Welcome to Research without Borders 2019, our annual festival of postgraduate research.
Today’s challenges are not confined by borders - geographical, disciplinary or otherwise. Globally, we face a range of complex issues: diverse health needs, how to tackle climate change, confronting social injustice, the implications of technological growth and innovation. At the University of Bristol, we seek creative approaches to such global problems through working together in the name of frontier-expanding research.

Research without Borders 2019 brings together postgraduate researchers from across disciplines to showcase some of the latest research that is taking place here in Bristol. It aims to put this research into conversation with the wider community around us.

Together, we can explore what possibilities exist when we ask questions rather than settle for quick fix answers; when we challenge ourselves to step out of the ordinary framework of day-to-day life and approach the world from new perspectives.

I invite you to explore the pioneering advancements into sustainability, technology, education, culture and identity, engineering, and health, underway at our University — and to contribute your own insights.

Through meeting with our researchers, asking questions and sharing your own ideas, we hope to strengthen the research underway, and build connections which serve both local and international communities.

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

Professor Nishan Canagarajah
Pro Vice-Chancellor for Research and Enterprise, University of Bristol
Programme of events

Collaborative events, 7 to 9 May
University & City locations
Three afternoon and evening exploratory events led by the University Research Institutes reflect on how different perspectives offer new approaches to 21st century challenges.

Showcase exhibition, 15 May
Colston Hall
From robots to prehistoric life, Roman cooking to the latest innovations in sustainable energy, this public exhibition features more than 50 interactive research exhibits for you to explore.
Tuesday 7 May
12:30 to 4:30pm
Exploratory workshop: What does Research without Borders look like?
PGR Hub, Senate House, Tyndall Ave BS8 1TH
With the Brigstow Institute.
Open to research students only.

Wednesday 8 May
6pm to 8pm
Bristol’s One City Plan: an interdisciplinary dialogue on a sustainable future city
Watershed, 1 Canon’s Road
Bristol BS1 5TX
With the Cabot Institute

Wednesday 15 May
11am to 6pm
Showcase exhibition
11am to 4:30pm*
Interactive research displays
RwB Visualise: Public art commission
Featuring exhibits from Creative Reactions
4:30pm to 5pm
Three Minute Thesis final
5pm to 6pm
Drinks reception and prize-giving
Colston Hall, Colston Street
Bristol BS1 5AR

*You can drop-in anytime between these times. We suggest allowing at least one hour to explore the exhibition.

Thursday 9 May
6pm to 8pm
Measurable humans: how good does our digital health look?
Watershed, 1 Canon’s Road
Bristol BS1 5TX
With the Elizabeth Blackwell Institute and Digital Health and Care CDT

Accessibility information

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

If you require additional information or have specific requests, please contact us by emailing research-without-borders@bristol.ac.uk. We will make reasonable arrangements, where possible, to make the events accessible to all.
We present a series of provocative and exploratory afternoon and evening events for both the research community within the University of Bristol and the wider city community to enjoy. These events encourage you to reflect on how interdisciplinary perspectives can offer new approaches to 21st century challenges.

An afternoon creative workshop for research students invites the academic community to explore new ways of working together across disciplines. Two evening discussions, led by a panel of postgraduate researchers, present lively and thoughtful exchanges on themes of sustainable cities and healthcare innovation.

These events are brought to you in collaboration with three of the University’s interdisciplinary research institutes, which connect researchers from different disciplines around key research themes.

**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 initial themes: living well with technologies, living well with difference, living well with uncertainty and just plain old living well. Our research is underpinned by a commitment to a distinctive way of working that focuses on inter-disciplinarity, co-produced research with – and not just for – external partners, and an emphasis on ‘critical making’ as a research methodology.

**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 Elizabeth Blackwell Institute** for Health Research nurtures health and biomedical research at Bristol and beyond. We identify and support excellent, world-leading research to deliver novel and ground-breaking results of benefit to health. The Institute supports research that brings together fields as well as researchers, clinicians, industry and members of the public.
Exploratory workshop:
What does ‘Research without Borders’ look like?

