwanda (2022-2026)

Research Chair 1 (Dr. Geletu): Optimization and Control (for Renewable Energy Systems, for Water Distribution Network Systems and for Sustainable Agrifood Supply Chains)

Research Chair 2 (Dr. Hązła): Combinatorics and Discrete Probability

The German Academic Exchange Service (Deutscher Akademischer Austauschdienst – DAAD) is distributing funds provided by the Federal Ministry of Education and Research (BMBF) to promote the programme 'Higher Education Cooperation with the African Institutes for Mathematical Sciences (AIMS)'. This call for applications refers to higher education cooperation with AIMS Rwanda (https://www.aims.ac.rw/).

Through the Alexander von Humboldt Foundation (AvH) and the DAAD, the BMBF has been providing support for the AIMS Centres since 2012. The AvH has been realising this by setting up research chairs at the AIMS Centres. The DAAD supports the AIMS Centres and German research chairs by promoting cooperation with German higher education institutions. Funding for such cooperation has already been provided to the AIMS Centres in South Africa, Ghana, Cameroon, and Senegal.

For the AIMS Center in Rwanda, the DAAD supports one university cooperation for each chair.

Research chair 1 will be filled with Dr. Abebe Geletu (contact: abebe.geletu@tu-ilmenau.de). The university cooperation with chair 1 should focus on at least one of the following research areas:

1) optimization and control for renewable energy systems
2) optimization and control for water distribution network systems
3) management and control for sustainable agrifood supply chain.

Research chair 2 will be filled with Dr. Hązła (contact: email address). The university cooperation with chair 2 should focus on combinatorics and discrete probability. (For more information on the research focus, see the jhazla.github.io webpage).

The program makes a long-term contribution (impacts) to economic and social development in the partner countries. The programme is designed to contribute to the development of the international potential of universities and institutes. Furthermore, in the medium term, mathematical higher education and research in the partner countries are to be strengthened and the visibility of the mathematical sciences increased. The program should also contribute to the internationalization of the partner institutions and to stabilize the cooperation structures between the partners (as well as the economy).

The programme’s long-term objective (impact) is to promote higher education and research in the field of mathematics in the partner countries, and to increase visibility of the mathematical sciences. The programme is designed to contribute to internationalisation of the partner institutes and to the establishment of steady cooperation structures between the partners (and the business sphere).

The following programme objectives (outcomes) are derived from these impacts:
Project objective 1 (outcome 1): Graduates and junior scientists are well-prepared for a profession that requires mathematical skills (capacity building).

Project objective 2 (outcome 2): Researchers have gained international research experience.

Project objective 3 (outcome 3): Research results have been published and the public has been informed about the programme.

Project objective 4 (outcome 4): Teaching at the partner institutions has been expanded and internationalised.

Project objective 5 (outcome 5): Networks among the cooperation partners (and the business sector, if applicable) have been institutionalized.

These programme objectives should be achieved by means of the following direct results of measures/activities (outputs):

- PhD and postdoc scholarship holders have been trained and supervised at the research chair.
- Graduates and junior scientists have received further specialised and methodological training in applied mathematics.
- Joint research projects have taken place in the field of applied mathematics.
- Research results have been generated and publicised in the context of the project.
- Teaching at the partner institutions has been promoted.
- Individual contact among the cooperation partners (and the business sector where applicable) has been newly established or consolidated.

Individual projects can focus on different aspects within the programme. It is not necessary that each project contributes to all programme objectives. Projects are also permitted room for manoeuvre in formulating their objectives and in their strategies for achieving them. However, the project objectives must be consistent with the programme objectives. The higher education institutions are accordingly asked to develop their projects based on the programme’s impact analysis structure and programme indicators, thus enabling them to formulate measurable project objectives and associated indicators. These must be presented in the application and project planning summary (for the detailed procedure see Attachment 1 ‘Handbook on Results-Oriented Project Planning and Monitoring (RoM)’).

The following measures should be implemented in close cooperation with the research chair holder:

- Awarding of at least two PhD scholarships at the research chair indicated above (scholarship period of usually three years with the option for a one year extension)

  The doctoral candidates must be enrolled at the local partner universities of the AIMS Centres.

