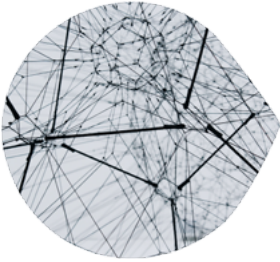


Theme A: The global research community



The member nations of the International Mathematical Union are divided into five different groups according to an assessment of the mathematical resources available to the member and the ability to contribute to the international community. The main goal of this component of the project is to improve the connections and visibility of the lower group countries in the global mathematical research community. Building on and working with existing initiatives which improve mathematical training at undergraduate and MSc level, the ICMS will support training and research in countries belonging to groups 1 or 2 (or those working against even greater challenges) by providing opportunities for early career researchers from them to engage in synergistic research and interactive teaching in collaboration with researchers from group 4 and 5 countries. We aim thereby to provide benefits both to the researchers and to research students from low to middle income countries (LMIC).



Researchers should plan to gather at the ICMS to work on research projects and/or organise a series of hybrid or online research seminars and/or courses lasting from two-weeks to three-months. Proposals for courses or seminars must come with plans for collaboration with networks or institutions in LMICs that can help to organise the hybrid events as well as a strategy to reach a substantial number and range of researchers and students. The courses and seminars can be supplemented by workshops for early career researchers or schools for students that take place in Edinburgh, which must be applied for separately. The schools can be up to two weeks in length and the workshops will typically last one week. The schools should be interactive and designed to foster networking between students and lecturers. They should cover topics of current and broad interest in the mathematical sciences, including pure mathematics, mathematical physics or biology, finance, operations research, data science, logistics, statistics, and a wide range of mathematics applicable to industry.



The project will also accept proposals for workshops or schools to bring together students and early career researchers from at least two different regions to learn an important mathematical topic of common interest. The proposers will be encouraged to select students from parts of the world that would significantly benefit from communication and interaction in a non-political setting in order to enhance mutual understanding via the process of striving for common intellectual goals.



In addition to the benefit to developing countries, these activities will enable the UK scientific community to maintain or establish influence and connections and to broker the exchange of ideas in parts of the world where links to Europe have been traditionally weak, such as South-East Asia or Central America. A key European institution with an outreach agenda is the International Centre for Theoretical Physics (ICTP) in Trieste, which is supported by the Italian government and UNESCO. They host training programmes for researchers from developing countries. The UK has historically had little involvement in its projects in spite of the fact that Abdus Salaam, the founder of ICTP, was also an initiator of the ideas that led to the founding of the ICMS. With the current weakening of programmatic ties to Europe, the time is right to establish independent connections that create long-term collaborative potential with emerging talents in developing regions of the world.

