

research
WITHOUT BORDERS
8-12 May 2017

*A festival of
postgraduate
research*

*“Research is formalised
curiosity. It is poking and
prying with a purpose.” **

#BristolRWB

bristol.ac.uk/research-without-borders

** Zora Neale
Hurstun.*

Welcome to Research without Borders 2017, our flagship festival of postgraduate research.

From health and disease to climate change, security, energy and social injustice, today's challenges are not confined by borders; geographical, disciplinary or otherwise. These far-reaching issues require far-reaching solutions.

Researchers at the University of Bristol are striving to develop new ways to tackle these 21st century challenges. Part of our response, alongside our global outlook, involves bringing researchers and stakeholders together to create a common language and framework that can transcend traditional disciplinary boundaries and have a transformative impact around the world.

Research without Borders 2017 is part of this approach. The festival brings postgraduate researchers together to showcase their work and enable discussions and exchanges in order to strengthen the research that is underway.

In this spirit of collaboration and cooperation I invite you to explore some of the latest pioneering research that is taking place here in Bristol and to contribute your own ideas and insights.

I hope you enjoy the diverse programme of events on offer.

Professor Nishan Canagarajah

Pro Vice-Chancellor for Research and Enterprise, University of Bristol



Research without Borders 2017: programme of events

Discussion series, University of Bristol, 8 to 11 May

Four evening talks led by a panel of postgraduate researchers discussing their work and its impact.

← in collaboration with the University Research Institutes

Monday 8 May **Changing perceptions, transforming identities**

With the Brigstow Institute

Tuesday 9 May **Global health: How can we stop superbugs?**

With the Elizabeth Blackwell Institute

Wednesday 10 May **Environments without borders**

With the Cabot Institute

Thursday 11 May **Making data work for everyone**

With the Jean Golding Institute

6pm to 7:30pm each evening, followed by a drinks reception.

Life Sciences building, Tyndall Avenue, University of Bristol, BS8 1TQ.

Showcase exhibition, Colston Hall, 12 May

An interactive afternoon showcasing the work of 100 postgraduate researchers.

Friday 12 May **Drop-in exhibition** 2pm to 4:30pm

Three Minute Thesis finals 4:30pm to 5pm

Drinks reception and prize-giving 5pm to 6pm

2pm to 6pm on Friday 12 May.

Colston Hall, Colston Street, Bristol, BS1 5AR.

Accessibility information

All events are free and open to all. We strive to ensure that people have equal access to public events. The two festival venues are both accessible for wheelchair users. For full access guides please visit www.disabledgo.com and search by the venues, outlined above.

If you require alternative formats or other reasonable adjustments please contact us by emailing research-without-borders@bristol.ac.uk so that arrangements, where possible, can be made.

Research without Borders 2017

Discussion series, 8 to 11 May, University of Bristol

We present a series of provocative and lively exchanges, led by a panel of postgraduate researchers, on a theme or challenge of global significance. Please come ready to share your questions, ideas and aspirations.

These evening discussion events are brought to you in collaboration with the University's four interdisciplinary research institutes, which connect researchers from different disciplines around key research themes.

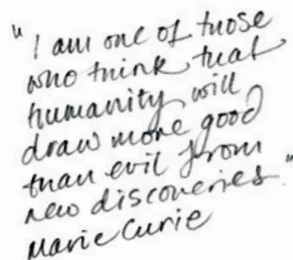
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The Brigstow Institute brings researchers together with a range of partners across the city and beyond to experiment in new ways of living and being. Research is focused around four main themes - how we can live well with technologies, how we can live well with difference, how we can live well with uncertain futures and just plain old how we can live well, with a strong focus of co-production with partners external to the University throughout all their projects.

The Elizabeth Blackwell Institute for Health Research brings together researchers, clinicians, industry, healthcare practitioners and the public to collaborate on solutions to the most pressing health problems of the 21st century. The Institute aims to 'widen the gene pool' of health research by breaking down barriers between disciplines and encouraging new configurations of people, ideas and approaches.

