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**WARWICK**

INSTITUTE OF ADVANCED STUDY

**The Future of Interdisciplinary Research**

**Institute of Advanced Study**  
**University of Warwick**

Warwick Business School London campus, The Shard  
Friday 15 May 2015

## Welcome

During the past decade, interdisciplinarity has become increasingly integral to the core of academic research. Today many of the problems and issues that research aims to tackle defy easy categorisation and do not fit the boundaries of individual disciplines. Yet, interdisciplinarity remains difficult to define, elusive in its many manifestations and often more praised than supported, nurtured and encouraged.

The Warwick Institute of Advanced Study has over its eight years of existence supported interdisciplinary research across the institution through research and network grants, visiting and postdoctoral fellowships, vacation schools, and the support of public engagement, impact and outreach activities.

Today's event on 'The Future of Interdisciplinarity' is the first of a series of IAS annual symposiums dedicated to 'key issues in current research'. The aim is to debate the challenges, barriers, opportunities and future trajectories of research in the UK and internationally.

The Symposium opens with a panel debate on the ways in which interdisciplinarity is viewed from an academic, policy and public perspective. The afternoon continues with a showcase of what can be defined as 'interdisciplinarity in practice' with first-hand reports from those scholars at the beginning of their careers whose research spans several disciplines.

We conclude the day with a lecture by Professor Martin Hairer, Regius Professor of Mathematics at Warwick and 2014 Fields medallist, speaking on the topic of 'The Mathematics of Randomness'.

### **Professor Giorgio Riello**

Director, Institute of Advanced Study

## Programme

### **12.15 - 1pm Lunch**

**1-1.10pm Welcome from IAS Director Professor Giorgio Riello**

**1.10-2.10pm 'The Future of Interdisciplinary Research'** Main lecture theatre

Chaired by Professor Stuart Croft, Provost, University of Warwick Panellists:  
Mr Peter Churchill, Joint Research Centre European Commission  
Professor Sarah Churchwell, University of East Anglia  
Professor Jane Elliott, Economic and Social Research Council  
Professor Rick Rylance, Arts and Humanities Research Council

### **2.15-2.40pm Refreshment Break**

**2.40-3.20pm 'Building Interdisciplinary Careers'** Main lecture theatre

Introduction by Professor Giorgio Riello and Rachel Corke with case studies from:  
Dr Rebecca Williams, University of Exeter  
Dr Katrin Wehling-Giorgi, University of Durham  
Dr Christabelle Peters, University of Warwick

### **3.20-3.45pm Refreshment Break**

**3.45-4.45pm 'Interdisciplinarity in Practice'** Lecture theatres 1 and 2

Strand 1: (Sciences) Dr Gemma-Louise Davies; Dr John Meadows; Dr James Sprittles; Dr Xiaowei Zhao

Strand 2: (Arts and Social Sciences) Dr Madeleine Fagan; Dr Tara Puri;  
Dr Jason Mast; Dr Zakia Shiraz

### **4.45-5.20pm Wine Reception and Project Exhibitions**

**5.20-6.30pm 'The Mathematics of Randomness'** Main lecture theatre

Chaired by Sir George Cox, Pro-Chancellor and Chairman of Council, University of Warwick The keynote lecture is given by Professor Martin Hairer (Regius Professor, Mathematics Institute, University of Warwick and winner of the Fields Medal 2014).

## The Future of Interdisciplinary Research

### **Mr Peter Churchill, Senior Advisor for Scientific Policy, Joint Research Centre (JRC) - European Commission, Belgium**

Mr Peter Churchill is by training an environmental scientist who has worked in academia, industry and public service. For the past 25 years he has worked for the European Commission's Directorate General Joint Research Centre, first as a scientist then becoming a Head of a series of earth observation and environmental based units from 1996. He currently works as the Adviser for Scientific Policy at the JRC's headquarters. His interests include the research and innovation policy, the future of manufacturing industry, and standardisation.

### **Professor Sarah Churchwell, Professor of American Literature and Public Understanding of the Humanities, University of East Anglia**

Professor Sarah Churchwell's research and teaching expertise are in 20th-21st century and contemporary American literature and culture. Her journalism has appeared in the Guardian, the Sunday Times, the New York Times Book Review, the TLS, the Independent, the Financial Times, the Observer, the Times, the Telegraph, the Spectator, and the Liberal. She has been a judge for many literary prizes, including the Women's Prize for Fiction (formerly the Orange Prize), and is a member of the Folio Prize Academy and a Fellow of the Royal Society of the Arts, and a judge of the 2014 Man Booker Prize.

### **Professor Jane Elliott, Chief Executive of the Economic and Social Research Council**

Professor Jane Elliott took up the post of ESRC Chief Executive and Research Councils UK International Champion in October 2014. Before joining the ESRC, Professor Elliott was Professor of Sociology and Head of the Department of Quantitative Social Sciences, at the Institute of Education, University of London, as well as Director of the ESRC-funded Centre for Longitudinal Studies (CLS). Since 2012 Jane has also been the founding Director of the Cohorts and Longitudinal Studies Enhancement Resources (CLOSER) programme.

### **Professor Rick Rylance, Chief Executive of the Arts and Humanities Research Council**

Before taking up the post of AHRC Chief Executive, Professor Rylance was Head of the School of Arts, Languages and Literatures at the University of Exeter. Prior to moving to Exeter in 2003 he was Dean of Arts and Letters at the then Anglia Polytechnic University in Cambridge. He took up the post of AHRC Chief Executive in 2009. He was elected a Fellow of the Royal Society of Arts (FRSA) in 1998 and a Founding Fellow of the English Association in 1999, and is also currently Chair of Research Councils UK Executive Committee.

