



BAMC 2017

University of Surrey 10th - 12th April



The 59th British Applied Mathematics Colloquium

Conference Booklet



www.surrey.ac.uk/bamc

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Welcome

On behalf of the Department of Mathematics, it is our very great pleasure to welcome you to the University of Surrey for the 59th British Applied Mathematics Colloquium (2017). We are delighted that the meeting has generated enormous interest, involving more than 330 participants from the United Kingdom and overseas. Collectively, there will be more than 260 contributions including plenary, mini-symposia, and contributed talks and posters on a vast range of topics across Applied Mathematics.

The meeting has been made possible by the exceedingly generous support of a number of sponsors who are listed at the back of this booklet.

We very much hope that you will find the meeting rewarding and enjoyable; we want to do everything we can to make your trip a success, so please do not hesitate to ask for any help or information you need.

The Local Organising Committee:



Ian Roulstone (Chair)



Anne Skeldon (Treasurer)



Tracey Simons (Administrator)



Dave Lloyd (Secretary)

Essential Information

Venue

All BAMC activities take place at the University Hall (HA), Rik Medlik (MS also known as Management School), the Lecture Theatre block (LT), and the Department of Mathematics (4th Floor AA) buildings at the University of Surrey, Stag Hill Campus, Guildford, Surrey, GU2 7XH, United Kingdom. Please see page 7 for a campus map. Student volunteers are on hand to direct you. The conference reception desk is located in the University Hall and will be staffed throughout the conference. Delegates with limited mobility are advised to contact the Reception Desk for assistance. Please note that the buildings' opening hours are 7:30am – 8:00pm.

Plenary lectures will take place in the main lecture theatre 03MS01 (MS/Rik Medlik). When being directed to the lecture theatre for the plenaries, your cooperation with the student volunteer stewards is appreciated. Contributed talks and minisymposium sessions will take place in the Lecture Theatre Block (LT) and the 4th Floor of AA building (Mathematics Department); these are clearly indicated in the schedule. There is a short bridge that connects the LT block with the AA building.

Smoking is only permitted in designated external smoking areas. Please ask at the conference reception desk for directions.

Details on how to get to the Stag Hill Campus, University of Surrey visit:

<https://www.surrey.ac.uk/visit-university>

Presentations

Talks

Each room is equipped with a data projector, and whiteboard/blackboard. If you will be using the data projector, we strongly recommend you bring your talk on a USB stick and use the computer provided. Rooms will be open at least 15 minutes before the start of sessions, so please upload your talk as a PDF file to the computer before your session starts.

All timetabled talks include 1 minute of questions and 2 minutes changeover between speakers. For example, a 20 minute slot provides time for a 17 minute presentation. Session chairs have been asked to adhere to the timetable rigidly to allow delegates to switch between talks in different rooms.

Posters

Posters can be displayed on A0 sized landscape poster boards in University Hall throughout the duration of the conference. There will be a dedicated poster session at 5:30pm on Monday as part of the drinks reception.

Prizes

The IMA Lighthill-Thwaites prize will be awarded at the conference dinner by Sir Bryan Thwaites. Prizes for the best student oral and poster presentations will be awarded at the end of the conference.

Online Resources

Up-to-date information can be found on <https://www.surrey.ac.uk/bamc>. In particular, there is an online conference programme and timetable, a hyperlinked PDF book of abstracts, and the up-to-date PDF version of this booklet.

Refreshments

Coffee and tea will be provided in the University Hall each morning and Monday and Tuesday afternoons.

Lunch will be provided each day in the University Hall, and there will be meat, fish and vegetarian options. On the back of your conference badge are details of any meals that are included in your registration, including your dietary requirements, if you have provided any. Those with specific dietary requirements should present the back of their badges to the meal servers.

Starbucks café will be open underneath Hillside (1st floor OAK).

