Ergodic Theory and its Applications
University of Sydney
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The focus of this conference was to explore the interactions between Ergodic Theory and Number Theory, Ramsey Theory, Diophantine Approximation, Fractal Geometry and Random Walks.

Dr Lawrence Reeves, University of Melbourne

The meeting gathered together local and international researchers of the highest world level in areas of mathematics closely related to Ergodic Theory. It gave an opportunity to Australian students to share their ideas with experts coming from other Australian and International universities. There is a large community of researchers in Australia employing dynamical methods in solving various problems in pure and applied mathematics. The meeting created a unique opportunity to learn about recent applications of the dynamical approach in Number Theory, Geometric Group Theory, Ramsey Theory, and Representation Theory.

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The conference attracted international renowned mathematicians for the first time to visit Australia. The interpersonal contacts between local and international mathematicians will be preserved and the Australian mathematical community will benefit from them in the long run. Also, postgraduate students from Australia took part in the conference and I believe this event will give a positive feedback to local students to pursue academic careers in mathematics in general, and in Ergodic Theory and related fields in particular.

New results have been announced. These results have not yet appeared in print and/or electronically, and it gave a big push to the local mathematicians. For example, Shahar Mozes's talk grabbed a lot of attention of number theorists. The results of Einsiedler-Mozes are number theoretic, but they use a dynamical approach. It looks plausible that some quantitative analogues of these results can been proved analytically. Substantial progress has been made in projects of Hussain (Newcastle) and Simmons. Another project that has been initiated during the conference is joint work between Fish (Sydney) and Bjorklund.

Website: http://www.maths.usyd.edu.au/u/afish/ET2016_files/index.html.

Keynote Speakers

Michael Cowling	Matrix coefficients of semi-simple Lie groups over reals and p-adics
Nikos Frantzikinakis	Multiple correlation sequences, nilsequences, and arithmetic sequences
Alexander Gorodnik	Distribution of rational points and ergodic theory
Shahar Mozes	Divisibility properties of higher rank lattices