

# Society for Industrial and Applied Mathematics

United Kingdom and Republic of Ireland Section (SIAM-UKIE)



SIAM-UKIE Newsletter

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## UK Student Chapters Represented at 2014 SIAM Annual Meeting in Chicago

The SIAM Education Committee has invited two SIAM Student Chapter representatives from the UK to present during [Student Days](#) at the [2014 SIAM Annual Meeting](#) in Chicago, Illinois, July 7-11:

- **Ross McKenzie** (Cardiff) - Presentation: [Solving Differential Algebraic Equations Using Structural Analysis Based Dummy Derivatives](#)
- **Graham Hobbs** (Warwick) - Presentation: [Membrane Deformation by Protein Inclusions](#)

The UK SIAM Student Chapters will further be represented at the Student Days by: **Horacio González Duhart** (Bath), **Jakub Konecny** (Heriot-Watt/Edinburgh), **Mary Aprahamian** (Manchester), **Alexander Vervuurt** (Oxford), **Adam El-Said** (Reading), and **Justin Conn** (Strathclyde).

*Student Days are designed to encourage student participation in SIAM, to offer students the opportunity to learn more about applied mathematics and computational science as both fields of study and as careers, and to provide a forum for emerging mathematicians to meet with professionals in their field. Student Days 2014 will also feature the Student Chapter Meeting with SIAM Leadership which gives student chapter representatives the opportunity to meet with key decision makers to discuss ideas for improving student chapters and ways that SIAM can meet the needs of current and future student members all over the world. We wish all the UK delegates an enjoyable and fruitful time in Chicago!*

## Events Update

[Recent Advances in Discontinuous Galerkin Methods Workshop](#), September 11-12, 2014, University of Reading. *This workshop is supported by LMS.*

[Summer School on Water Waves](#), August 6-8, 2014, Isaac Newton Institute, University of Cambridge. *This is a three-day summer school on the theory of water waves for PhD students and early career researchers organised in the run-up to the [SIAM Conference on Nonlinear Waves and Coherent Structures \(NW14\)](#), and at the end of the Isaac Newton Institute programme [Theory of Water Waves](#). – Application deadline 15 June.*

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## New Centre for Doctoral Training at Bath

The Department of Mathematical Sciences at the University of Bath has received funding from EPSRC to establish a new [Centre for Doctoral Training in Statistical Applied Mathematics at Bath \(SAMBa\)](#). We shall be awarding up to 10 new fully-funded 4-year studentships, to start in September 2014, for exceptionally qualified students to complete PhDs at the interface between applied mathematics, statistics and probability.

SAMBa will have a cohort of students whose thesis topics range from industrially motivated problems to more abstract problems, using deterministic, probabilistic, statistical and computational mathematical tools. Examples of Statistical Applied Mathematical topics are Uncertainty Quantification, Data Assimilation, Inverse Problems and Dynamical Network problems. Students will take courses across this mathematical spectrum in the first year leading to an MRes. Additional training involves courses and symposia tailored to the students' individual learning programme together with thesis scoping seminars and 'Integrative Think Tanks' (ITTs). These ITTs will be intensive week-long events held twice a year where students are faced with industrial and cross-disciplinary problems and are trained in synthesising relevant mathematical formulations for solving them. — *Paul Milewski (University of Bath)*

## SIAM Prize for Iain Smears

Iain Smears, a third-year D.Phil. student in the Mathematical Institute at the University of Oxford has won one of the three SIAM Student Paper Prizes this year for his journal article "Discontinuous Galerkin Finite Element Approximation of Hamilton-Jacobi-Bellman Equations with Cordès Coefficients", published in the SIAM Journal on Numerical Analysis.

The [SIAM Student Paper Prizes](#) will be awarded during the course of the [2014 SIAM Annual Meeting](#), July 7-11, in Chicago, Illinois.

