

Department of Mathematics
Programme of the Student Research Conference
(Tuesday, 3 of November, MLT2/303-102)

8:45 **Opening address of the Conference**

Session 1, chaired by Sione Ma'u

- 8:48 **Marcos Orseli**, *A transverse index theorem for toric contact manifolds*,
PhD, Pedram Hekmati
- 9:04 **Olivia Sorto**, *Generalising Einstein*, PhD, Pedram Hekmati
- 9:20 **Xavier Coulter**, *Hurwitz numbers and the semi-infinite wedge*,
BSc Hon, Pedram Hekmati
- 9:36 **Elizabeth Jagersma**, *Analytic Torsion and the Cheeger-Müller Theorem*,
MSc, Pedram Hekmati
- 9:52 **Simon Goodwin**, *Hypersurfaces and the Second Fundamental Form in
Projective Differential Geometry*, BSc Hon, Rod Gover
- 10:08 **Winston Su**, *Generalised inverse limits*, PhD, Sina Greenwood
- 10:24 **Alvaro Menendez Calzada**, *Dimension of generalised inverse limits*,
PhD, Sina Greenwood

10:40 **Morning tea** Served on the first floor

Session 2, chaired by Shixiao Wang

- 11:00 **Henry Chen**, *Mathematical billiards in quadrilaterals*, BSc Hon, Hinke Osinga
- 11:16 **Dana Contreras Julio**, *Wild chaos, blenders and heterodimensional connections*
PhD, Hinke Osinga and Bernd Krauskopf
- 11:32 **Rodrigues Bitha**, *Dissipative chaos in a Kerr coupled ring resonator of
counter-propagating light with spontaneous symmetry-breaking?*
PhD, Neil Broderick and Bernd Krauskopf
- 11:48 **Nelson Wong**, *Connections between saddle periodic orbits as organising centres of
complicated dynamics*, PhD, Bernd Krauskopf and Hinke Osinga
- 12:04 **Ravindra Bandara**, *Infinitely many multi-hump solitons in a waveguide
with quartic dispersion* PhD, Bernd Krauskopf and Neil Broderick

12:20 **Lunch** Served on the first floor

Session 3, chaired by Arkadii Slinko

- 13:00 **Georgina Liversidge**, *Coset graph labelling*, PhD, Marston Conder
- 13:16 **Anna Inae Jeong**, *Hamiltonian circuits in circulant directed graphs*,
PhD, Gabriel Verret
- 13:32 **Harris Leung**, *Patterns in sets of positive density*, PhD, Jeroen Schillewaert
- 13:48 **Samuel Dobson**, *Accumulators and Hidden Order Groups in Cryptography*,
PhD, Steven Galbraith
- 4:04 **Songbao Mo**, *Ideal Hierarchical Access Structures and Lattice Path Matroids*,
PhD, Arkadii Slinko
- 14:20 **Guanhao Li**, *Maximal peak-pit domains on four alternatives*, PhD, Arkadii Slinko

14:36 **Afternoon tea** Served on the first floor

Session 4, chaired by Tanya Evans

- 15:00 **Valerie Jeong**, *A heteroclinic cycle as a controller in an evolutionary robotics task*,
PhD, Claire Postlethwaite and Matthew Egbert
- 15:16 **Gray Manicom**, *What are we doing?* PhD, Claire Postlethwaite and Vivien Kirk
- 15:32 **M. Riley Knoedler**, *Simulating nectarivorous avian foraging behavior*

- and pollen dispersal in New Zealand*, MSc, Claire Postlethwaite
- 15:48 **Aidan Mason-Mackay**, *Microwave Imaging Using Adaptive Eigenspace Inversion*,
BSc Hon, Marie Graff
- 16:04 **Doyong Um**, *On the singularities of the discrete KdV equation*,
Post-Dip, Ralph Willox
- 16:20 **Jo Knox**, *How can we tell if learners are seeing the general in the particular?:
Discursive markers of generic example-use*, PhD, Igor' Kontorovich, Carolina Yoon
and Fiona Ell
- 16:36 **Kaitlin Riegel**, *Development of an assessment self-efficacy (ASE) scale*,
PhD, Tanya Evans, Jason Stephens, Igor' Kontorovich
- 17:00 **Drinks and nibbles. Announcement of prizes!** Served on the 4th floor hall.