

IMS Annual Scientific Meeting 2020

Dublin City University

JANUARY 13TH-15TH

The 33rd annual scientific meeting of the society - the 2020 September meeting - was hosted by the School of Mathematical Sciences, Dublin City University. Due to the disruption to normal academic activity caused by the Covid-19 pandemic, the meeting was held in January 2021 and took place online. The organisers were Brien Nolan and Niamh O'Sullivan, supported by the School administrators, Karen O'Shea and Bernadette Feeney.

Opening welcome remarks were made by Niamh O'Sullivan and by Tom Carroll, the incoming President of the IMS.

The meeting consisted of a mixture of short and long talks on a wide variety of mathematical topics, with speakers from across Ireland and from the UK. Talks took place over three sessions of four talks each, on the afternoons of Wednesday 13th and Thursday 14th January, and on the morning of Friday 15th January. A full list of talks is given below. Acknowledging the contribution of mathematicians to research on the global pandemic, a number of talks were dedicated to epidemiological modelling.

This year's meeting included a competition for research students who were invited to submit a short video recording of a presentation on their research. The submissions were of a very high quality, and the judges (incoming and outgoing IMS presidents Tom Carroll and Pauline Mellon) selected the following as winner and runner-up respectively:

Giuseppe Cotardo (UCC)

- *Tensor Decomposition in Coding Theory.*

Jason Curran (UL)

- *Diffuse Optical Tomography.*

The web page for the meeting, which includes abstracts and slides of presented talks, as well as the submissions to the research student competition, is available at

<https://www.dcu.ie/math/ims-september-meeting-2020>

The organisers are grateful to all who participated in the meeting, and we are especially grateful to our speakers whose lectures were given in the following sequence. The number of participants seems not to have been significantly depleted relative to previous years due to the migration to an online setting. This proved an adequate substitute for a face-to-face meeting, but we will welcome the return to the traditional format at the 2021 meeting due to be jointly hosted by UCC and MTU on 2nd-3rd September.

Wednesday 13th January

Robert Heffernan (MTU/CIT)

- *Cayley's Theorem Revisited: Embeddings of Small Finite Groups.*

Rossen Ivanov (TU Dublin)

- *Mathematical Models for Internal Ocean Waves Interacting with Currents.*

James Gleeson (UL)

- *Differential Equations Modelling and Covid-19.*

Arundhathi Krishnan (University of Waterloo/UCC)

- *Markovianity and the Thompson Monoid F^+ .*

Thursday 14th January

Paul Razafimandimby (DCU)

- *On the Strong Solutions to the 2D Stochastic Ericksen-Leslie System: a Ginzburg-Landau Approximation Approach.*

Áine Byrne (UCD)

- *Elimination Versus Mitigation: What's the Optimal Strategy for Controlling Covid-19?*

Niamh Cahill (MU)

- *A Bayesian Statistical Model for Reconstructing and Analysing Former Sea Levels.*

Déirdre Hollingsworth (University of Oxford)

- *Trade-offs in Covid-19 Interventions.*

Friday 15th January

Merrilyn Goos (UL)

- *Meeting the Challenge of Teaching Mathematics 'Out of Field': the Professional Diploma in Mathematics for Teaching.*

Angela Carnevale (NUIG)

- *Growth in Nilpotent Lie Rings.*

Clifford Gilmore (UCC)

- *Dynamics of Weighted Composition Operators on Fock Spaces.*

Martin Mathieu (QUB)

- *Characterising Jordan Homomorphisms.*

Report by B. Nolan (email: brien.nolan@dcu.ie)