Monday evening CUP wine reception and buffet meal:

At 5:30pm-7:00pm on Monday, there will be a wine reception sponsored by Cambridge University Press and poster session. A hot buffet will be served at 7:00pm in the Hillside Restaurant and is included in your registration fee.

Reception and Gala dinner:

The conference banquet will be held on the evening of Tuesday 11th April from 7:30pm to 9:00pm in Hillside Restaurant. If you have paid, or have been invited, to attend the dinner then this will be indicated on the back of your name badge. The meal will be preceded by a short reception which will be held in the Hillside bar area, starting at 6pm. Complementary wine, soft drinks and juice will be available. Other alcoholic/non-alcoholic drinks may be purchased from the bar area.

Bars and Pubs:

A bar can be found in Wates House and is open until 10:00pm each night. There will also be a bar in Hillside Restaurant after the conference dinner that will be open until midnight.

A guide to pubs/bars in the centre of Guildford can be found here:

<https://www.surrey.ac.uk/bamc/your-visit/going-out-guildford>

Events

The following events will take place during the BAMC:

Monday:

There will be a reception/poster session for all BAMC attendees in the University Hall from 5:30pm-7:00pm. Dinner will be served for all delegates in Hillside (2nd Floor OAK) from 7:00pm.

Tuesday:

The BAMC conference dinner will take place in Hillside; if you are attending the dinner, this will be indicated on the back of your name badge. Pre-dinner drinks will be served at 6pm, with dinner starting at 7:30pm.

Assistance

The conference reception desk, located in the University Hall, will be staffed throughout the conference. If you have any queries or concerns, please speak to any of the conference organising team; we can also be contacted at bamc2017@surrey.ac.uk. In addition, student volunteers will be happy to assist with any queries you may have.

Parking permits

Parking permits may be downloaded and printed from here:

https://www.surrey.ac.uk/sites/default/files/BAMC_Parking_Permit.pdf

Wi-Fi Access

Wi-Fi is available in the University. Our preferred method of connection is EDUROAM. However, if you do not have EDUROAM, you can sign up for a free 'The Cloud' account.

Luggage store

A secure luggage store will be available for all delegates on Monday 10th and Wednesday 12th April. Please go to the registration desk to gain access.

