Project Presentations, 21 February 2013 – Overview

All talks will take place between 11.15am and 3.45pm in Áras de Brún and the Alexander Anderson Boardroom (QA113) in the Quadrangle. Everybody is welcome, and encouraged, to *attend* as *many talks* as they like. Speaking to no audience is no fun.

The schedule is pretty tight and lecturers will have to move between rooms, so it is important to **be punctual**.

Students should be present, at least, at the talks before and after their own. Speakers should **talk for 10min** in order to allow for questions and transition between speakers.

	ADB-1020		ADB-1019		QA113	
11.15	P. McCaul	CR/DF	S. Curley	CS/TD	S. Mannion	AK/CT
11.30	E. Logue	DF/MT	D. Molloy	CS/EH	M. Bailey	CT/SR
11.45	M. Neely	DOR/MT	D. Maher	AMcC/EH	K. Keenan	AK/CT
12.00	J. Gallagher	AMcC/DOR	B. Dunne	JC/MMcG	M. Carroll	AK/SR
12.15	L. Burke	DOR/LN	D. O'Connell	CR/JC	P. O'Mahony	MH/SR
12.30	S. Keane	DOR/PP	S. Miley	JC/KJ	T. Hanlon	MH/MK
12.45						
13.00	J. Doherty	MT/RR	K. Redmond	MD/PP	M. Hunt	EH/JS
13.15	P. O'Leary	LN/MT	P. Kelly	CS/MM	C. Doherty	JN/TD
13.30	D. Sheerin	CR/MD	C. Feeney	EH/JS	E. Staunton	NM/RR
13.45	M. Liston	MM/TD	A. Loughnane	JS/MD	D. Flanagan	JN/MK
14.00	C. McGinty	NM/PP	J. White	MM/TD	D. Franklin	MH/RR
14.15	J. Burke	AMcC/KJ	N. O'Keeffe	LN/MM	O. O'Mahony	ES/GP
14.30						
14.45	D. Lenehan	GP/MMcG	W. Garnsworthy	LN/PP	L. Robbins	JW/KJ
15.00	S. Healy	CR/ES	N. Groarke	GP/NM	A. Raftery	AMcC/JW
15.15	M. Kieran	DF/KJ	D. Gavin	JS/MK	D. Jacob	JW/MMcG
15.30			L. Blue	DF/JC	O. McCarthy	ES/JW

To round of the day there will be a **wine reception at 4.30pm in the Staff Club** (south-east corner of Quadrangle) for all project students and supervisors, as well as all staff in the School of Mathematics, Statistics and Applied Mathematics.

Special thanks to Mary, Noelle and Collette in the Office and Jerome in the kitchen for all their help.

Project Presentations in ADB-1020, 21 February 2013

11.15	Paula McCaul	A Survey of the Octonions
11.30	Eimear Logue	The Partition Function
11.45	Matthew Neely	Discrete Opial Inequalities
12.00	Jason Gallagher	Mathematical Induction: the Role of Well-order and of Pedagogy
12.15	Linda Burke	Opial's Inequality
12.30	Stephen Keane	A Study into Generalizations of Opial's Inequality Involving Higher Order Derivatives
12.45		— break —
13.00	Jodie Doherty	An Application of the Monte Carlo Method to a Substitution Cipher Problem
13.15	Patrick O'Leary	The Cause and Effects of Gravitational Lensing
13.30	David Sheerin	Traffic Jams on a Main Road as it Passes Through a Bottleneck
13.45	Michelle M. Liston	Introduction to Applied Maths for Transition Year Students
14.00	Conor McGinty	Simulating Large Random Graphs and Social Networks
14.15	Jessica Burke	Logarithms
14.30		— break —
14.45	Diarmuid Lenehan	Analysis of Restricted Strategies of Quantum Tic-Tac-Toe
15.00	Sarah Healy	A History of Quaternions
15.15	Michael Kieran	The ABC Conjecture
15.30		

4.30pm **Wine reception in the Staff Club** (south-east corner of Quadrangle)

Project Presentations in ADB-1019, 21 February 2013

11.15	Stephen J. Curley	Fibonacci and the Golden Ratio and their Occurrences in Nature with a Focus on the Arabidopsis Thaliana Epidermis and Nicotina Tobacum Epidermis
11.30	Declan Molloy	Cluster Analysis and Applications to Education
11.45	Daniel Maher	Mathematics Education and Real Life Applications: A Statistical Research
12.00	Brian Dunne	The Independent Chip Model
12.15	Damien O'Connell	Regular Polyhedra for Project Math
12.30	Sinead Miley	Complex Numbers, Matrices and Rotations
12.45		— break —
13.00	Kathleen Redmond	Application of the Finite Difference Method to Partial Differential Equations
13.15	Paula Kelly	A Study of Underrepresented and Avoided Strings in Human Introns
13.30	Colin Feeney	Paradoxes in Probability and Statistics
13.45	Adam Loughnane	Chaos: A Mathematical Phenomenon
14.00	James White	Mathematical Modelling of Avascular Tumour Growth
14.15	Niall O'Keeffe	Reaction Diffusion Systems with Diffusion Driven Instability
14.30		— break —
14.45	William Garnsworthy	Computing Sliding Motion in Filippov Systems
15.00	Niall Groarke	Ruby on Rails in Relation to Secure Web applications
15.15	David Gavin	The Kelly Criterion
15.30	Lewy Blue	An Analysis of Minimally Rigid Planar Frameworks

4.30pm **Wine reception in the Staff Club** (south-east corner of Quadrangle)

Project Presentations in QA113, 21 February 2013

11.15	Sean Mannion	The National Debt in Early 18th Century Ireland: Exploring the Fiscal Constitution and Patterns in the Data
11.30	Maureen Bailey	Investigating why Unemployment Reacted Differently During the Great Recession: Sweden -v- Spain
11.45	Kevin Keenan	Determinants of Irish and Spanish Bond Yields
12.00	Martina Carroll	The Financial Crisis from a Repurchase Market Perspective
12.15	Paul O'Mahony	Financial Derivatives
12.30	Thomas Hanlon	Time Series Analysis of the Dow Jones fIndex
12.45		— break —
13.00	Mary Hunt	Probabilistic Misinterpretation of Paradoxes and Coincidences
13.15	Conor Doherty	A Statistical Analysis of the PGA Tour
13.30	Eoghan Staunton	Infinitesimals, Non-standard Analysis and Applications to Finance
13.45	David Flanagan	Application of Bayesian Modelling in Analysis of Experimental Data
14.00	Deborah Franklin	Derivative Pricing
14.15	Olga O'Mahony	Exploring the Symmetries of the Floppy Cube and its Generalisations
14.30		— break —
14.45	Louise Robbins	A Cryptography Module for Transition Year Students
15.00	Aideen Raftery	Egyptian Fractions
15.15	David I. Jacob	Catalan Numbers
15.30	Orla M. McCarthy	Cryptography and its Development from Ancient Times to its Use in World War II

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