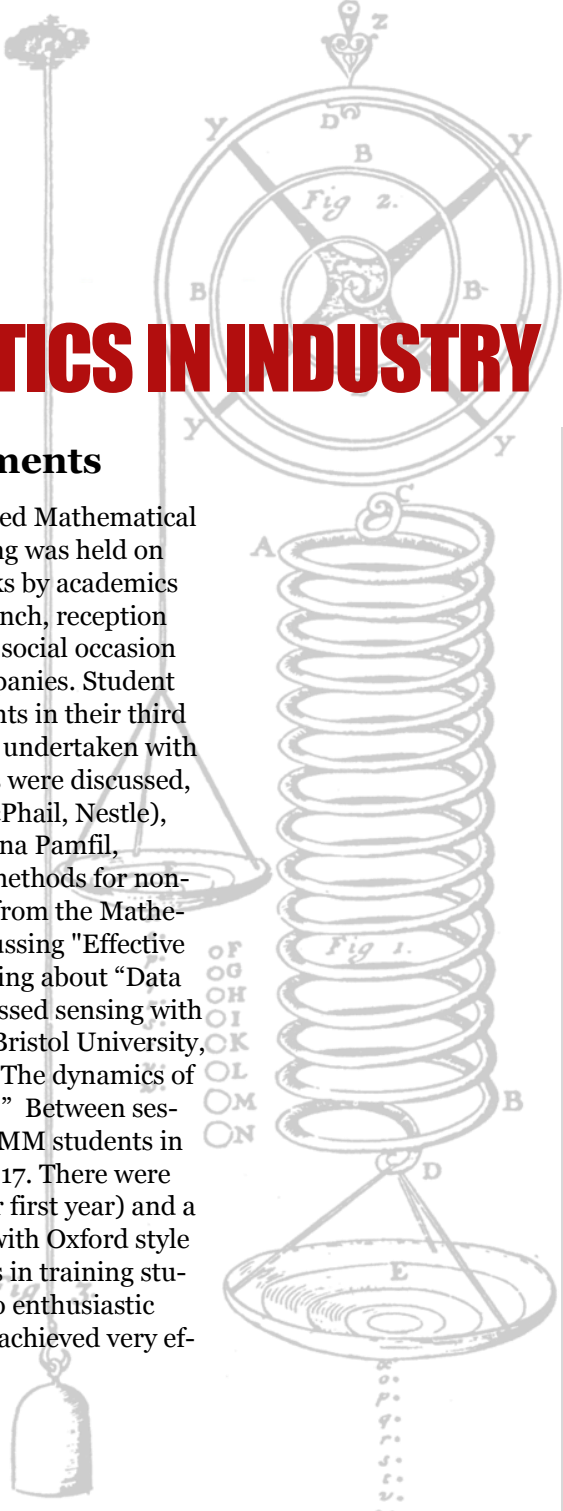


INFOMM showcases students' achievements

A detailed technical drawing of a spring scale, showing a circular dial at the top with various letters (Y, B, D, Z) and a central needle. Below the dial is a coiled spring, and at the bottom is a weighing pan. The drawing is labeled 'Fig 1.' and 'Fig 2.' and includes various letters (A, B, C, D, E) and numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12) indicating different parts of the mechanism.