We start this year’s festival by asking our participants what they think Research without Borders looks like in practice.

A student-only hands-on workshop facilitated by the Brigstow Institute offers Bristol’s postgraduate researcher community the opportunity to learn about, practice and reflect on the value and practicalities of interdisciplinary and co-produced research approaches and methodology. Students participating in this workshop will develop and design instruments and tools that will facilitate interdisciplinary dialogues between researchers.

These tools will be displayed at the Showcase Exhibition on Wednesday, May 15.

Workshop facilitated by:
Dr. Tim Cole and Ms. Lizzie Harrison

This event is organised with the Brigstow Institute
Bristol has launched an ambitious plan which aims to make Bristol fair, healthy and sustainable with reduced inequality, by 2050.

But how will we get there?

Taking perspectives from research in education, history, science and anthropology we ask: what can we learn from our different disciplines that could help Bristol achieve its aims? What opportunities can we see for innovation and change? And who is, or should be, included in decisions about how we build our future?

Bristol’s One City Plan: an interdisciplinary dialogue on a sustainable future city

Panel members:

Laurene Cheilan
2nd year PhD in Education, School of Education

Matthew Tarnowski
2nd year PhD in Synthetic Biology, School of Biological Sciences

Steph Gillett
1st year PhD in History, School of Humanities

Tammy Gladwin
1st year PhD in Archaeology and Anthropology, School of Arts

Chaired by:

Professor Dale Southerton
Acting Director of the Cabot Institute

This event is organised with the Cabot Institute
Thursday, 9 May
6pm to 7:30pm, followed by a drinks reception
Watershed, 1 Canon’s Road, Bristol BS1 5TX

Measurable humans: how good does our digital health look?

Fitbits, headspace apps, glucose monitors, wearable sensors - these are but a few of the ways we are currently measuring humans.

Current developments in our personal technological devices and the technology we can implement in the home are hugely affecting our self-management in health and care.

But how good does a future of ‘digital’ health really look? And does it look good for everyone? This interdisciplinary panel responds to the challenges and implications of current and future innovations in the digital health sector. From how we currently measure humans, to the potential limit-pushing developments of our future, four emerging researchers offer insights into the digital health sector as it stands, and where we might go next.

Will everyone be able to access new technologies, such as wearables and apps, and be able to benefit from them? How is public health and our current healthcare system affected by the advent of new technologies in the home? Are these new developments responding to real-time problems, or is the technology being progressed for progress’ sake? Finally, who owns these technologies – and then controls the data they gather and how that data is managed?

Panel members:

Alexis Bedolla Velazquez
3rd year PhD in Sociology, School of Sociology, Politics and International Studies

Michal Kozlowski
4th year PhD in Electrical and Electronic Engineering, School of Computer Science, Electrical and Electronic Engineering, and Engineering Mathematics

Sophie Turnbull
Recently completed PhD in Population Health Sciences, Bristol Medical School

Steph Suddell
2nd year PhD in Psychology, School of Psychological Science

Chaired by Dr. Paul Marshall
EPSRC Centre for Doctoral Training in Digital Health and Care

This event is organised with the Elizabeth Blackwell Institute and EPSRC Centre for Doctoral Training in Digital Health and Care

Elizabeth Blackwell Institute for Health Research
Panel members

Bristol’s One City Plan: an interdisciplinary dialogue on a sustainable future city

Laurene Cheilán
Matt Tarnowski
Steph Gillett
Tammy Gladwin

Measurable humans: how good does our digital health look?

Alexis Bedolla Velazquez
Michal Kozlowski
Sophie Turnbull
Steph Suddell
Any knowledge that doesn’t lead to new questions quickly dies out: it fails to maintain the temperature required for sustaining life.

Wislawa Szymborska, Polish poet
Explore some of the latest research emerging at the University of Bristol on this day of interactive exhibits, talks, and artwork.

Colston Hall, Colston Street Bristol BS1 5AR
Drop-in exhibition
11am to 4:30pm
Across all five floors of Colston Hall foyer

Get inspired by the 50 interactive activities, exhibits and demonstrations on display.