The Cabot Institute conducts world-leading research on the challenges arising from how we live with, depend on and affect our planet. Launched in 2010, the Cabot Institute carries out fundamental and responsive research on risks and uncertainties in a changing environment. Its interests include natural hazards, food and energy security, water, city futures, and global environmental change.

The Jean Golding Institute connects a community of experts who share common data challenges and provides expert advice on the latest data science methods to benefit research – across disciplines – within the University and the wider Bristol community.



"I am one of those who think that humanity will draw more good than evil from new discoveries."
Marie Curie



Monday 8 May

Changing perceptions, transforming identities

Interdisciplinarity can play a key role in changing perceptions, identities and tackling challenges facing us in today's world. Bringing together different types of knowledge and understandings can help us share and solve complex problems, from co-designing healthcare interventions to co-creating solutions between engineers and social scientists.

At this event, a new generation of interdisciplinary and innovative researchers set out how we acquire and utilise different forms of knowledge, rooted in understandings of languages both textual and embodied. Join us for a lively evening of discussion and experience a little of what it can mean to live well in practice.

This event is organised in collaboration with the Brigstow Institute.

6pm to 7:30pm, followed by a drinks reception, in the Life Sciences building, Tyndall Avenue, University of Bristol, BS8 1TQ.

Panel members

Left to right in photos

Lucinda Jarrett

2nd year MPhil, Arts

Dance performance and perception in neuro rehabilitation

Thea Morgan

4th year PhD, Engineering

Designing for the common good

Katinska Mara Ferrer Portillo

2nd year MPhil, Arts

Help us put the Bristol dialect on the map!

Lisa May Thomas

1st year PhD, Arts

Taking a dance perspective on VR

*Chaired by Professor Tim Cole
Director of the Brigstow Institute*



Tuesday 9 May

Global health: How can we stop superbugs?

Antimicrobial resistance (AMR) is one of the major health challenges that we face today. We know that increasing antibiotic use is associated with increasing levels of drug-resistant infections, but what should our response be and whose responsibility is it to ensure we tackle this global problem?

At this innovative discussion, an interdisciplinary group of research students from biomedical sciences, law and veterinary studies will set out what their research tells us about this global problem and where some of the solutions to AMR could be found.

This event is organised in collaboration with the Elizabeth Blackwell Institute.

6pm to 7:30pm, followed by a drinks reception, in the Life Sciences building, Tyndall Avenue, University of Bristol, BS8 1TQ.

Panel members

Left to right in photos

Sarah Garner

*2nd year PhD, Health Sciences
Sticky Bacteria: what's in YOUR mouth!?*

Louise Hatherall

*1st year PhD, Social Sciences & Law
Patent Law: encouraging or harming
access to inventions and innovation?*

Juan-Carlos Jimenez-Castellanos

*4th year PhD, Biomedical Sciences
Multidrug-resistant bacteria: an
overview*

Gwen Rees

*2nd year PhD, Health Sciences
Understanding antibiotic use on
UK dairy farms*

*Chaired by Dr Matthew Avison
Senior Lecturer in Microbiology*



Wednesday 10 May

Environments without borders

The impact of environmental change is felt across borders and underlines the need for collaboration across conventional boundaries. But in today's changing world, what is the most effective response and whose responsibility is it to act?

At this event we travel through time, disciplines and continents to understand how our water environments and the ecosystems they support are changing. We consider what that means for people and planet, and why we are failing on so many fronts to mitigate serious risks. From the injustice of 'disappearing islands' in the south pacific, to 'invasive aliens', to sea level rise and failed frameworks - we explore some of our major water-related challenges and discuss what we can do about them.

This event is organised in collaboration with the Cabot Institute.

6pm to 7:30pm, followed by a drinks reception, in the Life Sciences building, Tyndall Avenue, University of Bristol, BS8 1TQ.

