Report of President 2011/2012 - School of Mathematical Sciences

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Books

Dr Marius Ghergu


Book Chapters

Professor Thomas Murphy


Peer Reviewed Journals

Dr Pierre Alquier


Dr Fiona Boland


Ursula Rajtak, Fiona Boland, Nola Leonard, Declan Bolton and Séamus Fanning; (2011) 'The role of diet and acid tolerance response on the survival of common Salmonella serotypes in faeces of finishing pigs'. Applied and Environmental Microbiology.

Dr Christopher Boyd


Dr Miguel Bustamante

**Dr Eimear Byrne**

Eimear Byrne, Marcus Greferath, Jaume Pernas and Jens Zumbrägel (2012) 'Algebraic decoding of negacyclic codes over Z4'. *Designs Codes and Cryptography*.

E. Byrne, M. Kiermaier, A. Sneyd; (2012) 'Properties of Codes With Two Homogeneous Weights'. *Finite Fields and Their Applications*.


**Dr Marc Casals**


**Dr Norma Coffey**

Byrne, M., Newell, J., Coffey, N., O'Hara, M. C., Cooke, D. and Dineen, S.F. (2012) 'Predictors of quality of life gains among people with type 1 diabetes participating in the Dose Adjustment for Normal Eating (DAFNE) structured education programme'. *Diabetes Research and Clinical Practice*.


**Professor Frederic Dias**

Kibler, B; Fatome, J; Finot, C; Millot, G; Genty, G; Wetzel, B; Akhmediev, N; Dias, F; Dudley, JM (2012) 'Observation of Kuznetsov-Ma soliton dynamics in optical fibre'. *Scientific Reports*, 2 .


Elbaz, D; Jourdan, G; Houas, L; Jaouen, S; Ballereau, P; Dias, F; Canaud, B (2012) 'Shock velocity increase due to an heterogeneity produced by a two-gas layer'. *Physical Review E*.


Sarri, A; Guillas, S; Dias, F (2012) 'Statistical emulation of a tsunami model for sensitivity analysis and uncertainty quantification'. *Natural Hazards and Earth System*
**Sciences**, 12.

Dutykh, D; Gardeil, X; Dias, F (2012) 'On the use of the finite fault solution for tsunami generation problems'. *Theoretical And Computational Fluid Dynamics*, 26.

**Professor Nial Friel**


J. Wyse, N. Friel and H. Rue; (2011)'Approximate simulation free multiple changepoint analysis with Gaussian Markov random field segment models (with discussion)'.


**Professor Stephen Gardiner**


**Dr Marius Ghergu**


**Dr Faruk Gologlu**

Gologlu, F; Lisonek, P; McGuire, G; Moloney, R (2012) 'Binary Kloosterman sums modulo 128 and coefficients of the characteristic polynomial'. *IEEE Transactions on Information Theory*.


**Dr. Robert Granger**


**Mr Philipp Hoffmann**


**Dr Gabrielle E Kelly**

M Dover, H Marafi, G Kelly, JF Quinlan (2012) 'Fasciotomy after acute compartment syndrome; Perioperative course and long-term sequelae of the procedure'. *Journal of Orthopaedic Surgery*.


**Dr Rupert Levene**


**Professor Peter Lynch**


**Ms Myrto Manolaki**


**Professor Gary McGuire**

McGuire, Gary; Zaytsev, Alexey (2012) 'The number of rational points on hyperelliptic supersingular curves of genus 4 in characteristic 2'. *Finite Fields and Their Applications*.

Göloğlu, Faruk; Lisoněk, Petr; McGuire, Gary; Moloney, Richard (2012) 'Binary
Kloosterman sums modulo 256 and coefficients of the characteristic polynomial. *IEEE Transactions on Information Theory*.

McGuire, Gary (2012) 'An alternative proof of a result on the weight divisibility of a cyclic code using supersingular curves'. *Finite Fields and Their Applications*.


Langevin, Philippe; Leander, Gregor; McGuire, Gary; Zălinescu, Eugen (2011) 'Analysis of Kasami-Welch functions in odd dimension using Stickelberger's theorem'. *Journal of Combinatorics and Number Theory*.


Bracken, Carl; Byrne, Eimear; Markin, Nadya; McGuire, Gary (2011) 'A few more quadratic APN functions'. *Cryptography and Communications - Discrete Structures, Boolean Functions and Sequences*.

**Dr Patrick Murphy**

Murphy, P and Burke, P; (2011) 'Regional Variation of Seasonal Correction Factors for Indoor Radon Levels'. *Radiation Measurements*, 46 (10):1168-1172.

**Professor Thomas Murphy**


**Dr Adrian O'Hagan**


**Dr James O'Shea**

O'Shea, J; (2012) 'Isotropy over function fields of Pfister forms'. *Journal of Algebra*, 361
Professor Adrian Ottewill


Dr Andrew Parnell


Dr. Brenda Quinn


Dr Hermann Render


Dr Emiliano Renzi


Dr Richard Smith


Dr Nina Snigireva

Hille, Martial; Snigireva, Nina (2012) 'Teichmuller space for iterated function systems'.

*Conformal Geometry and Dynamics*, 16 :132-160.

Bisbas, Antonis; Snigireva, Nina (2012) 'Divergence points and normal numbers'.


Dr Conor Sweeney


Dr Thomas Unger

Unger, T. and Markin, N.; (2011) 'Quadratic forms and space-time block codes from generalized quaternion and biquaternion algebras'. *IEEE Transactions on Information Theory*, 57 (9):6148-6156.

Dr Niels Warburton

Warburton, N; Akcay, S; Barack, L; Gair, J; Sago, N (2012) 'Evolution of inspiral orbits around a Schwarzschild black hole'. *Phys Rev D*, 85 (6).

Dr Jens Zumbragel


Dr Lennon Ó'Náraigh


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Other Journals

**Professor Thomas Murphy**

Conference Publications

**Professor Frederic Dias**


SCHMITT, P; BOURDIER, S; SARKAR, D; RENZI, E; DIAS, F; DOHERTY, K; WHITTAKER, T; VAN’T HOFF, J (2012) Hydrodynamic loading on a bottom hinged oscillating wave surge converter *Proceedings of the 22nd International Ocean and Polar Engineering Conference, ISOPE12*, 550 - 557

Renzi, E; Dias, F (2012) Resonant scattering by an array of thin plates for wave energy extraction *Proceedings of the IWWWFB27*, 157 - 160

**Professor Nial Friel**


**Mr Damien McParland**


**Dr Maria Meehan**


**Professor Thomas Murphy**


Dr Emiliano Renzi


O’Brien, L; Christodoulides, P; Renzi, E; Dutykh, D; Dias, F (2012) The force of a tsunami on a wave energy converter *Proceedings of the 22nd International Ocean and Polar Engineering Conference, ISOPE12*, 538 - 544

Schmitt, P; Bourdier, S; Sarkar, D; Renzi, E; Dias, F; Doherty, K; Whittaker, T; Van’t Hoff, J (2012) Hydrodynamic loading on a bottom hinged oscillating wave surge converter *Proceedings of the 22nd International Ocean and Polar Engineering Conference, ISOPE12*, 550 - 557

Renzi, E; Dias, F (2012) Resonant scattering by an array of thin plates for wave energy extraction *Proceedings of the IWWFB27*, 157 - 160

Dr Jens Zumbragel


Other Publications

Dr Pierre Alquier


Dr Michael Mackey


Professor Thomas Murphy