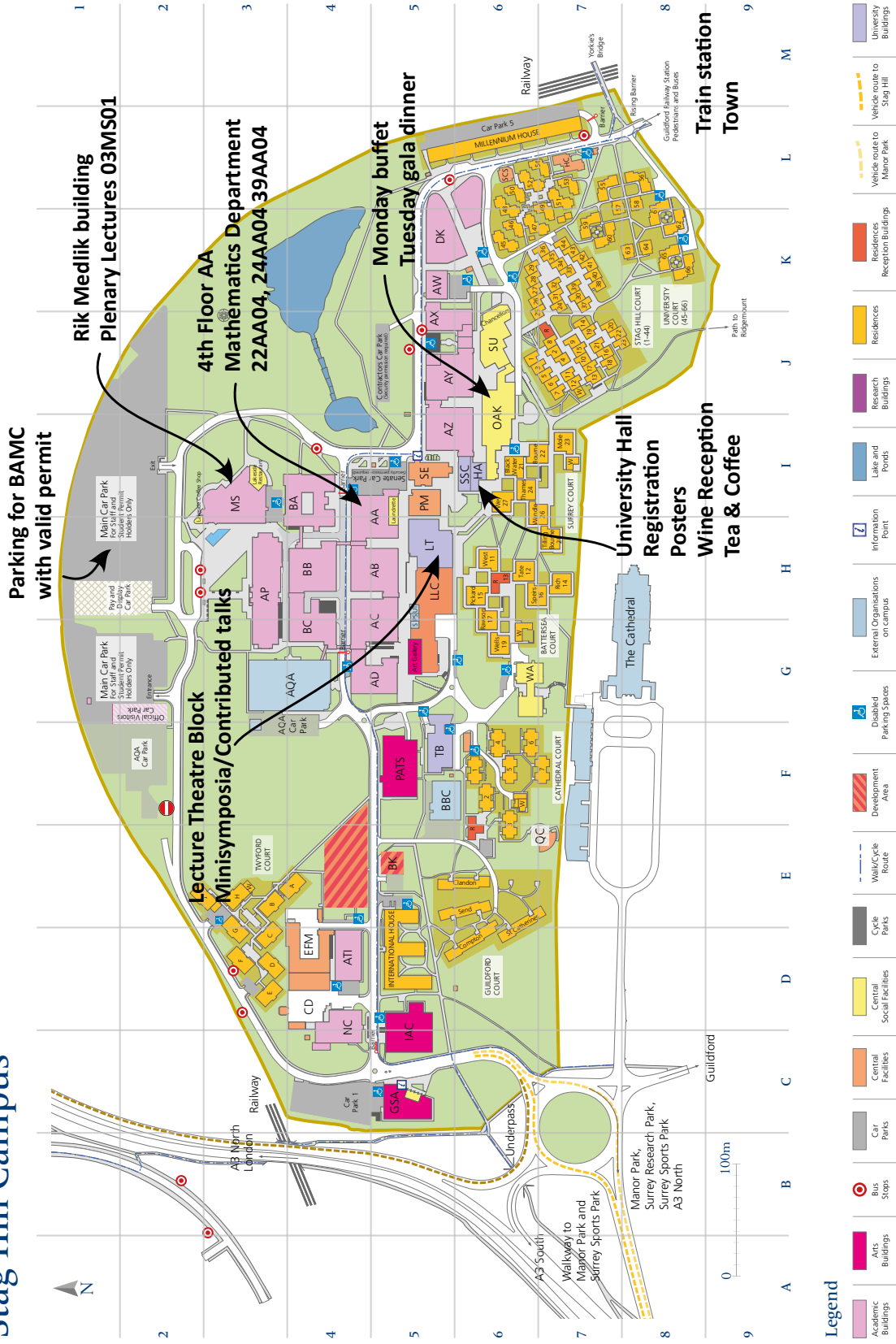
Meeting queries

If you have any queries during the meeting please contact Tracey Simons (Administrator), David Lloyd or Anne Skeldon via the registration desk and we will do our utmost to accommodate any request.

Email: bamc2017@surrey.ac.uk

Campus Map

Stag Hill Campus



List of BAMC delegates

Name	Institute
Abdulwahed Alshaikhi	University of Strathclyde
Adam Bridgewater	Northumbria University
Adam Butler	Imperial College London
Adam Townsend	University College London
Adam Yorkston	University of East Anglia
Adri Olde Daalhuis	The University of Edinburgh
Adrian Bowman	University of Glasgow
Ahmed Ismaeel	University of Glasgow
Ahuod Alsheri	University of Surrey
Alan Champneys	University of Bristol
Alan Omar	University of Nottingham
Alastair Jones	Airbus Operations Ltd
Alessandro Morando	University of Brescia
Alexander Doak	University College London
Alexander Erlich	The University of Manchester
Alexander Korobkin	University of East Anglia
Alexander Wray	Imperial College London
Alice Harpole	University of Southampton
Alvaro Meseguer	Universitat Politècnica de Catalunya
Anahita Bayani	Nottingham Trent University
Andrea Cassinelli	Imperial College London
Andrea Fontanella	University of Surrey
Andrew Burbanks	University of Portsmouth
Andrew Croudace	University of Strathclyde
Andrew Krause	University of Oxford
Andrew Lacey	Heriot-Watt University
Andrew West	Northumbria University
Andrey Melnik	University of Glasgow
Anna Kalogirou	University of East Anglia
Anna Lambert	University College London
Anna Mazzucato	Pennsylvania State University
Anne Birchley-Brun	Springer
Anne Skeldon	University of Surrey
Anotida Madzvamuse	University of Sussex
Antonio Russo	Imperial College London
Arandeep Uppal	Imperial College London
Arshad Kamal	Imperial College London
Artur Gower	The University of Manchester
Ashley Willis	The University of Sheffield
Ayalvadi Ganesh	University of Bristol
Belgin Seymenoglu	University College London
Ben Goddard	The University of Edinburgh
Ben Sloman	University of Oxford
Benjamin Aymard	Imperial College London
Benjamin Yadin	University of Oxford
Beth Wingate	University of Exeter
Bin Cheng	University of Surrey
Bryan Thwaites	
Bwebum Dang	University of Salford Manchester
Caoimhe Rooney	University of Oxford
Carina Dunlop	University of Surrey
Carl Whitfield	The University of Manchester
Carola-Bibiane Schönlieb	University of Cambridge
Caroline Colijn	Imperial College London

