

Bristol Neuroscience Newsletter

2023: Issue 4



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Detecting hidden and complex emotions

A piece of software, which uses an 'artificial net' to map key features of the face, can evaluate the intensities of multiple different facial expressions simultaneously.

The University of Bristol and Manchester Metropolitan University team worked with Bristol's [Children of the 90s](#) study participants to see how well computational methods could capture authentic human emotions amidst everyday family life.

As a part of the European Research Council *Genetic, behavioural and cognitive mechanisms underpinning the association between mother and offspring mental health problems: mental (M) health (H) intergenerational transmission*

([INT](#)), or [ERC MHINT Headcam Study](#), parents were provided with two wearable headcams to take home and use during interactions with their babies. Parents and infants both wore



the headcams during feeding and play interactions.



They then used an automated facial coding software to computationally analyse parents' facial expressions in the videos and had human coders analyse the facial expressions in the same

videos. The team quantified how frequently the software was able to detect the face in the video and evaluated how often the humans and the software agreed on facial expressions.

Finally, they used machine learning to predict human judgments based on the computer's decisions.

The findings show that scientists can use machine learning techniques to accurately predict human judgments of parent facial expressions based on the computers' decisions.

Burgess R *et al.* (2023). [Quantifying the efficacy of an automated facial coding software using videos of parents](#). *Frontiers in Psychology*.

Images: Baby in headset and one of the mothers who took part in the pilot © Romana Burgess

EVENTS

Individual differences in sleep and waking performance; new insights from cognitive and genetic studies

18 December 2023, 16.00 - 17.00, Hans Van Dongen (Washington State University, USA), online

Light, mood and mental health

8 January 2024, 16.00 - 17.00, Pierre Alexis Geoffroy (Paris Cité Université), online

BRISTOL NEUROSCIENCE SEMINAR SERIES 2023-2024

BN is delighted to be hosting a series of seminars delivered by high profile neuroscientists from across the UK and beyond over the coming academic year, made possible with support from the [British Neuroscience Association](#) and the Wellcome Neural Dynamics programme.

The [full list of speakers](#), dates and titles is available to view on our website.

No registration required

ALL WELCOME

An Introduction to Co-produced Research

10 January 2024, 12.00 - 16.00, Room G.16, Victoria Rooms, 88 Queens Road, Bristol, BS8 1SA

AI in the Biosciences UK Network Kick-off event

11 January 2024, 9.00 - 16.00, Conference Aston, Birmingham and online

Sex differences in neural circuits that program daily rhythms

15 January 2024, 16.00 - 17.00, Jennifer Evans (Marquette University, USA), online

FAIR in (circadian) practice or How to work with your data

18 January 2024, 13.30 - 17.30, online

BRISTOL NEUROSCIENCE RESEARCH SHOWCASE

18 January 2024, Chemistry Building

A half-day research symposium to allow new University of Bristol academics to showcase their research, encourage discussion, and build collaborations.

[View the programme and register](#)

ALL WELCOME

Sex differences in the circadian regulation of sleep and cognition

22 January 2024, 16.00 - 17.00, Nayanthara Santhi (Northumbria University, UK), online

Elizabeth Blackwell Institute Annual Public Lecture 2023: Facts, fakes, society and health

22 January 2024, 18.30 - 20.00, Patricia Kingori (Professor of Global Health Ethics, Nuffield Department of Population Health, Wellcome Senior Investigator, and Senior Research Fellow at Somerville College, University of Oxford), Conference Hall, City Hall, College Green, Bristol BS1 5TR

FULL EVENTS LISTINGS ARE AVAILABLE ON THE [BN WEBSITE](#)

NEWS

£42 million boost for mental Health research

The University of Bristol is part of a £42.7 million 'Mental Health Mission' announced by the Government to accelerate research into mental health conditions, including those impacting children. The research will develop radical new treatments, improve the speed and accuracy of diagnosis and increase the use of technology to free up clinician time. According to NHS England, one in four adults and one in 10 children experience mental illness.

