



Bulletin for Mathematics in Industry



Number 9: May 2017

NEWS

OCIAM Director

After almost 9 years at the helm, Jon Chapman has handed over to [Alain Goriely](#). Alain is the Statutory Chair of Mathematical Modelling and is currently the Director of OCCAM (the rumours of OCCAM's demise are greatly exaggerated). He also acts as the Director of External Relations and Public Engagement for the Mathematical Institute. He will bring his experience to the benefit of OCIAM in the future and ensure that it continues to thrive.

Message from the Director:



“One of the greatest joys of working in OCIAM is its strong feeling of community. This community was built through years of dedication by a group of Faculty who understood the importance of interactions for industrial, applied, and collaborative mathematics. It was also greatly aided by the relative isolation of OCIAM while in Dartington House. Now that we have integrated with the greater community of the Mathematical Institute and Faculty are busier than ever, we must ensure that we preserve OCIAM’s social identity through our seminars, events, coffee breaks, or any other opportunities. While these activities may seem frivolous or superfluous at times, they are vital for internal cohesion and for the image that we project to the rest of the world. At the risk of saying the obvious: I urge you all to be an active member of OCIAM whenever possible. A good start is showing up at the IAM seminar on Thursday!”

CONGRATULATIONS!

Doireann O’Kiely was awarded the [IMA Lighthill-Thwaites](#) Prize at the recent British Applied Mathematics Conference.

Graham Benham, Ian Roper and **Jessica Williams** all won [SIAM student prizes](#) for their talk/poster at the British Applied Mathematics Colloquium.

EVENTS

Forthcoming Study Groups with Industry 2017

Jun 11-16, 2017	128th ESGI , Limerick, Ireland
Jun 19-23, 2017	33rd MPI Workshop , New Jersey, US
Jun 26-30, 2017	Mathematics in Industry New Zealand 2017 , New Zealand
Aug 7-11, 2017	8th Montreal Industrial Problem Solving Workshop , Montreal, Canada
Aug 21-25, 2017	129th ESGI , Denmark
Sep 4-8, 2017	130th ESGI , Warwick, United Kingdom
Sep 18-22, 2017	132nd ESGI , Bulgaria

Modelling Camps

Jun 6-9, 2017	4th Annual Stokes Modelling Workshop , NUI Galway
Jul 2-6, 2017	First Israeli Modelling Week , Nahariya, Israel
Jul 9-16, 2017	31st ECMI Modelling Week 2017 , Lappeenranta, Finland

Up to date information about Study Group and modelling camps can be found [here](#)

The programme for the meeting [Mathematics for the Modern Economy](#) (Royal Society, June 28) is now on the web. Registration for this one day meeting is free (and includes lunch).

The programme for the meeting [Industrial Mathematics in Action](#) at the ICMS, Edinburgh, 19, 20 September is under construction. A draft of the Knowledge Exchange Review will be presented so that all participants will get the chance to contribute ideas before the review is completed. If you know of any original and successful ways of bridging the gulf between academia and industry please contact [Hilary Ockendon](#).

Woolly Owl

The biennial [Oxford Cambridge Applied Maths Meeting](#) , will take place in Cambridge on June 16. The winner of the Woolly Owl Trophy will be announced in the next issue of the Bulletin.

REPORTS

Mathematics in the Spirit of Joe Keller March 2, 3 2017

A star-studded list of lecturers gave talks over two days which reflected the breadth of Joe Keller's interests and the affection in which he was held by so many people. OCIAM was involved in the organisation of this meeting and 8 of the lectures were given by members of OCIAM. Videos of all the talks are available [here](#). Have a look, you will be fascinated.

KTN Study Groups on Uncertainty Quantification (UQ)

The Smith Institute recently reported that UQ, which we may think of as stochastic control, currently tops the wish lists of many industries. One consequence was that the Knowledge Transfer Network (Innovate UK) organised recent Study Groups in the sectors of agriculture (growing cocoa trees, fattening pigs, phytoponics in Bath) and manufacturing in [Liverpool](#). Chris Farmer played key roles in both events.

[MAXIMA](#) is a relatively new centre in Monash University, Melbourne, whose philosophy is very much in line with OCIAM's. It held a flagship event in February, attended by John Ockendon, and the Director, Prof. Kate Smith-Miles will be giving the Alan Tayer lecture on November 20. The event preceded the Oz Study Group at the University of South Australia, giving Colin Please and John Ockendon the opportunity to study the behaviour of artillery shells as they decelerate through the sound barrier.

OPPORTUNITIES

InFoMM CDT Call for Project Proposals

The EPSRC Centre for Doctoral Training in Industrially Focused Mathematical Modelling ([InFoMM CDT](#)) at Oxford, is looking for industrial projects for students to work on in 2018. These can be of either 10 weeks or three years duration and mathematical areas include continuum modelling, numerical analysis, scientific computing, networks, information and data analytics. Interested industrialists and academics should contact [Jonathan Mason](#).

MI-NET

Calls for funding for Industrial Workshops, Mathematical Modelling Training Weeks, Research visits and Study Groups with Industry to be held between May 1 2018 and April 30 2019 are now open for [applications](#).

After the very successful **Study Group** held in Cyprus in December - which was part of the MI-NET programme - three researchers from OCIAM will revisit Cyprus to continue working on a problem from the Cyprus Water Development Department. Sourav and Raka Mondal will work on numerically designing and simulating the aquifer water level and contaminant transport within the aquifer using realistic parameters and variables and Graham Benham will work on the Dupuit Model. The original problem description can be found [here](#).

Knowledge Exchange in the Mathematical Sciences

We are all encouraged to fill in the following questionnaires to inform the current [review of Knowledge Exchange \(KE\)](#).

Please feel free to complete, one, none or both of the surveys based on your experiences

- **Expectations, Motivations and Experiences** - the first [survey](#) aims to gauge what people's expectations, motivations and experiences are when engaging in KE in mathematical science for various kinds of end-users. *It is important for the review that those who do not engage currently with mathematical scientists also take part and complete as much of the review as is possible.*
- **Case Study Gathering** - the second [survey](#) aims to gather examples of current or recent KE activities within the mathematical sciences. *We are particularly interested to identify examples of KE from more fundamental areas of research, and examples where difficulties were encountered.*

Please note both surveys close on the **23rd May 2017**

LEAVERS

Sean Lim completed his DPhil on 'Bayesian Inverse Problems and Seismic Inversion' sponsored by BP; his supervisors were Zhongmin Song(BP), Irene Moroz and Chris Farmer. Sean is now working for the game development company Rebellion based in Oxford.

Doireann O'Kiely has completed her D.Phil on 'Mathematical models for the glass sheet redraw process'. She is staying on in OCIAM to work with Dominic Vella to develop models for wrinkling in elastic sheets.

Nick Letchford has completed his DPhil on "Cavitation in lubricating films" with BP. He now has a postdoc in epidemiology at Imperial College.

Alex Erlich has completed his DPhil "Growth laws in morpho-elasticity"

If you have news for the next issue, or wish to unsubscribe from this bulletin, please inform new OCIAM Administrator [Emma Yu](#).