## Building Interdisciplinary Careers

### **Dr Rebecca Williams, Lecturer in Medical History, University of Exeter**

Dr Williams' research interests are in the history of medicine in modern South Asia, particularly the politics of health and development in post-independence India. She completed her PhD in the Department of History, University of Warwick, in 2013, and was an Early Career Fellow at the IAS from 2013-14.

### **Dr Katrin Wehling-Giorgi, Lecturer in the School of Modern Languages and Cultures, Durham University**

Dr Wehling-Giorgi researches comparative approaches to twentieth-century Italian narrative. She studied Philosophy and Modern Languages at the University of Oxford, where she completed a D.Phil in comparative literature. In 2011 she joined Warwick as an IAS Postdoctoral Research Fellow prior to securing a Leverhulme Early Career Fellowship award leading on to an academic appointment at Durham.

### **Dr Christabelle Peters, Leverhulme Early Career Fellow, University of Warwick**

Dr Peters works on the interplay between race and nation in the Spanish and Portuguese-speaking World, with a focus on Africa as a discursive strategy in the construction of anticolonial and postcolonial identities. She completed her PhD at the University of Nottingham and was an IAS Postdoctoral Fellow from 2013-14.

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## Keynote Lecture: 'The Mathematics of Randomness'

### **Professor Martin Hairer (Regius Professor, Mathematics Institute, University of Warwick and winner of the Fields Medal 2014)**

Professor Hairer is one of the world's foremost leaders in the field of stochastic partial differential equations in particular, and in stochastic analysis and stochastic dynamics in general. Hairer attended the College Claparede in Geneva, followed by the University of Geneva, where he obtained his PhD under the supervision of Jean-Pierre Eckmann in 2001. He is currently Regius Professor of Mathematics at the University of Warwick, having previously held a position at the Courant Institute of New York University. He was awarded the Fields Medal in 2014.

By bringing new ideas to the subject he has made fundamental advances in many important directions such as the study of variants of Hormander's theorem, systematisation of the construction of Lyapunov functions for stochastic systems, development of a general theory of ergodicity for non-Markovian systems, multi-scale analysis techniques, theory of homogenisation, theory of path sampling and, most recently, theory of rough paths and the newly introduced theory of regularity structures.



## Interdisciplinarity in Practice

**Dr Gemma-Louise Davies** (Department of Chemistry) researches multifunctional nanostructures for biomedical applications, using nanotechnology to diagnose and treat emerging diseases.

**Dr John Meadows** (Warwick Medical School) researches mitosis, the segregation of chromosomes preceding cell division; John is investigating the interplay between kinetochore structure and the activation and subsequent repression of the spindle checkpoint.

**Dr James Sprittles** (Mathematics Institute) researches fundamental problems arising in the description of technologically-relevant fluid mechanical phenomena using a combination of mathematical modelling and computational simulation.

**Dr Xiaowei Zhao** (School of Engineering) works in Control Theory and Control Engineering. His work focuses on control of fluid-structure interaction with application on vibration suppression of large wind turbines and long-span suspension bridges, control of power electronics, and control of coupled infinite-dimensional systems

**Dr Madeleine Fagan** (Department of Politics and International Studies) engages with the politics of ethics; her fellowship explores ethics in contemporary popular culture, focusing on disastrous, apocalyptic and catastrophic future scenarios in the context of climate change.

**Dr Tara Puri** (Department of English and Comparative Literary Studies) investigates the woman's magazine in Britain and India in the mid-to-late nineteenth century, analysing English women's magazines' impact on domestic ideology, and their influence on emerging Indian women's magazines.

**Dr Jason L Mast** (Centre for Interdisciplinary Methodologies) works in the areas of theory, culture and politics; he investigates the processes by which powerful symbols form and erode, and how they shape interactions between political actors, media institutions and critics, and publics.

**Dr Zakia Shiraz** (Centre for Interdisciplinary Methodologies) researches the internal dynamics of the civil conflict in Colombia from the onset of La Violencia in 1946. Her postdoctoral fellowship sees the development of a monograph which offers a comprehensive history of violence in Colombia from 1946 to the present day.

## IAS Projects

A selection of IAS projects are displayed in the breakout rooms to view throughout the day.

### Room 1: Public Engagement

'Boundaries for Life', Dr Chet Trivedy  
Warwick Crop Centre, Professor Rosemary Collier

### Room 2: Oral History

'Voices of the University: Memories of Warwick 1965-2015', Dr Grace Huxford

### Room 3: Outreach and schools participation

Dr Elena Riva, Dr Anne-Marie Broomhall, Dr John Meadows, Dr Rebecca Kaner

### Room 4: Publication

Exchanges: The Warwick Research Journal, Dr Karen Simecek

### 'Picture My Research'

Exhibition stands displaying an image that encapsulates the activity of IAS Global Research and Postdoctoral Fellows will be displayed throughout the day, and fellows will be available to talk about their image during the wine reception.

Images are displayed from:

Global Research Fellows Dr Gemma-Louise Davies; Dr John Meadows; Dr James Sprittles; Dr Xiaowei Zhao; Dr Anne-Marie Broomhall; Dr Paul Chleboun; Dr Vaibhav Gadre; Dr Madeleine Fagan; Dr Tara Puri; Dr Jason Mast; Dr Jacomien Prins; Dr Julie Walsh; Dr Graham Pattison

Postdoctoral Research Fellows Dr Elena Riva; Dr Zakia Shiraz; Dr Charlotte Heath-Kelly.