The psychosis theme of the Mental Health Mission has

been awarded over £4 million by the Office for Life Sciences. Dr [Sarah Sullivan](#) (Bristol Medical School, pictured) will be co-leading the psychosis prediction workstream of the theme alongside Dr Paolo Fusar Poli from Kings College London.

The Mission will be delivered through the National Institute for Health and Care Research Mental Health Translational Research Collaboration, a UK-wide network of leading investigators specialising in mental health research. The funding will be used to:



- Bolster research to improve the treatment and care for those with mental illness to address key issues affecting patients and clinicians today.
- Improve use of data and digital technologies
- Fund two pilot sites in Birmingham and Liverpool, working with industry to boost research and encourage investment
- Eliminate barriers for industry to deliver new treatments to people with mental health conditions faster

Read more about Bristol Health Partner's [Psychosis Health Integration Team](#)
[Read the full news item](#)

Improving sexual health services for survivors of abuse

Through Bristol Health Partners [Sexual Health Improvement Health Integration Team \(SHIP\) HIT](#), Associate Professor in Health Psychology Dr Jane Meyrick at the University of the West of England collaborated with health professionals, service providers and local authorities to work with survivors of child sexual abuse to improve their experiences of sexual health services in the city.

The partners hope the improvements will help increase attendance at sexual

health follow-up appointments after visiting [The Bridge Sexual Abuse Referral Centre \(SARC\)](#) in Bristol. Children and young people who have experienced sexual abuse are referred to the centre for sexual health services and testing but an audit of The Bridge's paediatric service showed one in five children and young people were not attending their follow-up appointment.

The partnership work resulted in a new patient pathway for The Bridge SARC in Bristol into local sexual health services for

our children and young people, designed with the young people who use it. The redesigned and co-created pathway has been in use since January 2023 and its effectiveness will be evaluated at the end of the first year. Child sexual abuse often has a lifelong impact. At least 15% of girls and young women and 5% of boys and young men experience some form of sexual abuse before the age of 16.

Meyrick J *et al.* (2023). [Co-produced patient pathway for sexual health....](#) *BMJ Sexual and Reproductive Health*.

Colourful primates don't have better colour vision

Primate species with better colour vision are not more likely to have red skin or fur colouration, as previously thought. The findings suggest that red skin and/or red-orange fur may be beneficial for use in social communication even in primate species that don't have particularly good colour vision. It's long been assumed that primates' colourful skin and fur is linked to their enhanced colour vision, and the results may have implications for understanding why these traits exist in different species. Primates

are known to use their red colour traits for communication with other members of their species, for example in signalling information about fertility or rank in the social hierarchy.

The fact that we didn't find that species with better colour vision are more likely to be colourful contradicts some long-held assumptions about the origins of the striking variation in colour we see within primates, and means we might have to take a closer look about what colourful red skin or fur is being used for in



individual species. It shows that despite the large amount of work that has gone into investigating primate colouration in recent years, we still don't fully understand the pressures that have shaped the evolution of colour in our own closest relatives.

Lead author
Robert MacDonald
(School of Earth Sciences)

MacDonald R *et al.* (2023). [Primate coloration and colour vision: a comparative approach](#). *Biological Journal of the Linnean Society*.

Investors back inventor's dementia-fighting SmartSocks

Dr Zeke Steer quit his job, took up a robotics PhD and began volunteering in a care home to help people like his great-grandmother, who became anxious and aggressive because of dementia.



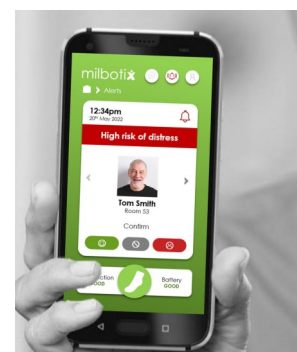
The result are his SmartSocks, which track heart rate, sweat levels and motion to provide insights on the wearer's wellbeing – most importantly how distressed they are. This AI-

driven data gives carers vital early warnings before falls and allows them to intervene before anxiety escalates.