The EPSRC Centre for Doctoral Training on Industrially Focused Mathematical Modelling is now in its fourth year and its fourth Annual Meeting was held on March 16th at St. Catherine's College. The day consisted of talks by academics and students, a poster display, a keynote lecture, and a lavish lunch, reception and dinner. The meeting was a huge scientific, networking and social occasion attended by 119 people including 36 industrialists from 29 companies. Student talks were given in three parallel sessions by 22 InFoMM students in their third and fourth years of study, who each spoke about research being undertaken with Industrial Partners as part of their DPhil. A vast range of topics were discussed, including "Analysis of the cereal extrusion process" (Michael McPhail, Nestle), "Communities in multilayer product-purchase networks" (Roxana Pamfil, dunnhumby), and "Improving the efficiency of derivative-free methods for non-linear least square problems" (Lindon Roberts, NAG). Faculty from the Mathematical Institute also spoke with Professor Jon Chapman discussing "Effective transport properties on lattices", Dr. Heather Harrington speaking about "Data and Networks" and Professor Jared Tanner talk about "Compressed sensing with expander graphs". The keynote lecture, by Prof Champneys of Bristol University, revealed intricacies of dynamical systems covering the topic of "The dynamics of friction - from earthquakes to rat's whiskers and robotic judder." Between sessions, participants had time to enjoy posters on display by InFoMM students in Cohort 3 who began their DPhil research projects in October 2017. There were also lots of discussions with Cohort 4 students (who are in their first year) and a few Cohort 5 students, for whom this was their first encounter with Oxford style applied maths. The day illustrated how successful this Centre is in training students who are not only doing excellent mathematics but are also enthusiastic about their work and are able to communicate what they have achieved very effectively.

More details [here](#)

CONGRATULATIONS

Alain Goriely has been awarded an **EPSRC Fellowship** for 5 years for this work, 'Multiscale Modelling and mathematical methods for brain development, trauma, and diseases'. There are two new 3 year Post-doctoral Research Assistantships associated with this project. They will be advertised in the Autumn.

Alain Goriely has also been made a Fellow of the Society for Industrial and Applied Mathematics (**SIAM**). Alain is recognised for his "contributions to nonlinear elasticity and theories of biological growth". Alain is Professor of Mathematical Modelling, Director of the OCIAM and Co-Director of the International Brain Mechanics and Trauma Lab (**IBMTL**).

Michael Gomez has been awarded an **EPSRC Doctoral Prize** to continue his work on, "Anomalous dynamics of noisy snap-through" a type of instability in which an elastic object rapidly jumps from one state to another. The aim is to investigate extremely thin membranes, such as atom-thick graphene sheets, where thermal fluctuations interact with snap-through to produce new types of dynamic behaviour that are not well understood.

Graham Benham and **Nabil Fadai** have won a **G-Research PhD Prize** for their work on "Optimal control of diffuser shapes for confined turbulent shear flows" and on "Asymptotic Analysis of a Multiphase Drying Model Motivated by Coffee Bean Roasting", respectively. G-Research, a quantitative finance research company, holds an annual competition for the best research paper and a financial forecasting challenge. Follow them on social media [here](#)

EVENTS

PUBLIC LECTURES

The Hooke Lecture will be delivered by Richard James on, 'Atomistically inspired origami'. **Tuesday 26th June at 6pm** in the Andrew Wiles Building, Mathematical Institute, (L1). Followed by a reception in the common room. To register and for more details click [here](#).

CONFERENCES

Mathematics and Mechanics: Natural Philosophy in the 21st Century. Notable mathematicians will discuss critical problems that arise in the modelling, analysis and predication of material behavior at a conference hosted by OCIAM and Oxford Solid Mechanics (**OSM**) at the Mathematical Institute **Sunday 24th – Wednesday 27th June 2018**. To register and for more details click [here](#)

Oxford Summer School in Economic

Networks, hosted by the Mathematical Institute and the Institute of New Economic Thinking, aims to bring together graduate students from a range of disciplines to learn about the techniques, applications and impact of network theory in economics and development. **25th -29th June**. To register and for more details click [here](#).

Sam Howison's 60th Birthday workshop.

Sam Howison has been a member of OCIAM since its inception in 1989 and was OCIAM Director from 2003 – 2009. To celebrate Sam Howison's Birthday there will be a workshop in the Mathematical Institute on **June 27th - 28th**. The talks will reflect Sam's broad interests in Applied Mathematics. Details are available on the website [here](#).

REVIEWS

The Era of Mathematics

The Bond Review of Knowledge Exchange in the mathematical Sciences is now available [here](#). The main recommendation is that the Government should TRIPLE the funding going to the Mathematical Sciences and that the infrastructure for maths should be enhanced. Of particular interest is the recommendation that a 'national centre in impactful mathematics' should be created to drive mathematical research through to commercialisation.