Panel members

Left to right in photos

Laura De Vito

4th year PhD, Social Sciences & Law

How we depend on and shape our planet

Carlos A Gracida-Juarez

2nd year PhD, Science

Detection of an invasive alien using environmental DNA

Erik Mackie

3rd year PhD, Science

Southern Ocean Circulation: global connections in a warming world

Alice Venn

3rd year PhD, Social Sciences & Law

Laying the foundations of climate justice for vulnerable states and peoples: developing a human rights approach for the South Pacific.

*Chaired by Professor Richard Pancost
Director of the Cabot Institute*



Thursday 11 May
Making data work for everyone

Data science has changed the way we conduct research and opened up new frontiers: it allows us to look back into our evolutionary past, to test new technologies and to understand interactions at every level, from the genome to the workplace. There are, however, also challenges associated with the expanding role of data in today's world, including the potential loss of privacy for individuals.

At this event a new generation of researchers talk about their experiences with data in a wide variety of fields, and initiate a discussion on the challenges and opportunities that a data-rich world presents.

This event is organised in collaboration with the Jean Golding Institute.

6pm to 7:30pm, followed by a drinks reception, in the Life Sciences building, Tyndall Avenue, University of Bristol, BS8 1TQ.

Panel members

Left to right in photos

Jessye Aggleton

2nd year PhD, Arts

Hands-on humans: what can hand bones tell us about our use of tools and technology?

Alexander Ballisat

3rd year EngD, Engineering

Model assisted qualification of non-destructive testing techniques

Daniel Dixon

2nd year PhD, Biomedical Sciences

Living computers

Isabel Stockton

2nd year PhD, Social Science & Law

There and Back Again: a commuter's tale

*Chaired by Professor William Brown
Director of the Jean Golding Institute*

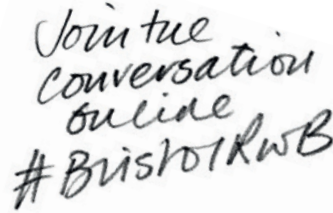
**“Knowledge is an
unending adventure
at the edge of
uncertainty.” ***

** Jacob Bronowski*

Research without Borders 2017

Showcase exhibition, Friday 12 May, Colston Hall

An interactive afternoon of exhibits, activities and presentations to celebrate and showcase the work of 100 postgraduate researchers.



Join the
conversation
online
#BristolRWB

2pm to 4:30pm

Drop-in exhibition

Across all floors of Colston Hall foyer

Drop-in to explore some of the latest postgraduate research emerging from the University of Bristol, through interactive displays, activities, exhibits and live demonstrations. From sustainability to singing, vikings to virtual reality, there's something of interest for everyone. Wander through the five floors of research exhibits and meet the researchers taking part.

2pm to 5pm

Networking lounge

Third floor

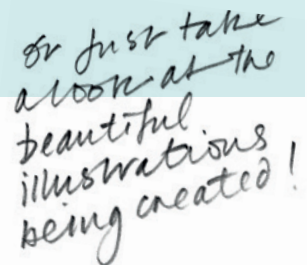
If you want to find out more about engaging with the University of Bristol then this is the place for you. Whether you are a representative from a local organisation or an individual entrepreneur, a world-leading researcher or a student with exciting ideas, come and meet with staff from across the University and discuss potential opportunities to work together. Drinks and refreshments will be available throughout the afternoon.

2pm to 6pm

Artist interaction

Lower ground floor and third floor

Throughout the afternoon, artists will be listening, investigating and engaging with attendees to capture stories of change, innovation and conversation. What do you think about the research on display and the role it could play in today's world? Please share your questions, ideas and aspirations and watch them being drawn.



Or just take
a look at the
beautiful
illustrations
being created!

"A little knowledge that acts is worth infinitely more than much knowledge that is idle."
Khalil Gibran

4:30pm to 5pm

Three Minute Thesis finals

Lower ground floor

An 80,000 word thesis would take 9 hours to present. Their time limit: 3 minutes.

Eight researchers compete in this internationally-recognised communications competition. With just three minutes to present their doctoral research, who will best explain their work and it's impact?