The socks will be a game-changer in care homes and will help people with dementia live longer in their own homes. They look and feel like normal socks,

are machine washable and have received positive reviews in care home tests. Now his rapidly-growing start-up, Milbotix, has attracted pledges worth over £550k from over 500 investors in Crowdcube's early access phase. The fund-

ing will be used to grow Milbotix's team of engineers and clinical researchers, build on their successful trials and continue developing the technology.



[Read the full University of Bristol news story](#)

Images: SmartSocks, and the SmartSocks app © Zeke Steer

Political views and welfare attitudes affect obesity stigma

Views around obesity are closely tied up with political values and wider social attitudes, suggesting that tackling weight stigma may require tackling other forms of stigma.

People with obesity experience widespread shaming and discrimination in everyday life. Obesity-related stigma is now recognised as a public health issue: it is linked to worse mental health, and people with obesity often report delaying or avoiding healthcare appointments due to stigmatising interactions with doctors.



However, what determines attitudes around obesity is not well understood.

The research has explored how attitudes to obesity are predicted by demographic factors, a person's political values, and their views about people claiming welfare, who in the media are often associated with obesity. The research investigated the role of core political values, and perceptions of welfare recipients, who are frequently linked with obesity in public and political discourse. Finally, the researchers assessed to what extent demographic and socio-

economic differences in weight-stigmatizing attitudes are explained by factors like individual body mass index (BMI), values, and beliefs. The research found that, after taking age and gender into account, weight-stigmatizing attitudes were linked with more authoritarian values, more right-wing attitudes on economic issues, and more stigmatizing views about welfare recipients.

Hughes A & McArthur D (2023). [Weight stigma, welfare stigma, and political values: evidence from a representative British survey](#). *Social Science & Medicine*.

Gambling harms during Premier League football

A [rapid assessment](#), carried out by the University of Bristol in collaboration with Channel 5 in Sept 2023, monitored live televised coverage, sports news programming, sports news radio, and social media 11-14 August 2023.

Key headline findings were:

- A total of 10,999 gambling messages were identified during the weekend across various media channels.
- 6,966 gambling messages were recorded during the six live match broadcasts.
- 92% out of 391 content marketing ads sent by major

gambling brands, were not clearly identifiable as advertising – and therefore breaching a key advertising regulation.

- Less than a quarter (20.6%) included gambling harm reduction messages and only 18.7% featured age warnings – leaving the majority without any warnings.
- There was at least one gambling ad during any commercial break on TalkSport Radio and 600 gambling messages during two hours of Sky Sports News.
- 1,902 gambling ads on social media, generating a total of 34 million impressions (the num-

ber of times an advert was seen).

The study highlights a serious issue with social media gambling marketing, especially content marketing. A staggering 92% of content marketing ads are not clearly identifiable as advertising, breaching key advertising regulations. We urgently need to strengthen those regulations to protect consumers, in particular children, who are especially vulnerable to sneaky advertising.

The research aired in a [special report](#) on 19 September 2023 on Channel 5.

Jackdaws switch friends to gain food – but stick with family

Scientists from the Universities of Bristol and Exeter presented wild jackdaws with a task where access to tasty mealworms depended on which individuals visited together.

The birds soon switched friends to get the best rewards, but they stuck with their offspring, siblings and mating partners (jackdaws pair for life) no matter what the outcome.

The study, led by Dr Michael Kings (Exeter) and Dr [Josh Arbon](#) (School of Biological Sciences, Bristol), under the supervision of Professor Alex Thornton as part of the [Cornish Jackdaw Project](#), provides new insights on how animals manage social relationships.



Our findings help us to understand how societies emerge from individual decisions.

