

UP receives SARChI Chair in Mathematical Models and Methods in Bioengineering and Biosciences

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Prof Jean Lubuma

The University is proud to be the recipient of the SARChI Chair in Mathematical Models and Methods in Bioengineering and Biosciences. Prof Jean M-S Lubuma, a renowned mathematician who is currently the Head of the Department of Mathematics and Applied Mathematics, will lead this prestigious Research Chair with a budget of R2,5 million per year.

The South African Research Chairs Initiative (SARChI) was established by the South African government as a strategic intervention to reverse brain drain in the public academic and research sector. In particular, the programme aims to increase scientific research capacity through the development of human capacity and stimulate the generation of new knowledge.

Although mathematics has long been intertwined with the biological sciences, an explosive synergy between biology and mathematics has been happening for the past few decades, which has contributed greatly to the enrichment and extension of both fields. As JE Cohen, a mathematical biologist said, 'Mathematics is biology's next microscope, only better; biology is mathematics' next physics, only better.'

'The Department of Mathematics and Applied Mathematics started getting closely involved with the previous UP School for Biological Sciences in 2007,' explains Prof Lubuma. He adds, 'The milestones in research activities we conducted since then include the 2008 and 2010 workshops on mathematical epidemiology, as well as the launch in 2011 of the Biomath Forum, an interdisciplinary research gathering for the exchange of ideas between mathematicians and biologists at the University.'

The research focus of this Chair lies at the intersection of mathematical modelling of biological processes and a spectrum of mathematical specialisations, broadly located within analysis. 'The biological processes to be considered within the Chair are highly relevant to the needs of the country,' says Prof Lubuma. These include mathematical epidemiology, specifically the identification of adequate responses to new diseases and to old forms of new diseases such as HIV/Aids and other communicable diseases that pose a massive threat to development of South Africa and beyond. He went on saying that 'this SARChI Chair offers opportunities for collaboration with some of our Institutional Research Themes and Faculty Research Themes and will contribute to the implementation of UP strategic plan and vision for 2025 of being a leading research-intensive university in Africa.'

Another interesting initiative that will be created within this Chair is the Under-Twenty Mathematicians (UTM) programme. This programme is aimed at identifying, recruiting and grooming talented young South African citizens to become mathematicians, a category that dominates the national scarce-skills list. The target audience is Olympiad winners and top undergraduate students in Mathematics.

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