

PROFILE

Sina Greenwood



A few months after her family migrated from Samoa, Sina Greenwood was born in Whanganui. The family remained in Whanganui for about nine years before moving to Auckland. On completing her BSc degree from the University of Auckland she worked in Canberra for a couple of years then followed a short stint of secondary teaching at Avondale College, Auckland.

Sina returned to studies, and her MSc with First Class Honours was followed by a PhD in Topology with David McIntyre and me. Some of her time as a PhD student was also spent as a research assistant for me and as a temporary lecturer in the Auckland Mathematics Department. By 1999 she had completed her PhD thesis and graduated as the first PhD graduate in Topology from the University of Auckland, <https://genealogy.math.ndsu.nodak.edu/id.php?id=29542>. Actually she was first equal: amazingly there were three other PhD graduates in Topology at the University who graduated at the same ceremony as Sina: Jiling Cao, Abdul Mohamad and Tsukasa Yashiro.

Sina's temporary lectureship was followed by a New Zealand Science and Technology Post-Doctoral Fellowship 2001–2004 at the end of which she was appointed as a permanent lecturer in the Department of Mathematics¹. Since then she has risen through the ranks and is now an Associate Professor.

Sina's PhD thesis involved studies in Set-Theoretic Topology, with a large part of it devoted to the construction of a non-metrisable manifold from a particular type of uncountable tree. She has maintained her interest in huge manifolds while branching out to topological connections with Analysis. However her most recent interests have turned towards Dynamics and Generalised Inverse Limits where she has built up significant international collaborations and pushed the boundaries of research to the point where the Marsden Council awarded her a three year grant late in 2018. We can expect many more great outcomes from her work especially in these two areas over the next few years as her visits to collaborators and their visits to Auckland intensify.

On a personal note, as Sina's most frequent co-author and vice-versa, I would like to record what a pleasure it has been to undertake joint research with her, to marvel at her insight and tenacity as we work towards our goal. Does she ever turn off completely? Maybe not. I recall her morning announcement of an answer to a problem that had been hassling us for some time, even the previous evening, when we were at a conference in North Bay, Canada. Shift to a conference in Longyearbyen, Svalbard, where Post-Doctoral Fellow Greenwood was sipping her morning coffee while a bunch of more established topologists were grappling nearby with a challenging problem involving imposing a compact Hausdorff topology on a given set so that a given self-function on the set is continuous. Sina happened to hear some of their frustration, solved the problem while still making her way through her coffee and showed them how to overcome their obstacle before the next round of conference talks began. So began a successful venture into Topological Dynamics that continues to this day.

¹Curiously her PDF ran for one day short of three years, so Sina must have the almost unique distinction of starting her permanent position on 29th of February. Someone must have overlooked that 2004 was a leap year!

Sina has also been a very successful teacher. Some of her innovations have even been adopted by others unaware of who started it all. One of her special teaching innovations is an adaptation of a method of teaching used by Robert Lee Moore and involving active participation, including presentations, by students in the development of mathematical ideas. She has developed successful courses, especially in Topology and Logic & Set Theory, and I have had the privilege of lecturing using her clearly presented Logic notes.

As a Samoan Sina has had a major role in helping establish and run programmes to help Pasifika students have a more successful life of studies. She was the driver behind the establishment of systems in the Mathematics and Statistics Departments then later her ideas spread across the University. She has served both as an ordinary member and as chair on a number of University committees aimed at enhancing the University experience of Pasifika (and Maori) students. Currently she is Associate Dean Pacific for the Faculty of Science.

She has received Faculty and University awards for sustained excellence in her promotion of equity and was the driving force behind activities that led to the Mathematics Department as a whole receiving a special award from the University. Appropriately she was elected a Fellow of the New Zealand Mathematical Society in 2018.

David Gauld