The balance between strategically playing the field for short-term benefits and investing in valuable long-term partners ultimately shapes the structure of animal societies, including our own.

Josh Arbon

Kings M *et al.* (2023). [Wild jackdaws can selectively adjust their social associations while preserving valuable long-term relationships](#). *Nature Communications*.

Could measuring ultrasonic vocalisations improve rat welfare?

Listening to rats' ultrasonic vocalisations could help provide a method to measure the impact of potential refinements on rat welfare without needing to remove the animals from their home cage.

The study, [Could Ultrasonic Vocalisations Provide The Elusive, Graded Measure Of Affective State Needed To Inform Refinements For The Laboratory Rat?](#), led by [Emma Robinson](#), Professor of Psychopharmacology in the School of Physiology, Pharmacology and Neuroscience, has been awarded funding of £565,942 by the [National](#)

[Centre for the Replacement, Refinement and Reduction of Animals in Research](#) (NC3Rs) for the new research.

Studies suggest that adult rats make ultrasonic vocalisations



at different frequencies when they experience positive or negative events. It has not previously been possible to confirm this, but a novel method

developed by the Robinson group provides an objective way to now achieve this.

In the funded research, the group will find out whether two refinement approaches lead to more positive welfare and whether this is reflected in the animal's vocalisations. This will provide proof-of-concept and whether this approach can be used to understand rat welfare.

The three-year project will begin in December 2023.

Paper that led to the NC3Rs grant: '[Rat 50kHz calls reflect graded affective responses](#)' by Justyna Hinchcliffe *et al.* in [Current Biology](#).

Funding successes: Part 1

Prof [Jon Lane](#) (School of Biochemistry) was awarded £329,394 from **Parkinson's UK** for *The Integrated Stress Response in Parkinson's: activation pathways and modulation for improved human midbrain stress resistance*, starting 1 November 2023 for three years.

Jon is also in receipt of an award from **BRACE** of £106,315 for *RESTing for autophagy enhancement in dementia* which began in October 2023 and is expected to complete by September 2026.

A **Biotechnology and Biological Sciences Research Council** (BBSRC) grant for *Individual variation in affective processing and its implications for animal welfare: a reaction norm approach* has been awarded to Prof [Mike Mendl](#) with Drs [Liz Paul](#) and [Vikki Neville](#) as co-investigators (all Bristol Veterinary School). The award, for £577,218, will begin on 1 November 2023 and complete in three years. They will be studying the links between personality characteristics and the resilience of individuals, and working with collaborators Peter Dayan

(Max-Planck Institute for Biological Cybernetics, Tübingen, Germany), Shinichi Nakagawa (University of New South Wales, Australia), Hanno Würbel & Bernhard Voelkl (University of Bern, Switzerland), and Chadi Touma (University of Osnabrück, Germany).

Dr [Paul Anastasiades](#) (Bristol Medical School) received £816,117 from the **BBSRC** for *Layer 1 interneurons as master regulators of prefrontal cortex circuit development*, starting October 2023 for three years.

Taking multiple antipsychotics increases risk of HBP

Researchers from the Applied Research Collaboration West (ARC West) and Bristol Medical School found that patients treated with multiple antipsychotics at the same time had a higher risk of developing high blood pressure than patients treated with only one antipsychotic.

Schizophrenia affects approximately 1% of people worldwide. People with schizophrenia die on average 20 years before the healthy population and this gap may be widening. They often have a lower quality of life and are at increased risk of developing diabetes, obe-

sity, high blood pressure and hyperlipidaemia.

The team analysed data from the UK Clinical Practice Research Datalink (CPRD) and reviewed the records of more than four thousand patients diagnosed with schizophrenia and registered at a GP practice between 1 July 1994 and 30 August 2018. Their findings suggest that clinicians should consider a patient's risk of developing high blood pressure when prescribing them more than one antipsychotic. Patients who take more than one antipsychotic at a time should have their blood pressure checked regularly. If needed, medication to reduce a pa-

tient's blood pressure should be prescribed, which will also help reduce their risk of cardiovascular complications developing.

