

Vice-Chancellor's Research Award

The purpose of the Vice-Chancellor's Research Award is to stimulate research and research-related scholarly activities by acknowledging and rewarding a quite exceptional worker, who has been engaged in research and more general scholarly activity at the University over a sustained period of years. The Award is made annually, in response to an application process open to all full-time Wits academics between the ages of 43 and 65.

The adjudication of the award is conducted by the Fellowships Committee, under the chairmanship of the myself, the Deputy Vice Chancellor responsible for Research. Any member of the committee will attest to how difficult the selection process is, given the calibre of applicant the Award attracts. Indeed some past winners had to apply several times before being successful.

The 2016 process was no easier. In the end, the Committee made the award to Professor Ebrahim Momoniat, from the School of Computer Science and Applied Mathematics.

Professor Momoniat arrived at the University as an undergraduate student in 1990 and remained here as a student until the completion of his PhD in 1999, joining the staff along the way in 1994. In 2011 he was appointed Head of the School of Computational and Applied Mathematics and in 2016 he became the Assistant Dean for Research. He is also the Deputy Director of the DST/NRF Centre of Excellence in the Mathematical and Statistical Sciences.

His research interests lie in several areas, with differential equations that model thin film fluid flow at the centre of these interests. The differential equations that model these flows are highly nonlinear, degenerate and require special analytical and numerical methods for their solution. In addition to symmetry methods, he has investigated numerical methods that solve these problems. Thin film flows are important in industrial and medical applications. In industrial applications, thin film flows are important in coating surfaces. In medical applications, thin film flows are important in the mathematical modelling of a thin layer of mucus in the lungs. The intention with his research is not just to derive and solve equations, but to understand the interplay between the mathematics and the underlying physics driving the thin film flow.

Professor Momoniat's referees in the application process were entirely laudatory, pointing out that he is "an international leader in the field of symmetry analysis applied to nonlinear ordinary and partial differential equations." One remarked that "in spite of the heavy administrative load that Prof Momoniat carries, he has continued to publish in high impact journals in areas of current interest in the field of symmetry analysis, differential equations and fluid dynamics. This is to be commended."

Indeed Professor Momoniat's contribution to many facets of University life is to be commended and he is a worthy winner of the 2016 Vice-Chancellor's Research Award.