Name	Institute
Catherine Morgan	Oxford University Press
Cedric Beaume	University of Leeds
Cezary Olszowiec	Imperial College London
Charles Kind	University of Bristol
Chris Beward	University of Oxford
Chris Budd	University of Bath
Christian Saemann	Heriot-Watt University
Christian Thomas	Imperial College London
Christopher Howls	University of Southampton
Clarice Poon	University of Cambridge
Claudia Wulff	University of Surrey
Colin Cotter	Imperial College London
Craig Gilmour	University of Strathclyde
Damian Smug	University of Exeter
Dane Grundy	University of East Anglia
Daniel Cheng	Institute of Mathematics and its Applications
Daniel Coutand	Heriot-Watt University
Daniel Jopling	Nonlinearity, IOP
Daniel Peck	Aberystwyth University
Daniel Ratliff	University of Surrey
Daniel Taber	Oxford University Press
Daniel Ward	University of Bristol
Danyang Wang	University of Glasgow
David Gerard-Varet	Université Paris Diderot
David Hammond	Cranfield University
David Hughes	University of Leeds
David Lloyd	University of Surrey
David Sibley	Loughborough University
David Tranah	Cambridge University Press
Davide Bella	University College London
Davide Girolami	University of Oxford
Davin Lunz	University of Oxford
Deepthee Madenoora Ramapriya	The University of Nottingham
Denis Patterson	Dublin City University
Doireann O'Kiely	University of Oxford
Domenico Tallarico	University of Liverpool
Dominic Vella	University of Oxford
Donal Harkin	University of Surrey
Doug Addy	Imperial College London
Duncan Joyce	The University of Manchester
Ebrahim Algehyne	University of Strathclyde
Edmund Barter	University of Bristol
Edmund Chadwick	University of Salford Manchester
Edward Acheampong	The University of Nottingham
Eleanor Doman	University College London
Elena Marensi	The University of Sheffield
Elizabeth Mansfield	University of Kent
Eman Aljabali	University of East Anglia
Emilian Parau	University of East Anglia
Erica Tyson	Institute of Mathematics and its Applications
Euan Littlejohns	University of Surrey
Eugene Benilov	University of Limerick
Eun-jin Kim	The University of Sheffield
Fabio Anza	University of Oxford