5pm to 6pm

Drinks reception and prize-giving

Third floor

Join us for drinks and canapes while we announce the winner of the Three Minute Thesis (3MT®) competition and which exhibitors have been awarded prizes.

Our thanks to local businesses who have donated prizes, including Colston Hall.

This is no easy feat!!

Getting to Colston Hall

Colston Hall is on Colston Street in Bristol city centre. It is around a ten minute walk from the University of Bristol.

By bus

Most city centre buses stop at the central promenade where you should alight for Colston Hall.

By train

Bristol Temple Meads, the nearest station, is about a mile from Colston Hall. Buses 8 and 9 run directly to the city centre promenade, or it takes about 20 minutes to walk.

By car

We recommend parking in Trenchard Street Car Park, which is behind Colston Hall.

For more information on getting to Colston Hall, including accessibility information, please visit www.colstonhall.org/visit-us

Meet the researchers and their research

The researchers participating in the showcase exhibition are listed below under broad themes. Researchers took part in curating the exhibition by identifying these cross-disciplinary themes.

Exploring virtual realities

Mike O'Connor

The Nano Simbox: a virtual reality environment for interactive molecular simulations

Lisa May Thomas

Taking a dance perspective on VR

Learning from micro-organisms

Nathan Christmas

Visualising the evolution of cyanobacteria in the cryosphere

Grace Edmunds

Cancer immunology: the art of cell defence

Samantha Saunders

Fighting feline foes: steps towards tackling feline coronavirus

Changing our behaviours

Ana Gabriela Ortega Avila

High consumption of sugary drinks amongst Mexican youth: why, and what to do about it?

Miriam Cohen

Neurodisability within the Criminal Justice System: neuropsychological profiling and targets for intervention

Joanna Fowler

Does mobile phone exposure affect health in young people?

Sarah Garner

Sticky Bacteria: what's in your mouth?

Lisa Morgans

A day in the life of a dairy farmer

Emma Ranger

E-bikes for health: could electric bikes help us to be more active?

Gwen Rees

Understanding antibiotic use on UK dairy farms

Catherine Tooke

Targeting molecular machines responsible for antibiotic resistance

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Exchanging cultures, understanding otherness

- Alison Bard** The future of veterinary communication: partnership or persuasion?
- Mim Cartwright** An exploration of social worker relationships, roles and the wellbeing of children in long-term care
- Martine Diepenbroek** Enigma: secret communication in Greco-Roman warfare
- Sam Passmore** Is it weird to marry your cousin? Exploring global-diversity in kinship
- Katuska Mara Ferrer Portillo** Help us put the Bristol dialect on the map
- Isabel Stockton** There and back again: a commuter's tale

The building blocks of life

- Keith Alexander** Proteins are virtually knotted
- Alexander Ballisat** Model assisted qualification of non-destructive testing techniques
- Daniel Dixon** Living computers
- Imad Faruque** Quantum photonics
- Monika Frysz** Relationships between hip bone mineral density and hip shape in adolescent and adult females
- Sian Fussell, Corrigan Hicks, Michael James, Lauren Matthews and Angela Suriyakumaran** Functional Nanomaterials demonstrations, as part of the Bristol Centre for Functional Nanomaterials
- Andrew Gordon** Identifying the neural substrates of misinformation
- Stephen Hill** Fluorescent carbon nanoparticle platforms for probing multivalent carbohydrate presentation
- George Hutchins, Jonnie Jenkins, Richard Stenner and Jack Steventon** Synthetic Biocatalysts: designing artificial enzymes from scratch, as part of the Anderson research group
- Aaron Scott** Zebrafish hearts can regenerate: what are the cells talking about?