## SIAM-UKIE Student Presentation Prizes at BAMC 2014

Since 2000, SIAM-UKIE are sponsors of several student presentation prizes at scientific meetings organised in the UK or Republic of Ireland. This year, the prizes were awarded during the [British Applied Mathematics Colloquium, Cardiff University, April 28-30, 2014](#). - The names of the SIAM Prize winners and the titles of their presentations at the BAMC 2014 are (in no specific order) as follows:

- **Matthew Chantry** (University of Bristol) – Talk title: "Localisation in a spanwise-extended model for plane Couette flow"
- **Anastasia Kisil** (University of Cambridge) - Talk title: "Examining the stability of Wiener-Hopf factorization of Daniele-Khrapkov matrices"
- **Georgina Lang** (University of Oxford) – Talk title: "Mechanics of brain tissue swelling"
- **David Nigro** (University of Manchester) – Talk title: "Low Mach number flow noise from a two-dimensional rough circular cylinder"
- **Radu Cimpanu** (Imperial College London) – Poster title: "Harnessing control of a hidden world: from microfluidic mixing to polymer self-assembly"



David Nigro (left) and Radu Cimpanu (right)

## New SIAM Chapter at Imperial College London

The [Imperial College London SIAM Student Chapter](#) was formed in May 2014 by a network of passionate graduate researchers with the aim to bring together specialised members of the scientific community from diverse areas through frequently organised events of all scales. As a newly formed chapter in a very large local mathematical community, we plan to rapidly expand and integrate a wide range of activities in our programme. The Chapter's Launch Event was held on June 12, 2014, and consisted of a general introduction given by the Chapter's President Joseph Maestri, followed by four talks by PhD students and postdoctoral researchers in fluid dynamics, biomathematics, statistics, and complex networks, respectively. The event concluded with a very lively social gathering lasting nearly four hours. — *Radu Cimpanu (SIAM Chapter Vice-President, Imperial College London)*



The President of the SIAM Student Chapter at Imperial College London Joseph Maestri opening the Chapter's Launch Event on June 12, 2014.



PhD student Michael Schaub, a member of the newly formed SIAM Student Chapter at Imperial College London, talking about image segmentation at the Chapter's Launch Event on June 12, 2014.

## Annual Manchester SIAM Student Chapter Conference 2014

On May 2, 2014, the [Manchester SIAM Student Chapter](#) hosted its [annual conference](#). The aim of this event was to provide an opportunity for PhD students with an interest in applied mathematics to share their research and exchange ideas, and included 3 guest lectures, 5 student presentations, and a poster session. The conference was very well attended, with 60 participants from various schools across the university, including Mathematics, Computer Science, Materials Science, and Arts, Languages and Cultures.

The highlight of the day was the talk by **Pete Lomas**, co-founder of the [Raspberry Pi Foundation](#), on the educational goals of the [Raspberry Pi](#) and its potential use for super computing. An interesting talk on Modelling Plant Growth was given by **Oliver Jensen** from the [School of Mathematics](#). The meeting concluded with a talk by **Tim Butters** from the software company [Sabisu](#) on mathematical problems arising in industry.

Two student presentation prizes were awarded by **Craig Lucas** from NAG to **Denny Vitasari** (School of Chemical Engineering and Analytical Science) for the best talk, and to **Mario Berljafa** (School of Mathematics) for the best poster. *The generous sponsorship from SIAM, IMA, NAG, and MIMS is gratefully acknowledged!* — *Mary Aprahamian (SIAM Chapter Treasurer, Manchester)*

## SIAM Certificates of Recognition 2014

The [2014 SIAM Certificate of Recognition](#) has been awarded to the following UK SIAM Student Chapter members: **Siân Jenkins** (Bath), **Danas Sutula** (Cardiff), **Morteza Haghight Sefat** (Heriot-Watt), **Mary Aprahamian** (Manchester), **Savina Joseph** (Oxford), **Tom Snowden** (Reading), **Ben Snow** (Strathclyde).

*This program recognizes students' contribution to the development and growth of SIAM Student Chapters through exciting chapter activities, and acknowledges their efforts within the greater SIAM community. Many congratulations to all the recipients!*



Denny Vitasari (left) and David Silvester (right)



Mario Berljafa (left) and Craig Lucas (right)



Group photograph of the participants at the Annual Manchester SIAM Student Chapter Conference 2014

## Strathclyde SIAM Chapter Annual Meeting 2014

The Strathclyde SIAM Student Chapter held its annual meeting on May 6, 2014. The programme of the meeting was based on three plenary talks followed by discussions. The speakers and the titles of their talks were as follows:

- Prof. Ernesto Estrada (Mathematics and Statistics, Strathclyde) - Talk title: "Networks at Equilibrium: A marriage between Statistical Physics and Mathematics."
- Dr. James Biggs (Mechanical and Aerospace Engineering, Strathclyde) -Talk title: "The Perturbed 3-Body Problem."
- Dr. Peter Stewart (Mathematics and Statistics, Strathclyde) - Talk title: "A non-invasive method for intracranial pressure measurement."

Ben Snow (SIAM Chapter President, Strathclyde)

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