Name	Institute
Farzad Fatehi chendar	University of Sussex
Fatemah Al Mukahal	University of Strathclyde
Feargus Schofield	University of Strathclyde
Ferran Brosa Planella	University of Oxford
Florence Débarre	CNRS UMR 7241
Francesca Grassetti	University of Macerata
Francesca Zaccagnino	Aberystwyth University
Francesco Gargano	University of Palermo
Francesco Giglio	Northumbria University
Franck Sueur	Université de Bordeaux
Frank Smith	University College London
Franz Király	University College London
Gaspare Da Fies	Aberystwyth University
Gennady Mishuris	Aberystwyth University
Georgia Lynott	The University of Manchester
Gevorg Hunanyan	University of Kaiserslautern
Giacomo Albi	TU Munich/University of Verona
Ginestra Bianconi	Queen Mary University of London
Giorgio Carta	Liverpool John Moores University
Graham Benham	University of Oxford
Hanne Kekkonen	University of Warwick
Hanyu Yin	Loughborough University
Hao Gao	University of Glasgow
Harold Heorton	University College London
Hassan Alkhayoum	University of Exeter
Hayley Wragg	University of Bath
Hilary Ockendon	University of Oxford
Holly Smith	University of Nottingham
Hui Xu	Imperial College London
Huiling Le	University of Nottingham
I. David Abrahams	University of Cambridge
Ian Roper	University of Oxford
Ian Roulstone	University of Surrey
Ingrid Daubechies	Duke University
Isabel Mercader	Universitat Politècnica de Catalunya
Istvan Kiss	University of Sussex
Jacob Brooks	University of Surrey
James Allen	University of Surrey
James Haughton	The University of Manchester
James Preston	University of Nottingham
James Rankin	University of Exeter
Jan Gutowski	University of Surrey
Jan Haskovec	King Abdullah University of Science and Technology
Jan Sieber	University of Exeter
Jane Lyle	University of Surrey
Jasmina Panovska-Griffiths	University College London/LSHTM
Jean Renaud	University of St Andrews
Jessica Williams	University of Oxford
Jessie Renton	University College London
Joanne Mason	University of Exeter
Jock McOrist	University of Surrey
John Chapman	Keele University
John King	University of Nottingham
John McGowan	University of Strathclyde
John Meeson	Institute of Mathematics and its Applications
Jon Chapman	University of Oxford
Jonathan Deane	University of Surrey
Jonathan Healey	Keele University
Jonathan Stone	University of Southampton

Name	Institute
Jonathan Ward	University of Leeds
Joseph Cousins	University of Strathclyde
Judi Thurlby	University of Portsmouth
Kai Cao	University of Leeds
Karen Willcox	Massachusetts Institute of Technology
Katherine Atkins	London School of Hygiene and Tropical Medicine
Katherine Powers	University of Bath
Kevin Devine	University of Limerick
Kevin Minors	University of Bath
Kgomotso Morupisi	University of Bath
Koji Ohkitani	The University of Sheffield
Konstantin Blyuss	University of Sussex
Konstantin ILIN	University of York
Lamees Felemban	University of Exeter
Lara Gosce	University College London
Laurel Fogarty	University College London
Leo Turner	University of Portsmouth
Leyla Sultanova	Keele University
Liam Escott	University College London
Linda Irons	University of Nottingham
Louis Freeland-Haynes	Springer
Louise Dyson	University of Warwick
Louise Mason	University of Glasgow
Lucas Lacasa	Queen Mary University of London
Lydia Rickett	The Sainsbury Laboratory
Lynn Barber	Springer
Maha Helmi	Keele University
Marco Cianciaruso	The University of Nottingham
Marco Sammartino	University of Palermo
Marianna Cerasuolo	University of Portsmouth
Mariano Beguerisse	University of Oxford
Marianthi Moschou	The University of Manchester
Mark Broom	City, University of London
Martin Benning	University of Cambridge
Martina Cracco	Cardiff University
Mathew Bullimore	University of Oxford
Matt Turner	University of Surrey
Matteo Lostaglio	The Institute of Photonic Sciences
Matthew Bailey	University of Surrey
Matthew Browning	University of Exeter
Matthew Coleman	University of Nottingham
Matthew Griffith	University of Bath
Matthew Hunt	
Matthew Moore	University of Oxford
Matthew Nethercote	The University of Manchester
Matthew Russell	The University of Manchester
Matthew Saxton	University of Cambridge
Matthias Ehrhardt	University of Cambridge
Maxim Zyskin	University of Nottingham
Michael Dallaston	Imperial College London
Michael Foskett	University of Surrey
Michael Gomez	University of Oxford
Michael Jeger	Imperial College London
Michael Mcphail	University of Oxford
Michael Nieves	Liverpool John Moores University
Michael Pegg	University of East Anglia
Michael Proctor	University of Cambridge
Michael Stevens	University College London
Michael Tsardakas	Heriot-Watt University