Researchers found evidence that the risk of developing high blood pressure was lower for those taking a combination of first- and second-generation antipsychotics, when compared to those taking only first-generation drugs.

Eyles E *et al.* (2023). [Antipsychotic Medication and Risk of Metabolic Disorders in People With Schizophrenia: A Longitudinal Study Using the UK Clinical Practice Research Datalink](#). *Schizophrenia Bulletin*.

COVID-19 grief disorder rates 'higher than expected'

Prolonged Grief Disorder (PGD) is a mental health condition which can develop caused by the death of someone close, such as a child or partner. It is most likely to occur after a violent or abrupt death.

In the first published longitudinal study of bereavement during the COVID-19 pandemic, the research team investigated the rates of PGD among a cohort of bereaved people. They surveyed



711 people bereaved in the UK during the first and second waves of the pandemic (16 March 2020 - 2 January 2021) and followed up with the participants 13 months and 25 months after their bereavement. They found that rates of PGD were significantly higher than during pre-pandemic times. Pre-pandemic estimates suggest around 10% of bereaved people experience prolonged grief disorder. The study found that during the pandemic over 35%

of people who took part in the survey met the criteria for indicated PGD 13 months post-bereavement, and 29% of people met these criteria 25 months after their bereavement.

E Harrop *et al.* (2023). [Prolonged grief during and beyond the pandemic: Factors associated with levels of grief in a four time-point longitudinal survey of people bereaved in the first year of the COVID-19 pandemic](#). *Frontiers Public Health*.

Image: National COVID Memorial Wall, London, © Joanne Fryer

Artworks reflect emotional impact of energy use

An art commission designed to ask important questions about the potential mental and emotional impacts of future energy use went on display at the at the [Digital Design Weekend Showcase](#) hosted by the V&A London in September 2023.

[Electric Feels](#) was commissioned by Dr [Ola Michalec](#) (Computer Science) alongside Joe Bourne from the University of Lancaster, on behalf of the [PETRAS National Centre of Excellence](#). PETRAS is a UK research consortium focused on the future implementation of the Internet of Things.

Four illustrators were cho-

sen to create pieces exploring the intersection of energy, digital technology, and emotions. The thought-provoking pieces include Liz Ormian's [Smart Living](#), which uses a single page



comic book format to look at how small changes to domestic energy use could be felt by human users, while [Control Rooms](#) by Bristol-based Mary Flora Hart shows a shared flat in the not so distant future

which shows how data screens, dials, and interfaces have crept into living spaces so much that they start to look like power station control rooms.

The commission also includes [Powerful Emotions](#) by Aude Nasr, which features a series of tarot cards based on the ways smart appliances cause a wide range of emotions (pictured here); meanwhile, Bristol-based artist Jordan Collver's comic illustration [Gone With The Wind](#) tells the story of a manager decommissioning wind turbines in the Scottish Highlands in 2047 using artificial intelligence from a control room.

Interoceptive mechanisms of emotion in mental health

The EM-BODY project is headed by Prof Sarah Garfinkel (University College London) and Dr Camilla Nord (University of Cambridge) and received a grant of £4.2 million from Wellcome.

The sense you have of the internal state of your body (interoception) is key to detecting, interpreting, and regulating emotion. Interoception is a common mechanism underlying emotion-based active ingredients targeted in the treatment of anxiety and depression: affective awareness, emotional granularity, emotional controllability, and emotion regulation. The team propose a three-stage approach

to assess, augment, and clinically track interoceptive mechanisms of emotion in mental health treatments. Firstly, they will establish a comprehensive battery of interoceptive assessments and determine their links with emotion-based active ingredients, depression and anxiety, allowing the characterisation of dimensions and disruptions of interoceptive signalling on an individual basis. Then they will demonstrate causality, showing how targeted modulation of interoception across different hierarchical levels improves emotion-based active ingredients. Finally, they will use reverse-translation to link efficacy of an established treatment, mindfulness train-

ing, to enhancements in emotion-based active ingredients and their interoceptive mechanisms. Experiments will take place across the UK and Argentina. Uncovering the interoceptive mechanisms of emotion-based active ingredients could transform treatment options, helping identify who might benefit from interoceptive targeting, and leading to the development of interoceptive 'boosters' to improve treatment outcome for depression and anxiety.