Meet the researchers and their research **continued**



How we impact our environment

Cara Doyle	The genetic modification of crop plant species using nanotechnology
Amy Foulds	“Straighten up and fly right”: how are aircraft affecting our atmosphere?
Christina Fraij	How to use X-ray vision to look into airplanes
Joe Gregory	Model-based systems engineering: a novel approach to spacecraft design
Ailsa Naismith	A game of risk: an introduction to improving risk mitigation at Fuego volcano, Guatemala
Katherine Pugsley	Measuring carbon dioxide emissions
Tabitha Richmond	African Cichlid radiation: the 50km jump!
Georgina Taylor	Will tests for respiratory tract infections really help GPs?
Amy Thomas	Respiratory disease and the microbiome in cattle - keeping animals healthy for sustainable production
Thomas Timberlake	Mind the Gap: how flowering times affect pollinators
Edith Villa-Galaviz	The elephant in the room: nutrient enrichment and insect biodiversity

How our environment impacts us

Swaid Abdullah	Ticks and tick-borne diseases in the UK
Karina Calvopina	A fairy tale of antimicrobial resistance
Tom Chisnall	Queries in Milk: the genotypic variation of <i>Coxiella burnetii</i>
Laura De Vito, Erik Mackie, Alice Venn	Environments without borders, as part of the Research without Borders and Cabot Institute group
Rana Fareed	Type 1 diabetes over time
Carlos A Gracida-Juarez	Detection of an invasive alien using environmental DNA
Rachel Hutchinson	Spotlight on <i>T. suis</i> , the forgotten trypanosome
Juan-Carlos Jimenez-Castellanos	Multidrug-resistant bacteria: an overview
Wan Nur Ismah Wan Hamad Kamil	From harmless bugs to superbugs to supervillains

"I was brought up to believe that the only thing worth doing was to add to the sum of accurate information in the world"
Margaret Mead

Negotiating power

Gozde Burger	Children's experiences of divorce
Leanne Cameron	Teacher agency towards conceptualising professionalism: a case study in Rwanda
Catherine Chen	Exploring primary school teachers' perspectives and practices in regular classrooms in China
Louise Hatherall	Patent Law: encouraging or harming access to inventions and innovation?
Sha Liu	Validating the use of automated writing evaluation in Chinese EFL writing instruction: an eye-tracking study
Samuel Rogers	Dependency moves East? A critical analysis of the political economy of a dependent market economy and the case of Hungary
Alexander Thomas	The archaeology of the Danelaw Boundary
James Neil Watts	Flora Shaw: A Journalist and the British Empire

Perspectives for looking at the world

Jessye Aggleton	Hands-on humans: what can hand bones tell us about our use of tools and technology?
Jade Boyd	Colour in Lorca's theatre
Claudio Cataldi	Middle English debates of the body and the soul
David Dewar	A 'glue' for communities: music as actor
Alfie Wearn	Detecting the earliest signs of Alzheimer's disease using neuropsychology and MRI brain imaging
Tina Williams	Suffering in silence

In addition to those listed above, eight researchers will present their research as part of the Three Minute Thesis finals.

What does research mean to you? What could research without borders achieve? We hope that Research without Borders has informed, intrigued and inspired you.

We invite you to jot down any ideas, notes or questions that arise from attending or participating in the festival.



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Have you made a new connection with a researcher or organisation? **Do you want to follow it up with an email?**

Feel free to use this space for noting down any contacts that you make through the festival.



A series of horizontal dotted lines for writing notes.

"Alone we can do so little; together we can do so much."
Helen Adams Keller

Thank you to everyone who has taken part in Research without Borders, and helped us grow the festival in scale and ambition every year.

The Bristol Doctoral College was established in 2013 to support and enhance the experience of all postgraduate research students across the University. Find out more about the work that we do on our website

bristol.ac.uk/doctoral-college

If you would like to find out more about the festival or future opportunities to collaborate with our postgraduate research students, please email research-without-borders@bristol.ac.uk



University of
BRISTOL

*“Research is to see what
everybody else has seen,
and to think what nobody
else has thought.”*

Albert Szent-Gyorgyi

Research without Borders
is brought to you by the
Bristol Doctoral College.

**Join the conversation about
Research without Borders online.
What does research mean to you?
What is your dream for research
without borders? Use the hashtag**

*← in collaboration
with Bristol's
University
Research
Institutes*

#BristolRWB