From robots to nanoparticles, from cooking cultures to railway history, from sustainable energy to brain surgery, there’s something of interest for everyone. Wander through the five floors of research exhibits and ask questions to the researchers taking part.

This year’s showcase also features unique artworks inspired by doctoral researchers as part of RwB Visualise and Creative Reactions (see overleaf).

Three Minute Thesis final
4:30pm to 5pm
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 its impact?

Drinks reception and prize-giving
5pm to 6pm
Third floor terrace bar

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

Access and directions 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 approximately 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 please visit colstonhall.org/visit-us
This year Research without Borders is excited to pilot a new programme which invited a select group of postgraduate researchers from across a range of disciplines and subjects to work with acclaimed Bristol-based artist Zoë Cameron. Together they have developed a public installation to feature as the centre of this year’s Showcase Exhibition.

“This has been an exciting challenge and eye-opening experience for me, learning about 7 fascinating and very different areas of research and working on ways of visually representing them as a whole.

Together we’ve made a playful modular sculpture, part mobile, that aims to represent the invisible growth structures and research that bind and animate a city and beyond.

Simple materials such as wood, clay and paper have been chosen to encourage interaction and observation. Different elements will respond to changing inputs and move between spheres such as biology and culture, the individual and the state. Variations in scale also represent the mass of data needed to study recurring themes of patterns and anomalie, with the ultimate goal of improving the individual’s lived experience.

It has been a rewarding collaboration and hopefully the artwork will inspire more interesting conversations about research with the general public!”

Zoë Cameron
is a Bristol-based artist who specialises in clay, drawing, collage and found materials.

She runs art workshops and community events and enjoys working with people, encouraging wider participation in the visual and tactile arts. She has been practicing since 2008.

Students Involved:

Amber Roguski - School of Physiology, Pharmacology and Neuroscience
Anouk Spelt - Department of Aerospace Engineering
David Dewar - Department of Music
Debbie Daniels - School of Biochemistry
Matthew Lee - Bristol Medical School
Melanie Iddon - Bristol Law School
Vijay Kumar - Department of Civil Engineering
Featuring works from Creative Reactions

Creative Reactions is a collaboration between artists and researchers to produce unique visual artworks.

Originally founded as part of the Pint of Science festival, the project has now spread to a number of cities across the UK. Each event has a different format. Creative Reactions Bristol explores the relationships between science and art. With 50 artists and 50 scientists collaborating on works from sculptures and wood carvings to canvas, digital and performance art, this year’s exhibition runs across two local venues throughout various dates in May: Northstreet Gallery and The Island.

This year Creative Reactions has loaned 7 artworks responding to postgraduate research students to feature as part of the Research without Borders showcase exhibition.

Researcher / artist pairings:
- Ailsa Naismith & Emily Ketteringham
- Charlie Hatcher & Amy Hutchings
- Emily Crowe & Michael Blow
- Laura Tinner & Mary Rouncefield
- Matthew Lee & Phil Young
- Nancy McBride & Sophie Galliers
- Tom Battram & Beckie Upton

Find more Creative Reactions:

50+ artworks featured in Northstreet Gallery from Thursday 2nd May to Sunday 19th May

50+ artworks featured in The Island from Monday 20th May to Saturday 1st June

Drinks reception and celebration event on Thursday 2nd May, 7-10pm, Northstreet Gallery

Drinks reception and celebration event on Monday 20th May, 7-10pm, The Island
Showcase exhibition map

**Lower Ground Floor**

*Culture and community*
Stalls 1 to 8

*Small stuff*
Stalls 9 to 10

**Ground Floor**

*Small stuff*
Stalls 11 to 15
First Floor

Health: living well and living long
Stalls 16 to 22 and 27 to 30

Media portrayals
Stalls 23 to 26

New technologies
Stalls 31 to 40

Second Floor

Who we are and who we were
Stalls 41 to 45

Third Floor

How we learn and how we behave
Stalls 46 to 55

Creative Reactions exhibitors (all floors)
Exhibitors

The researchers participating in the showcase exhibition on Wednesday 15 May are listed below under the exhibition themes. Refer to the floorplans on the previous page to locate each researcher.