- Awarding of at least two postdoc scholarships at the research chair indicated above (scholarship period of usually 2 years)

Academic support for the PhD candidates and the postdocs is provided primarily by the research chair holder at the AIMS Rwanda, and if desired also by the professors at the German partner institution. Short research stays at the German higher education institutions of up to five months are therefore possible every year.

Note:
- Funds designated for the above-mentioned scholarships at the research chair must only be rededicated for other measures in coordination with the DAAD.
Other measures that may be eligible for funding include:

- Awarding of short-term scholarships for students, doctoral candidates, postdocs, or lecturers (at least 1 and up to 5 months) for study and research stays at the respective partner institution (and at other AIMS Centres) – including between the different AIMS Centres (South-South exchange)
- Teaching stays of doctoral students, post-doctoral researchers, lecturers and experienced scientists (up to 1 month) at the respective partner institution (and at other AIMS Centres) – including between the different AIMS Centres (South-South exchange)
- Participation in/holding of project-related events, specialist conferences and workshops (e.g. summer schools, discipline-specific qualification measures, soft skills training, networking and work meetings, coordination meetings, excursions)
- Public relations work (e.g. project marketing)
- Development and use of digital formats to support the measures mentioned above (e.g. cross-locational digital teaching/learning scenarios, virtual events, new formats for exchanging information on the cooperation level and in the context of public relations work)

See attachment 3 ‘Eligible expenses’.

Not eligible for funding are infrastructure costs at German higher education institutions.

Funding takes the form of full financing.

The funding period begins at the earliest on 1 January 2022 and ends at the latest on 31 December 2026.

The maximum grant amount is normally EUR 778,000, split between the budget years as follows:

2022: EUR 172,000 (around EUR 82,000 thereof for scholarships)
2023: EUR 172,000 (around EUR 82,000 thereof for scholarships)
2024: EUR 172,000 (around EUR 82,000 thereof for scholarships)
2025: EUR 172,000 (around EUR 82,000 thereof for scholarships)
2026: EUR 90,000.

The programme is open for the discipline of mathematics and its applications.

Master’s students, doctoral candidates, postdocs, and experienced researchers.

Eligible applicants are officially recognised German higher education state institutions and non-university research institutions headquartered in Germany.

The application for project funding may only be submitted in complete form and before the deadline via the DAAD portal (www.mydaad.de).

**Application documents relevant to selection**

- Project application (in the DAAD portal)
- Finance plan (in the DAAD portal)
- Project description (attachment type: project description).
• Project planning overview
• Approval of the application signed by the research chair holder at the AIMS Centre (see attachment type: form template)

The application documents relevant to selection must be named according to the guidelines and submitted under the specified attachment type prior to the application deadline.

Subsequent submissions and amendments, including to the finance plan, will no longer be considered after the application deadline. Incomplete applications will be excluded from the selection process.

The application deadline is August 31, 2021.

Selection of applications for project funding

The DAAD will make its funding decision based on evaluation of the applications by a selection committee.

Selection criteria

• Relationship of the project to the programme objectives (as per the impact analysis structure) and results-oriented planning using indicators that meet the SMART criteria (weighting 20%).
• Scientific quality of the project (weighting 40%).
• Feasibility of the project (feasibility of measures) (weighting 20%).
• Appropriate use of funds (weighting 20%).

Selection of funded individuals

A selection committee of three or more individuals appointed by the grant recipient will decide who the scholarships are awarded to. The selection procedure must be described in the project description.

• Availability of the scholarships shall be publicised (e.g., on the AIMS Centres’ website and the external network of the DAAD).
• The selection committee must have at least the following members:
  ➢ Qualified academic from the relevant field from the grant recipient
  ➢ Research chair holder at the AIMS Centre Rwanda
• Selection criteria
  ▪ Specialist/academic competence and performance
  ▪ Personal suitability
  ▪ Quality and feasibility of the research endeavour
• Awarding of the scholarship
  ➢ by means of a scholarship contract (indicating the DAAD and the funding body and specific information about the scholarship benefits, the scholarship amount and payment arrangements)

Contact

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Attachments to the call for applications/funding framework
1. Effects-oriented monitoring handout
2. Fee table
3. Eligible expenses

Important information and form templates
- Mobility information for those with a disability or chronic illness
- Project description
- Project planning overview
- Approval from the research chair holder

Funded by:

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