Name	Institute
Michele Bartuccelli	University of Surrey
Michelle Grant	University of Surrey
Miguel A. Duran-Olivencia	Imperial College London
Mike Chen	University of Oxford
Ming Dong	Imperial College London
Mitchell Berger	University of Exeter
Mohammad Golbabaee	The University of Edinburgh
Mohammed Alkinidri	Keele University
Muhamad Hifzhudin Noor Aziz	University of Glasgow
Muhamad Najib Zakaria	University of Leeds
Nabil Fadai	University of Oxford
Nakul Chitnis	Universitat Basel
Nan Qi	University of Glasgow
Naratip Santitissadeekorn	University of Surrey
Naseer Abdullah	The University of Sheffield
Natalie Douglas	University of Surrey
Niall McInerney	University of Limerick
Nicholas Ovenden	University College London
Nikolai Gorbushin	Aberystwyth University
Oleksandr Menshykov	University of Aberdeen
Oliver Allanson	University of St Andrews
Oliver Dorn	The University of Manchester
Oliver Jensen	The University of Manchester
Oliver Kerr	City, University of London
Ory Schnitzer	Imperial College London
Paola Trebeschi	University of Brescia
Paolo Musolino	Aberystwyth University
Paolo Secchi	University of Brescia
Paul Bushby	Newcastle University
Paul Skerritt	University of Surrey
Pavlos Livasov	Aberystwyth University
Peter Ashwin	University of Exeter
Peter Grindrod	University of Oxford
Peter Hydon	University of Kent
Peter Wootton	Keele University
Peter Yatsyshin	Imperial College London
Philip Aston	University of Surrey
Philippe Trinh	University of Oxford
Pier Luigi Dragotti	Imperial College London
Pietro Asinari	Politecnico di Torino
Pietro Servini	University College London
Prashant Valluri	The University of Edinburgh
Priya Subramanian	University of Leeds
Qian Yang	University of Bath
Rabeea Darghoth	University of Salford Manchester
Radu Cimpanu	Imperial College London
Rafael Prieto Curiel	University College London
Rainer Hollerbach	University of Leeds
Rebecca Hoyle	University of Southampton
Reevu Maity	University of Oxford
Remi Lodh	Springer
Richard Burke	National University of Ireland, Galway
Richard Porter	University of Bristol
Rishi Kumar	Imperial College London
Robert Calderbank	Duke University
Robert Davey	The University of Manchester
Robert M. Kerr	University of Warwick
Robert Rosner	The University of Chicago
Robert Whittaker	University of East Anglia
Roberto Sisca	University of Surrey

