Robert Marangell

Contact Details

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citizenship / work status:	United States citizen, Australian permanent residency
DOB:	1 April, 1981

Employment

Feb 2013 - Present	**Lecturer – University of Sydney**
Sept 2011 - Feb 2013	**Research Associate – University of Sydney**
July 2010 - June 2011	**Postdoctoral Fellow – UNC Chapel Hill**
Sept 2008 - June 2010:	**Research and Postdoctoral Fellow** **The University of Warwick and UNC Chapel Hill**

Education

August 2003 - May 2008:	**The University of North Carolina at Chapel Hill** Ph.D Mathematics
August 1999 - May 2003:	**Cornell University** – BA Mathematics - *magna cum laude*

Honors and Awards

- Miller's Fund Recipient: University of Missouri. Dec 2015.
- Strategic Funds Initiative Recipient: School of Mathematics and statistics. Dec 2015.
- Faculty of Science Overseas Conference And Research Visit Support Scheme. July 2015.
- Co-Host: University of Sydney International Collaboration Award Jan 2014. With P.D Miller and S. Olver.
- London Mathematical Society working in pairs grant. *Spectral Shooting with Shubert Calculus. Ref:41009.* Nov 2011. With Simon Malham and Veerle Ledoux
- Edinburgh Mathematical Society visiting scholars grant. *Spectral Shooting with Shubert Calculus.* Nov 2011. With Simon Malham and Veerle Ledoux
- Graduate Assistantship in Areas of National Need (GAANN) fellowship: Aug-Dec 2007, and Jan-Jul 2005

Publications and Preprints

- *Stability of Travelling Waves in a Wolbachia Invasion.* In Prep. With M. H. Chan and P. S. Kim.
- *Instability of Equilibria for the 2D Euler Equations on the torus.* 27 pages. Submitted. With H. R. Dullin and J. Worthington.
- *On the Spectral and Modulational Stability of Periodic Wavetrains for nonlinear Klein-Gordon Equations.* To appear in the Bulletin of the Brazilian Mathematical Society. 9 pages. With C.K.R.T. Jones, P.D. Miller and R. G. Plaza. (2016).
- *Dynamical Hamiltonian-Hopf instabilities of periodic traveling waves in Klein-Gordon equations.* Physica D: Nonlinear Phenomena. **308** pp 87–93. With P.D. Miller. (2015).
- *Numerical computation of an Evans function for travelling waves.* Mathematical Biosciences. **266**. pp 36–51. With K.E. Harley, P. v Heijster, G.J. Pettet and M. Wechselberger. (2015).
- *Novel solutions for a model of wound healing angiogenesis.* Nonlinearity. **27** pp. 2975-3003. With K. Harley, P. v Heijster, G.J. Pettet and M. Wechselberger. (2014).
- *Spectral and Modulational Stability of Periodic Wavetrains for the Nonlinear Klein-Gordon Equation.* Journal of Differential Equations. **257** pp 4632-4703. DOI 10.1016/j.jde.2014.09.004 With C.K.R.T. Jones, P.D. Miller and R. G. Plaza. (2014).
- *An Instability criterion for standing waves on nonzero backgrounds.* J Nonlinear Science. **24** (6) pp. 1177-1196. DOI 10.1007/s00332-01409215-8. With R.K. Jackson and H. Susanto. (2014).
- *Existence of travelling wave solutions for a model of tumour invasion.* SIAM Journal of Applied Dynamical Systems (SIADS) **13** (1) pp 366–396. With K.E. Harley, P. v Heijster, G. Pettet and M. Wechselberger. (2014).
- *On the stability analysis of periodic sine-Gordon traveling waves.* Physica D: Nonlinear Phenomena. **251** pp. 63–74. With C.K.R.T. Jones, P.D. Miller, and R. Plaza. (2013).
- *The Morse and Maslov index for matrix Hill's equations.* Proceedings of Symposia in Pure Mathematics. **87**. pp. 205–233. With C.K.R.T. Jones and Y. Latushkin. (2013).
- *Unstable gap solitons in inhomogeneous nonlinear Schrödinger equations.* Journal of Differential Equations **253** (4) pp. 1191-1205. With C.K.R.T. Jones and H. Susanto. (2012).
- *The spectrum of traveling wave solutions to the sine-Gordon Equation.* Discrete and Continuos Dynamical Systems - Series S. (**5**) pp. 925–937. With C.K.R.T. Jones. (2012).
- *Localized standing waves in inhomogeneous Schrödinger equations.* Nonlinearity **23** (9) pp 2059-2080. With C.K.R.T. Jones and H. Susanto. (2010).
- *The general quadruple point formula.* The American Journal of Mathematics **132** 4. pp. 867–896. With R. Rimányi.(2010).

Teaching Experience

Additional Qualifications

Foundations of Research Supervision.
The University of Sydney. Institute for Teaching and Learning, 2013.
Principles and Practices of University Teaching and Learning.
The University of Sydney. Institute for Teaching and Learning, 2011.

Courses Taught

The University of Sydney

Semester 1 2016	Math 3963 Nonlinear ODEs with Applications (Advanced)
Semester 2 2015	Math 1003 Integral Calculus
Semester 1 2015	Math 3963 Differential Equations and Biomathematics (Advanced)
	Math 2916 Working Seminar A: Nonlinear Dynamics, Chaos and Fractals
Semester 2 2014	Math 1003 Integral Calculus
Semester 1 2013	Math 3963 Differential Equations and Biomathematics (Advanced)
Semester 1 2012	Math 1001 Differential Calculus

UNC Chapel Hill

Semester 2 2010	MA 547 Linear Algebra for Applications
	MA 067 Math and Climate Change
Summer 2009	MA 383 Introduction to Ordinary Differential Equations
Semester 2 2009	MA 383 Introduction to Ordinary Differential Equations
Summer 2008	MA 381 Discrete Mathematics
Semester 2 2008	MA 231 Calculus I
	MA 092 Graduate Teaching Seminar
Summer 2007	MA 232 Calculus II
Semester 1 2007	MA 092 Graduate Teaching Seminar
Semester 1 2006	MA 231 Calculus I
Summer 2006	MA 031 Calculus I
Semester 1 2005	MA 032 Calculus II (2 sections)
Semester 1 2004	MA 010 College Algebra
Semester 2 2004	MA 010 College Algebra II

Service

Applied Mathematics Honours (4th Year) coordinator 2013 - present
Course Supervisor Math 1003 2014.
Co-organizer NSW–ACT ANZIAM meeting Sydney 2014
Organiser Minisymposium "Topological Methods in Applied PDEs" at AustMS 2013

Supervision

Current Students

Paige Davis	Associate PhD Supervisor (QUT)
Nathan Duignan	Associate PhD Supervisor
Matthew Nolan	Associate PhD Supervisor
Kerry-Lyn Roberts	Associate PhD Supervisor
Andrew Swan	Associate PhD Supervisor
Ishraq Uddin	Associate PhD Supervisor
Joachim Worthington	Associate PhD Supervisor

Past Students

Paddy Gidney	AMSI Vacation Scholar (2015)
Paige Davis	Honours Supervisor (2014)
James Diaz	Honours Supervisor (2014)