**Culture and community**
Lower ground floor, Colston Hall

*Caitlin Greenwood / Stall 1*
What’s cooking in Roman Britain?

*Angela Neves / Stall 2*
Aroma and enzymes! How are they connected?

*Seerat Kaur / Stall 3*
Exploring new ways of belonging for refugees and asylum seekers in Bristol

*Will Awad / Stall 4*
Race and the Media in 1980s Britain: South Asian businessmen and their representation

*Tammy Gladwin / Stall 5*
On board the Inter-Planetary Space Station: A two-dimensional story of human difference

*Anca Dobrescu & Yeliz Vural Karakas / Stall 6*
Meat alternatives and portion-size in toddlers

*Yunyan Li / Stall 7*
How Is Women’s Everyday Life Shaped in Contemporary China?

*Martina Delucchi / Stall 8*
Word and Art: telling a story from Ancient times

**Small stuff**
Lower ground floor, Colston Hall

*Laura J. Fox / Stall 9*
Nano: Nice or Nuisance?

*Joanne Boden / Stall 10*
What lived on Earth before the dinosaurs?

**Small stuff**
Ground floor, Colston Hall

*Georgia Oakley / Stall 11*
How to design a protein
Claire Noble & Harry Thompson / Stall 12
Protein DIY - Redesigning Biological Machinery from Scratch

Katie Wojcik / Stall 13
Become a scientist for the day: algae and pollution!

Kirsty Lewis / Stall 14
Exosomes – cell junk or mini messengers?

Carla Greco / Stall 15
Life in the extreme

Valeria Vincenza Alvino & William Cathery / Stall 22
How can you heal a broken heart?

Helena Davies / Stall 16
Using genetic data in healthcare: We need public opinion

Demi Ng, Mayuree Rodrat and Bartholomew Harvey / Stall 17
Cystic Fibrosis: From Top to Bottom

Emily Hotton / Stall 18
A new medical device to assist the birth of babies

Carlos Munoz Neira / Stall 19
Neural correlates of lack of insight in frontotemporal dementia

Edna Keeney / Stall 20
Should the NHS fund prostate cancer screening

Fernando Ponce Garcia / Stall 21
Neutrophil: friend or foe?

Yllka Hysaj / Stall 23
Mobility of talented employees in FinTech industry

Hugo Hammond / Stall 24
Real-time measurements of engagement in film and TV programme

Chris Moreno-Stokoe / Stall 25
Games for Science

Agata Staniewicz / Stall 26
Conservation: can crocodile calls count?

Rosaria Bianco / Stall 27
A research tool to aid the development of treatments for aneurysms

Liz Maciags / Stall 28
Look what the cat dragged in…

Jelena Taylor / Stall 29
Could gum disease be a risk factor for Alzheimer’s and Parkinson’s Disease?

Esther Saunders-Jennings, Alfie Wearn & Emma Hadley / Stall 30
Brain changes in early Alzheimer’s Disease
New Technologies
First floor, Colston Hall

Qian Liu & Maria Ferreira / Stall 31
Using deep-sea corals to understand past climate change

Sana Algharaibeh, Hongbo Wan & Eric Ho / Stall 32
New Restorative Dental Material

Matthew Skeats / Stall 33
New materials for preventing infection; do you know why we need alternatives to antibiotics?

Vijay Kumar / Stall 35
Keeping your smart home / city working always!

Ben Howchen & Gaël Gobaille-Shaw / Stall 36
Catalysts for the storage of renewable energy

Will Dixon / Stall 37
Quantum Dots as Sources of Linear Cluster States

Alexandra Moylett / Stall 38
The Quantum Wheel of Fortune

Angela Suriyakumaran / Stall 39
How do sound and gels play a part in nuclear dismantling security?