Bristol's contribution, led by Dr [Edwin Dalmaijer](#) (Psychological Science), will be in statistics and the development and testing of novel gastric measurements.

Zoological Society of London's Scientific Medal

The Zoological Society of London is a global science-led conservation organisation helping people and wildlife live better together to restore the wonder and diversity of life everywhere. Each year for the past 62 years they have awarded a Scientific Medal to up to three highly regarded academics for their "distinguished work in Zoology".

Dr [Stephanie King](#) is based in the School of Biological Sciences at the University of Bris-

tol. Her research looks at how dolphins interact with individually distinctive whistles, and how vocal communication can mediate complex social behaviours, like cooperation, in animal communities.

I have worked hard to push the field of cetacean biology forward by utilising state-of-the-

art technology and playback experiments to study social cognition in the wild. I am privileged to work on a remarkable dolphin population and with a collaborative team of international researchers.

Dr King's research has been [featured on the BBC](#) and last year she beat 700 other academics to be [awarded \\$1.44million](#) for her project called 'The Social Origins of Rhythm'.

Image shows Dr King and colleagues surrounded by dolphins on their research vessel



Funding successes: Part 2

Dr [Emma Hart](#) (Physiology, Pharmacology and Neuroscience) has been awarded a **British Heart Foundation** research grant for *Under stress: Why are women of Black African-Caribbean heritage at elevated risk of hypertensive disorders and hypertensive related stroke*. The £313,446 4-year project started in Jul '23.

Dr [Ela Chakkarapani](#) (Bristol Medical School) was awarded £11,224 from the **National Institute for Health and Care Research (NIHR)** for *Cooling in mild encephalopathy* starting May '24 for 5 years. **NIHR** awarded Dr [Lucy Selman](#) (Bristol Medical School) £108,669 for *Equitable Bereavement Care*

for All- A qualitative study to improve bereavement services for those from minoritised ethnic groups, Sep '23-Mar '25.

Reading Between the Lines in Autism Spectrum Disorder was supported with a £536,785 award from the **Economic and Social Research Council**. Dr [Philippa Howard](#) (in the School of Education) started the project in Nov '23 with a completion date of Oct '26.

Prof [Jack Mellor](#) (Physiology, Pharmacology and Neuroscience) received £37,600 from **Compass Pathways Ltd** for *The cellular and synaptic mechanisms for the effects of psychedelics on flexible memory representations in*

the hippocampus, Oct '23-Sep '27.

Dr [Matteo Santon](#) (Biological Sciences) was awarded £1,913 from the **International Society for Neuroethology** for *The mesmerising display of the broadclub cuttlefish*, Oct '23-Sep '24.

Prof [Nathan Lepora](#) (Engineering Mathematics and Technology) is one of the collaborators on the *Advancing the physical intelligence and performance of roBOTS towards human-like bi-manual objects MANipulation* project funded by **Horizon Europe**. The award of £570,089 will be shared between the partners; the project will run Oct '23-Mar '27.

Misinformation shared by U.S. politicians

Researchers have unravelled for the first time a fundamental shift in the way American politicians communicate on social media, which helps explain the proliferation of compelling misinformation.

Data science and psychology experts from TU Graz in Austria, the University of Konstanz in Germany, and the University of Bristol analysed 3.8 million tweets posted by Republican and Democratic members of Congress between 2011 and

2022. The findings showed that since Donald Trump's election victory at the end of 2016, representatives of both political camps have increasingly expressed their opinions and convictions.