Book Review

Have you ever been stuck at a social event that you couldn't get out of? Interrogated by annoying relatives who ask "So...what is it that you do in applied mathematics exactly?" and unable to give a good answer? Now, you can tell them to read **Alain Goriely's** latest book, **Applied Mathematics: A Very Short Introduction**. Despite being pocket-sized, Alain covers many topics that should be of interest to applied mathematicians as well as laymen, such as the fundamental philosophies guiding mathematical modelling to some of the standard tools-of-the-trade and examples of cutting-edge research. The author writes with a sense of humour but also with exacting finesse which is illustrated by numerous concise figures; it is a joy to read and to show to others. Applied mathematics, what is it good for? You'll have to read it to find out

STUDY GROUPS WITH INDUSTRY

- June 4-8 140th ESGI, Polytechnic Institute of Setúbal , Portugal. Email to register [here](#).
- June 11-15 [137th ESGI, and first Danish-Norwegian Study Group, Norwegian University of Science and Technology, Alesund, Norway.](#)
- June 25-29 141st ESGI, University College Dublin, Ireland. Email to register [here](#).
- June 25-29 [34th Annual MPI Workshop, Claremont Center for Mathematical Sciences, California.](#)
- June 26-30 [Mathematics in Industry NZ \(MINZ\) Massey University, New Zealand.](#)
- July 16-20 [138th ESGI, University of Bath, UK.](#) Email to register [here](#)

Latest information is available at [Mathematics in Industry](#)

50 YEARS OF UK STUDY GROUPS

The first Mathematical Study Group with Industry was held in St Catherines College in 1968. Fifty years later these meetings have become an institution and at least one Study Group has been held in the UK every year since then. This year ESGI138, which is being run jointly by the Bath Institute for Mathematical Innovation and the Department of Engineering Mathematics at Bristol, will be held in Bath University from 16-20 July . Details [here](#).

WELCOME

To our visitors...

Cyprien Jacquemot & Joseph Blanc (until July 2018) from Ecole Polytechnique who will be working in the Lab with Dominic Vella.
Kimmo Kaski (until Feb 2019) Professor of Computational Science from Aalto University, Finland will be working with Renaud Lambiotte, and **Mason Porter** (until July) from the University of California.

InFoMM UK Graduate Modelling Camp July 10-13, 2018

The EPSRC Centre for Doctoral Training in Industrially Focused Mathematical Modelling (InFoMM CDT) is now accepting applications for the InFoMM 2018 UK Graduate Modelling Camp, Mathematical Institute, University of Oxford,

The Graduate Modelling Camp is a 4-day workshop that aims to provide participants with hands-on experience of mathematical modelling under the guidance of experienced instructors. The Camp is designed to promote a broad range of problem-solving skills, such as mathematical modelling & analysis, scientific computation & critical assessment of solutions.

For further information (including costs), and to apply [click here](#).

InFoMM CDT Call for Industry Project Proposals

The EPSRC Centre for Doctoral Training in Industrially Focused Mathematical Modelling (InFoMM CDT) at the Mathematical Institute, University of Oxford, is now open for project proposals for projects starting in 2019.

All projects need to involve both an industrial partner and one or more University of Oxford academics.

Projects can be on any industrial challenge for which mathematics might help. Mathematical areas include continuum modelling, numerical analysis, scientific computing, networks, information and data analytics.

We are looking for around forty 10-week mini-projects and twenty 3-year research projects. Interested industrialists and academics should contact Jonathan Mason (masonj@maths.ox.ac.uk) at the earliest opportunity.

Computational approaches to ureteric stent design – EU COST Training School Mathematical Institute - 11-12 September 2018.

This Training School, aimed at Early Career Researchers, is part of the ENIUS EU-COST network. Professor Sarah Waters is our local organizer.

The Training School will provide intensive training in recent advances in mathematical and computational approaches to understanding fluid mechanics within the stented ureter.

[Click here](#) to apply.

MI-NET European COST Network still has some funds to support conference grants, workshops and short term scientific missions. Applications are now on a rolling deadline but the money needs to be spent by the end of April 2019.

[Click here](#) for details.