

**Rwanda: Sanju Velani, University of York, UK, and Verdiana Masanja,
National University of Rwanda**

General description of partner department.

The Department of Mathematics at the National University of Rwanda has a total of 12 permanent staff, of which two are currently on leave and seven have PhDs. They have interests in Fluid Dynamics, Mathematical Physics, Modelling, PDEs, Numerical Analysis, Group Theory and Wavelet Analysis. It is hoped to set up research groups in Algebra, Functional Analysis and Computational Mathematics. Mentoring and collaboration in these last will form a priority.

Activities

Following a visit to York by Professor Masanja in 2008, the mentor visited Rwanda in March 2010 for a period of 12 days. The visit included a course of lectures on number theory in a broad setting as well as a number of colloquium lectures. The latter focused on the interplay between number theory, dynamical systems, harmonic analysis, fractal geometry and measure theory.

The visit was mostly taken up by an exhaustive series of meetings at all levels to discuss issues such as department infrastructure, library provision and student training. Several causes for concern were raised and discussed, most notably the lack of resources such as journals, books and electronic access to research material. It was also a matter of concern that the pure element of mathematics teaching is weak, with a disproportionate emphasis on applied. A concluding 'action plan' was produced by the mentor, detailed as follows:

- The department should pass on departmental web files to an appropriate central facility in the university. These should include staff profiles, teaching programmes (UG and PG), research activities, links to collaborative universities/bodies etc.
- Ensure that access to and awareness of electronic resources is available to all.
- Streamline both UG and PG programmes to make more time available to staff for research.
- Include research into the workload grid.
- Encourage staff to seek out and supervise more PhD students.
- Develop the 'pure' content of the mathematics programme.
- Hold regular staff meetings in which vision and strategy is explained and shared