The researchers developed a unique method to recognise and measure the speech patterns of "belief-speaking," which relies on authentic expression of a conviction irrespective of evidence or fact, and "fact-speaking," which examines evidence and substantiates opinion with facts.

Using statistical models, the findings demonstrated a clear correlation between the language pattern of belief-speaking and the linking of poorly rated sources, such as low-quality news sites reporting poorly researched 'facts,' for Republican members of Congress.

Lasser J *et al.* (2023). [From alternative conceptions of honesty to alternative facts in communications by US politicians](#). *Nature Human Behaviour*.

External engagements

Drs [Laszlo Talas](#) and [Jasmina Stevanov](#) and PhD student [Kane Colston](#) from Bristol Veterinary School took part in a [FUTURES](#) Festival of Discovery family-friendly late opening of Isambard Kingdom Brunel's historic ship, the S.S. Great Britain, on 29 September 2023. As part of the [Bristol Vision Institute](#) stand, they demonstrated the effectiveness of tiger camouflage using a Lego tiger and showcase several visual illusions, including an impossi-

ble rooftop that defies geometry.



A number of researchers based within the [Health Economics Bristol](#) research group presented at conferences in 2023. Among them are Dr [Estela Barbosa](#) (Bristol Medical School) who presented *Costing the mental health*

harms of sexual and physical violence in adulthood: A prevalence-based analysis in England at the [European Conference on Domestic Violence](#) held in Reykjavik, 11-14 September 2023; and Prof [Joanna Coast](#) (Bristol Medical School) who attended the [International Health Economics Association](#) Congress in Cape Town on 11-12 July 2023, where she presented on *The capabilities of people with advanced dementia: Do proxy respondents show adaptive preferences?*

Reducing harm from drug injection through behaviour

The REACT (Reducing bacterial infections) toolkit aims to help support people who inject drugs care for their veins and make changes to their injecting practices to prevent bacterial infections. A small pilot study in four settings within Bristol suggests the toolkit was viewed as acceptable to people who inject drugs and a range of service providers. The toolkit was co-produced by people who inject drugs, service providers including Bristol Drugs Project and other key stakeholders. These included researchers from the University of Bristol and London School of Hygiene and Tropical Medicine, public health

experts in the UK Health Security Agency and Bristol City Council, Exchange Supplies and Linnell Communications. Bacterial skin and soft tissue infections such as abscesses and cellulitis are common among people who inject



drugs. The main cause of these infections is poor hygiene during the injection process which is contributed to in part by the places and spaces people inject in. By involving the perspectives of people who inject drugs and key

stakeholders the team ensured the toolkit focused on the priorities of people who inject drugs, including pain when injecting and maintaining vein access and care. A greater emphasis was also placed on addressing environmental obstacles to safer injecting. For example, offering wipes and hand sanitiser to support skin cleaning prior to injection.

Kesten J *et al.* (2023). [Development, acceptability and feasibility of a personalised, behavioural intervention to prevent bacterial skin and soft tissue infections among people who inject drugs: a mixed-methods Person-Based Approach study](#). *Harm Reduction Journal*.

Successes of the PReCePT programme

The success of [PReCePT](#), a programme to increase the use of magnesium sulphate to prevent cerebral palsy in premature babies, has been highlighted in a study led by National Institute for Health and Care Research [Applied Research Collaboration West](#) researchers.



The study shows uptake of magnesium sulphate increased across all maternity units in England, regardless of whether they were given extra support. They compared uptake in 27 maternity units under the standard

programme with 13 units given an enhanced support package. Standard support included a PReCePT Quality Improvement (QI) guide and toolkit created by [Health Innovation West of England Academy](#). Researchers found that in the year before the study start-

ed, 68% of eligible mothers in the control group and 64% of mothers in the enhanced support group received magnesium sulphate. After the study, this had gone up to 84% and 85% respectively. After adjusting for other factors, the

two groups had improved by very similar amounts. The standard National PReCePT Programme (control group) supported by Health Innovations was the most cost-effective way to improve use of magnesium sulphate.

