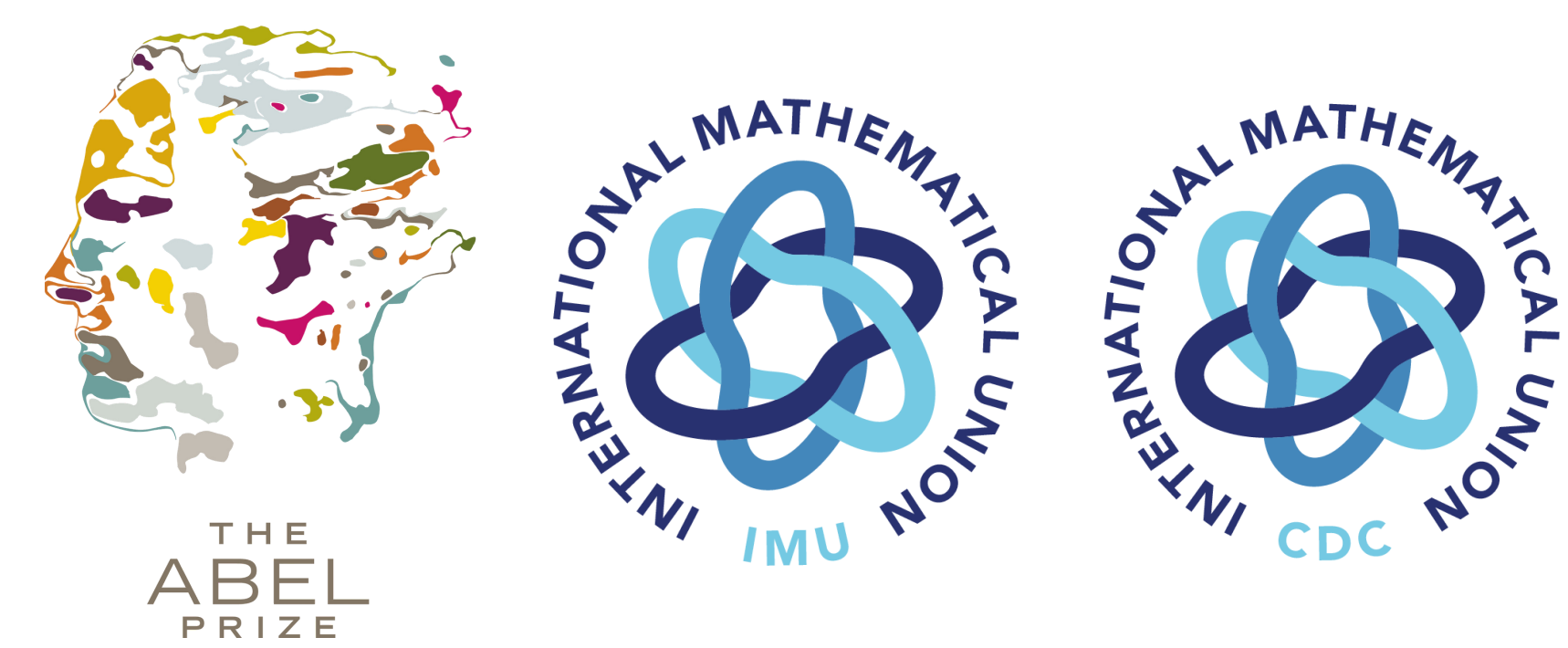


VOLUNTEER LECTURER PROGRAM

Elements of Set theory, University of Namibia, Namibia



Host: **Dr. Vaino Tuhafeni Shaumbwa**, University of Namibia
Volunteer Lecturer: **Prof Xabier Garcia Martinez**, Universidade de Santiago de Compostela, Spain

CONTEXT

Namibia’s mathematical landscape remains relatively underdeveloped due to a shortage of professional mathematicians. This limits opportunities for research collaboration and the development of strong research groups. There is a pressing need for more international collaborations that can contribute to postgraduate training, local capacity building, and the establishment of sustainable research networks. Such partnerships are essential for joint research initiatives, conference and workshop hosting, and funding opportunities.

CDC SUPPORTED ACTIVITY

The University of Namibia welcomed Professor Xabier Garcia Martinez from March 1 to March 31, 2025, under the coordination of Dr. Vaino Shaumbwa. During his stay, Professor Martinez conducted lectures on Elements of Set Theory, a third-year course within the BSc Mathematics program, attended by ten students. He also gave an outreach talk on March 14, in honor of the International Day of Mathematics. This outreach event was made possible through the support of the Organisation of Spanish Researchers in Southern Africa. The visit also led to a collaborative research partnership between the host institution and the lecturer.

IMPACT

The recent visit by a Prof Martinez was a significant and much-needed development, marking one of the first opportunities for students to be taught and mentored by a visiting professor. Students at the University of Namibia have benefited from direct instruction by Prof. Garcia, which has significantly enhanced their mathematical foundations. For final-year students, mentorship and guidance have been provided concerning postgraduate opportunities abroad, focusing on MSc pathways beyond Namibia and Africa. As part of the foundation course, Prof. Garcia delivered a series of lectures on set theory, further solidifying students' understanding. This engagement allowed students to interact directly with an international expert, thereby gaining exposure to global academic standards and practices. It also created valuable opportunities for staff to initiate and strengthen research collaborations.

From a research perspective, a joint application was submitted to the CIMPA School scheduled for 2027, with institutional support from UNAM and endorsement from universities in neighbouring South Africa. A collaborative research proposal under the Cimpa “Research in Pairs” programme was also submitted, with plans to continue ongoing work through a research visit to Spain in collaboration with Prof. Martinez.

OUTCOMES AND ACHIEVEMENTS

- Student Development: Exposure to international academic pathways bolstered mentorship initiatives.
- Collaboration: Discussions with the Organisation of Spanish Researchers opened doors for research collaborations.
- Research: A new collaboration began, with plans to finalize a manuscript.
- International Ties: An application to the CIMPA “Research in Pairs” programme was submitted to support a research visit to Spain.
- Capacity Building: Plans for a CIMPA School in Category Theory at the University of Namibia in 2027 were initiated.

The visit by Prof. Martinez enhance international partnerships at the University of Namibia and the University’s global visibility. Prof Martinez also guided students on postgraduate opportunities, laying a foundation for future initiatives.



REFLECTIONS

The visit of Prof Martinez to the University of Namibia has made a meaningful contribution to building mathematical capacity in Namibia and the broader region. By exposing students to international teaching standards, mentoring final-year students on postgraduate opportunities, and initiating active research collaboration, the activity helped address key gaps in training, supervision, and global engagement. It also strengthened emerging research networks, supported institutional mentorship initiatives, and laid the groundwork for future programmes such as CIMPA collaborations and a planned CIMPA School. Overall, the activity enhanced both human capital development and international connectivity, which are essential for the sustainable growth of mathematics in the region