



Operations Research Society of South Africa



Category IV Recognition Award

(To an upcoming member of ORSSA
of age 35 or below for excellence
in operations research practice)

Sheetal Prakash Silal

Citation. *By Jan van Vuuren, on behalf of the Executive Committee of ORSSA.*

In 2002, Sheetal Prakash Silal enrolled for a bachelor's degree in actuarial science at the *University of Cape Town* (UCT). After obtaining this degree in 2006, she was appointed as junior research fellow in the School of Public Health and Family Medicines at UCT, and simultaneously enrolled for a master's degree in statistical sciences at the same institution. She obtained this master's degree in 2009 based on a thesis titled *A simulation model of antimalarial drug resistance*. Thereafter, she joined the Department of Statistical Sciences at UCT as a lecturer in 2010, obtaining her PhD there in 2014 based on a thesis titled *A Mathematical modelling approach for the elimination of malaria in Mpumalanga*. This year she was promoted to senior lecturer in the Department of Statistical Sciences at UCT where she also heads the Modelling & Simulation Hub, Africa.

Dr Silal's research interests centre on disease modelling. Her mathematical models involve an impressive range of phenomena, from the very small (such as, for example, disease transmission at the cellular level) to the very large (such as, for example, population migration), and encompass physical, economic, and social processes that vary both spatially and temporally. In short, her work is highly complex and of considerable consequence to the many people affected by Malaria.

Sheetal has truly excelled as a young academic. She has an *h*-index of 8 and has published twelve papers in peer-reviewed journals since 2014. This includes a paper published in *Nature*, arguably the world's most prestigious scientific journal (with an impact factor of no less than 42) — she may well be the first ORSSA member to achieve this distinction! She is actively involved in high-level intercontinental collaboration through the Tropical Diseases Modelling Network, the American Society of Tropical Medicine and Hygiene, and a recent Asia-Pacific project on malaria elimination in that region. She has this year, in fact, been appointed as honorary visiting research fellow in tropical disease modelling at the University of Oxford.

Her achievements are all the more impressive in view of her substantial teaching and administrative responsibilities. Dr Silal has taught a range of undergraduate and postgraduate statistics and operations research courses at UCT since 2010. She has supervised 7 honours students to the successful completion of their year projects, and she currently supervises 2 master's students as well as 3 doctoral students. In these capacities she is making a meaningful contribution to the training and nurturing of a new generation of statisticians and operations researchers. She is very active in departmental and faculty administration (managing the website and social media of the Department of Statistical Sciences at UCT and co-ordinating open days for the department).

Sheetal is well known in the local operations research community. She is a member of both ORSSA and the Statistical Association of South Africa, and regularly attends the annual ORSSA conferences where she presents her research. In 2016, she won the Tom Rozwadowski Medal for her excellent paper titled *Hitting a moving target: A model for Malaria elimination in the presence of population movement*. She was also an invited plenary speaker at the 2015 OR Practice in Africa Conference, held in Algeria.

In recognition of her high-calibre research as well as her excellent service rendered to the local profession of operations research in general in her capacity as lecturer and mentor of a new generation of operations researchers, Sheetal Prakash Silal is, on this 12th day of September 2017, duly awarded a Category IV ORSSA Recognition Award. I call on the President to confer the award.