

CONFERENCE SUPPORT PROGRAM

African Mathematical School 2024, Burundi



Conference Organizer:

Prof. Karimumuryango Menedore, University of Burundi, Burundi

CONTEXT

Mathematics in Burundi is developing, with growing interest among students and increased regional collaboration. However, challenges remain, including limited resources, access to advanced training, and opportunities for international exchanges. The teaching of mathematics in Burundi faces major structural challenges, despite reform efforts. There is a shortage of qualified teachers and a lack of teaching materials, harming the quality of learning. Challenges reflect the need to strengthen the continuous training of teachers.

CDC SUPPORTED ACTIVITY

An African Mathematical School on the theme 'Mathematics and Computer Science for the Economy' was supported by the IMU-CDC.

The school took place at the University of Burundi from June 17 to 28, 2024. Master's students, doctoral students, and research professors were involved in the activities of the School.

IMPACT

The African Mathematical School (EMA) in Burundi has strengthened local capacities in applied mathematics and computer science to model economic problems. Organized by the University of Burundi, it trained students in tools such as probability, statistics, and finance, crucial for economic development. A pan-African cooperation was established to encourage exchanges between young Burundian and African mathematicians on one hand, and the international mathematical community on the other. Teacher mobility and student exchanges were strengthened. The transfer of knowledge from scientific teams in the North to those in the South was raised. African researchers had the opportunity to network, collaborate, and exchange experiences. As a result, a foundation has been established for future efforts, ensuring that African mathematicians and scientists have the opportunity to conduct quality research and be a part of the global mathematics community through sustained collaborations.

OUTCOMES AND ACHIEVEMENTS

Courses were delivered to students from across Africa (including Benin, Cameroon, Kenya, Rwanda, Uganda, Congo, and Burundi) in areas such as probability and combinatorics (SageMath), statistical modelling, optimization for business, functional data analysis, and business process modelling (BPMN and R), complemented by tutorial sessions.

Besides the courses that took place, new research networks were established in areas such as optimization, aviation systems, cybercrime, and applied mathematics, involving institutions including the University of Burundi, Mbarara University of Science and Technology (Uganda), and the University of Liège (Belgium), alongside strengthened South-South collaborations across Africa.



REFLECTIONS

The grant played an invaluable role in guiding and strengthening the work to improve the visibility of the University of Burundi.

The grant made it possible to bring together researchers and students from different countries, facilitating exchanges and collaboration that would not have been possible otherwise. It supported participation, strengthened regional ties, and contributed to the development of research networks and future academic opportunities. With the IMU CDC grant, our partners have been unwaveringly committed to advancing mathematics in Africa.

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