Juntai Liu / Stall 40
Photosynthesis without borders

Who we are and who we were
Second floor bridge, Colston Hall

Victoria Rivera Ugarte / Stall 41
Democracy on the field: discovering bridges between state and indigenous communities

Steph Gillett / Stall 42
Railway Networks: Past, Present, Future

Jim Blackstock / Stall 43
Gran Colombia: education and citizenship in a new nation

Rebecca Shaw / Stall 44
The Story of the Augustan Marriage Legislation

Isabel Wiltshire / Stall 45
How can radiocarbon dating pottery help us understand the transition to farming in Britain?

How we learn and how we behave
Third floor, Colston Hall

Alex Willcox / Stall 47
Practice Makes Perfect

Charlotte Brown / Stall 48
Vesta and Diana: Roman goddesses and popular culture influencers

Mary Phipps / Stall 49
Who am I? Who are You? How can I get to know you using a Culture Box?
Ilaria Scarponi & Sara Contini / Stall 50
Human Freedom and Dignity: Voices from the past, views from the present

Jeongeun Park / Stall 51
Children’s Aspirations in an Unequal World: What do you “want” to be when you grow up?

Sandra Moreno / Stall 52
The relationship between genes and behaviour!

Beatrix Gallo Cordoba / Stall 53
Building Blocks of Inequality

Wenjun (Elyse) Ding / Stall 54
Explaining why in a foreign language: which age group can do that, and how?

Jessica Armitage / Stall 55
Resilience to school bullying

What does Research without Borders look like?
Terrace Bar,
Third floor, Colston Hall
Three Minute Thesis final
Wednesday 15 May
4:30pm to 5pm

A chance to watch researchers attempt one of the toughest communication challenges in academia: to present their work, clearly and concisely, in just 180 seconds.
Join us in Colston Hall on Wednesday 15 May to witness the fast-paced finale of this year’s Three Minute Thesis competition (3MT®). Eight researchers made it through from the semi-final, but which will one will impress the judges the most? The Bristol winner goes on to take part in the UK semi-final. The standard is sure to be high at this event, which takes place as part of our showcase exhibition.

Come along, enjoy some enlightening and entertaining presentations, and vote for the competitor you think should receive the People’s Choice award.

Three Minute Thesis is an academic research communication competition developed by the University of Queensland, Australia.

Presenters:

Laurene Cheilan  
School of Education  
Unravelling Public Engagement in Science

Claire Noble  
School of Biochemistry  
De novo protein design: rebuilding the machinery of life

Helen Rees  
School of Biological Sciences  
Getting to the root of the problem: Controlling Armillaria

Ollie Hanton  
School of Computer Science, Electrical and Electronic Engineering, and Engineering Mathematics  
Spraying Screens

Konstantina Kanari  
School of Civil, Aerospace and mechanical Engineering  
Nanocomposites – how tiny changes are having the biggest impact

Jennifer Chakravarty  
School of Maths  
Security over the air for 5G and beyond

Rebecca Shaw  
School of Humanities  
The Story of the Augustan Marriage Legislation

Joshua Rees  
School of Biological Sciences  
Understanding Bacterial Genomes to solve Global Crises
Research is to see what everybody else has seen, and to think what nobody else has thought

Albert Szent-Gyorgyi, Hungarian physiologist
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 Research without Borders 2019 and meeting with the festival participants.
Have you made a new connection with a researcher or organisation at Research without Borders?

Feel free to use this space for noting any contacts that you make at the festival. Why not follow up with an email and keep the discussions going?
Research without Borders is brought to you by the Bristol Doctoral College.

The Bristol Doctoral College grows, develops and supports our thriving community of postgraduate researchers across all research degree programmes at the University of Bristol.

Find out more about the work that we do on our website:

bristol.ac.uk/doctoral-college

Thank you to everyone who has taken part in Research without Borders 2019:

Brigstow Institute
Bristol Festivals
Cabot Institute
Colston Hall
Creative Reactions
Elizabeth Blackwell Institute
EPSRC Digital Health and Care CDT
M Shed
Watershed
Join the conversation online
#BristolRwB
bristol.ac.uk/rwb