Name	Institute
Rodrigo Ledesma-Aguilar	Northumbria University
Roland Roth	Universität Tübingen
Rory Mills	The University of Edinburgh
Rowena Ball	The Australian National University
Rudolf Kohulak	University College London
Russell Niven	University of Strathclyde
Ryan Sharp	Rothamsted Research
Sally Faulkner	Queen Mary University of London
Sam Tucker Harvey	University of Warwick
Sami Al-Izzi	University of Warwick
Samire Balta	University College London
Samuel Johnson	University of Warwick
Sara Frecentese	University of Liverpool
Sean Cleator	University of Surrey
Sean Jamshidi	University College London
Shreya Sehgal	Liverpool Hope University
Simon Etter	University of Warwick
Simon Pearce	The University of Manchester
Sofia Olhede	University College London
Srikanth Ravipati	Imperial College London
Stephen Griffiths	University of Leeds
Stephen Wilson	University of Strathclyde
Steve Baigent	University College London
Steven Tobias	University of Leeds
Stewart Haslinger	University of Liverpool
Tao Gao	Imperial College London
Tao Wang	University of Brescia
Thibaut Putelat	University of Bristol
Thilo Gross	University of Bristol
Thom Griffith	University of the West of England
Thomas Bridges	University of Surrey
Thomas Ezard	University of Southampton
Thomas Ward	University of East Anglia
Timothy Burchell	University of Surrey
Timothy Hurst	The University of Edinburgh
Timothy Kinyanjui	The University of Manchester
Timothy Whiteley	University of Nottingham
Toby Davies	University College London
Tom O'Neill	University of Surrey
Tristan Pryer	University of Reading
Tuoi T.N. Vo	University of Limerick
Usama Kadri	Cardiff University
Valentin Sulzer	University of Oxford
Valon Blakaj	University of Nottingham
Vasiliki Bitsouni	University of Dundee
Vincenzo Sciacca	University of Palermo
Vitaly Fain	University of Bristol
Vladimir Turetsky	Ort Braude College of Engineering
Vladyslav Danishevskyy	Keele University
Wade Parsons	Memorial University of Newfoundland
William Booker	University of Leeds
Xin Zhuan	University of Glasgow
Xuesong Wu	Imperial College London
Yasumasa Nishiura	Tohoku University
Ying Huang	University of Surrey
Yohann Duguet	LIMS-CNRS
Yue-Kin Tsang	University of Exeter
Yujun Qiao	University of Cambridge
Yuliya Kyrychko	University of Sussex
Zachary Wilmott	University of Oxford

Programme

The overall conference schedule and list of contributed minisymposia, contributed talk sessions, and posters are overleaf.

A3 timetables for each day are provided and spares can be picked up from the registration desk.

The complete conference timetable and book of abstracts can be downloaded from the BAMC website:

<http://www.surrey.ac.uk/bamc/programme>

Those who requested a printed book of abstracts can collect one at the registration desk.

BAMC overall schedule

	Monday	Tuesday	Wednesday
09:00			
09:30		Contributed talks 09:00-11:00	Mini-symposia 09:00-11:00
10:00			Contributed talks 09:00-11:00
10:30	Registration and coffee		
11:00		Coffee	Coffee
11:15	Welcome and Opening by Vice-Chancellor Max Lu		
11:30	Plenary: Karen Willcox 11:30-12:30 Stewartson Memorial Lecture	Plenary: Rebecca Hoyle 11:30-12:30	Plenary: Ingrid Daubechies 11:30-12:30
12:00	Lecture Theatre (Rik Medlik)	Lecture Theatre (Rik Medlik)	Lecture Theatre (Rik Medlik)
12:30			
13:00	Lunch	Lunch	Lunch
13:30			
14:00		Mini-symposia 14:00-16:00	Mini-symposia 13:30-15:30
14:30	Contributed talks 14:00-16:00		Contributed talks 13:30-15:30
15:00			
15:30			Closing session and prize-giving
16:00	Coffee	Coffee	
16:30	Plenary: Peter Grindrod 16:30-17:30	Plenary: Beth Wingate 16:30-17:30	
17:00	Lecture Theatre (Rik Medlik)	Lecture Theatre (Rik Medlik)	
17:30	Poster session and drinks reception sponsored by CUP 17:30-19:00		
18:00			
18:30		BAMC Dinner (ticket only) 18:00	
19:00	Buffet dinner 19:00		

