

PROFILE

Rua Murray



Professor Rua Murray is a long standing staff member of the School of Mathematics and Statistics, University of Canterbury. He has made outstanding contributions in his research specialty of Dynamical Systems, in teaching, and in service to the School, the University, and the mathematics community. He is presently seconded to the Faculty of Engineering as an Associate Dean (Academic).

Rua completed a first class Honours degree in mathematics at the University of Canterbury in 1993. He was cowinner of the Cook Memorial Prize for the highest achieving Mathematics Student in that year. He then received a Cambridge Commonwealth Trust Prince of Wales Scholarship to undertake PhD study at Cambridge. He completed his thesis at the Statistical Laboratory (DPMMS) in 1997 under the supervision of Colin Sparrow. He then proceeded to a temporary lectureship at University College London and a postdoctoral fellowship at the University of Victoria, Canada. In 1999 he returned to New Zealand as a lecturer at the University of Waikato. We grabbed him away to Canterbury in 2007.

Rua has made many contributions to the theory and application of dynamical systems. A particular emphasis of his work is the approximation of invariant densities and measures, and parameter identification. Long term collaborators include Chris Bose of the University of Victoria, British Columbia and Gary Froyland of the University of New South Wales. Much of his recent work has an interdisciplinary with publications reflecting successful collaborations on problems in mathematical physiology, ecology, energy and transport, biomedical and other engineering.

Rua is an outstanding teacher. He appeals to both the very talented and the less talented students. His appeal is not at the expense of content. Rather the concepts are explained so well that the content appeals to almost all. He teaches at all levels giving final honours year courses on a variety of subjects including Dynamical Systems, Hilbert Spaces, Functional Analysis, etc. and also frequently being the leader, or a member, of teams teaching our large 600+ student engineering mathematics courses. In this he does not shirk the time consuming, but essential, grunt work of producing beautifully structured and absolutely correct notes, problem and solution sets. It was my good fortune to inherit a set of Rua's latex notes for a third year complex variable course. They were essentially error free, and served me extremely well, being pitched almost perfectly for the audience. I did make some changes but these were not due to necessity, but rather to my particular preferences as to the best approach to some concepts.

Rua's outstanding teaching has been recognised both within and outside the university. In 2021 he was awarded the University of Canterbury Teaching Medal. At most one of these medals is awarded each year, and it is sometimes not awarded. In 2013 he was awarded an Ako Aotearoa Teaching Excellence Award. Up to ten of these are awarded each year across all disciplines, and across the entire tertiary sector, including all Universities and Polytechnics. When other departments, such as Economics or Chemical Engineering, want our School to contribute to a course they will often stipulate that Rua be mathematician involved.

Rua has undertaken a huge amount of work for the Mathematics Community. He was co-director of the 300+ participant 7th joint Australia-New Zealand Mathematics Convention, held at Canterbury in December 2008.

He has organised or co-organised numerous other conferences including two other New Zealand Mathematics Colloquia. He has served on the Council of the New Zealand Mathematics Society for three, three year terms. In one term serving as Secretary and in another as Treasurer. He is currently a member of the education subgroup of the NZMS, giving advice to the ministry aimed at improving mathematics education in schools.

Both the University of Canterbury and the New Zealand Mathematical Community have been extremely fortunate to have Rua as a member. Personally it is a tremendous pleasure to have Rua as a colleague and a friend.

Rick Beatson