BAMC minisymposia and contributed sessions schedule

	Monday PM	Tuesday AM	Tuesday PM	Wednesday AM	Wednesday PM
Lecture Theatre A	Misc fluids	Electro-magnetic waves	Density function theory	Free-surface and interfacial flows	Network science
Lecture Theatre B	Symmetries and conservation laws	Why I compute - in honour of Robert Rosner's 70th birthday	Why I compute - in honour of Robert Rosner's 70th birthday	Symmetries and conservation laws	Why I compute - in honour of Robert Rosner's 70th birthday
Lecture Theatre D	Network science	Instability and transition shear flows	Instability and transition shear flows	Pipe and channel flows	Flow stability, boundary layers and bubbles
Lecture Theatre E	Acoustic waves	Cells and biomechanics	Ice-fluid coupling	Tissue engineering I	Tissue engineering II
Lecture Theatre F	The dynamics of evaporation	Lighthill-Thwaites	Applying maths to public health	Biorhythms	Asymptotics
Lecture Theatre G	Asymptotic methods in the applied sciences	Thin films	Asymptotic methods in the applied sciences		
Lecture Theatre H	Inverse problems and imaging	Quantum theory information	Quantum theory information	Geophysical fluid dynamics	
Lecture Theatre J	Recent progress in the mathematical theory of fluid dynamics	Recent progress in the mathematical theory of fluid dynamics	Recent progress in the mathematical theory of fluid dynamics	Recent progress in the mathematical theory of fluid dynamics	
Lecture Theatre L	Dynamical systems and applications	Spatial localisation in fluids	Applied delay differential equations	Mathematical modelling of crime	Dynamical systems and applications
22AA04	Population models	Quantitative evolutionary biology	Quantitative evolutionary biology	Modelling epidemics in human and plant populations	Application of string theory
24AA04	Elasticity	Multi-scale systems: from analysis to numerics to applications	Elastodynamics	Inverse problems and heat transfer	Novel applications
39AA04		Inverse problems LMS II	Structure in time and space		

BAMC posters

POSTERS		
<p>Ebrahim Algehyne <i>Theoretical analysis of a fractal ultrasonic transducer</i></p>	<p>Davin Lunz <i>Thermo-viscous effects in shaping glass vials</i></p>	<p>Valentin Sulzer <i>Modelling low-current discharge of lead-acid batteries</i></p>
<p>Sami Al-Izzi <i>Osmotic effects on membrane bound organelles</i></p>	<p>John McGowan <i>Linking physiologically based pharmacokinetics, mathematical modelling and systems biology</i></p>	<p>Tuoi Vo P <i>Modelling drug release from polymer-free drug-eluting stents</i></p>
<p>Hifzhudin Aziz <i>Hybrid asymptotics-numerical method for efficient simulation of excitable system</i></p>	<p>Michael McPhail <i>Diffusion mediated bubble growth</i></p>	<p>Andrew West <i>Critical phenomena and integrability in network models</i></p>
<p>Samire Balta <i>Lift-off of a solid object from a horizontal rigid surface</i></p>	<p>Nan Qi <i>Investigating cell mechanics with atomic force microscopy</i></p>	<p>Timothy Whiteley <i>Modelling urban population dynamics using coupled integro-differential equations</i></p>
<p>Martina Cracco <i>Stability of a non-Newtonian fluid in the boundary layer</i></p>	<p>Lydia Rickett <i>"Mapping the battleground": A systems biology approach to modelling plant-microbe interactions</i></p>	<p>Hanyu Yin <i>Films, layers and droplets: the effect of near-wall fluid structure on spreading dynamics</i></p>
<p>Simon Etter <i>Locality of matrix functions</i></p>	<p>Caoimhe Rooney <i>Particle and fluid dynamics within a blender</i></p>	<p>Francesca Zaccagnino <i>Surfactant effects on film relaxation during topological T1 process</i></p>
<p>Thom Griffith <i>Mathematical modelling of a magnetic immunoassay</i></p>	<p>Ian Roper <i>Silicon nodes in lithium batteries</i></p>	<p>Muhamad Zakaria <i>Wave reflection and propagation at staircase boundaries in finite-difference models</i></p>
	<p>Leyla Sultanova <i>Multi-parametric analysis of a contact problem for a coated elastic half-space in case of high contrast material parameters</i></p>	

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& its applications



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