Edwards HB *et al.* [Quality improvement interventions to increase the uptake of magnesium sulphate in preterm deliveries for the prevention of cerebral palsy \(PReCePT study\): a cluster randomised controlled trial](#). *BJOG: An International Journal of Obstetrics and Gynaecology*.

Clare Award for involving public in obesity research

An intervention aimed at helping adolescents manage their weight has won the [Association for the Study of Obesity \(ASO\) Ken Clare Award](#) for excellence in patient and public involvement and engagement with obesity research. The intervention is part of the [AIM2Change study](#) and was jointly developed by [Bristol Biomedical Research Centre](#) researchers and young people living with obesity, during a series of workshops and therapy sessions.

A group of ethnically and

neuro-diverse young people gave feedback about content, delivery and overall study design. Researchers used these comments to tailor and opti-



mise their intervention to the needs of the adolescents they were developing it with.

AIM2Change is a type of 'talking therapy' co-developed with young people to help

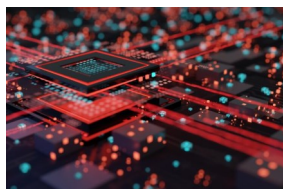
them develop their own reasons and weight management goals. It uses Acceptance and Commitment Therapy (ACT) to help participants accept feelings they might find difficult to deal with. Participants are encouraged to see these feelings as responses to certain situations and accept them, rather than seeing them as something that stands in the way of achieving their goals.

The image shows Dr [Elanor Hinton](#) in Bristol Medical School receiving the award on behalf of the study team.

Centre for Doctoral Training in Practice-Oriented AI

UK Research and Innovation (UKRI) has announced investment in 12 UKRI Centres for Doctoral Training (CDTs) in artificial intelligence (AI) based at 16 universities. The investment will continue to ensure that the UK has the skills needed to seize the potential of the AI era, and to nurture the British tech talent that will push the AI revolution forwards.

£117 million in total has been awarded to the 12



CDTs, which will train the next generation of AI researchers from across the UK. Bristol has been confirmed as one of the funded centres; led by Professor of Artificial Intelligence

[Peter Flach](#) in the School of Computer Science, PhD students who train at the new University of Bristol CDT, called the UKRI AI Centre for Doctoral Training in Practice-Oriented Artificial Intelligence (PrO-AI), will learn how to design and manage the entire lifecycle of advanced AI applications in science and re-

search, developing AI solutions for scientific problems in a safe and transparent manner. The CDT will welcome its first cohort of students in the 2024 to 2025 academic year. The CDT will train 'AI ambassadors' who, through their deep understanding of the strengths and limitations of AI, will be able to contribute to the public debate on AI and its relationship to society.

Keep an eye on the University of Bristol's [Postgraduate Study](#) pages which will advertise the programme once live.

Genomics project will provide insight in global diversity

A collaboration aims to improve global health by uncovering the effects of genomic and environmental diversity on differences in disease risk observed across the globe, thanks to a new partnership of 20 research groups.

The groundbreaking five-year project, led by researchers in the University of Bristol, the [MRC Unit The Gambia](#) at London School of Hygiene & Tropical Medicine and the [CSIR Centre for Cellular and Molecular Biology](#) in India, will explore key population health questions using datasets from across

African, Asian, and North and South American continents.

The [Diverse Epigenetic Epidemiology Partnership](#) (DEEP) study, funded by the Medical Research Council, will generate genomic datasets in underrepresented populations. It will develop software and infrastructure and conduct advanced statistical analyses to build new resources. These resources will sit alongside international health and genetics databases to look at trends in variation in DNA methylation (a process where chemical groups attach to DNA in order to help to turn genes on and off).

There is huge variation in disease onset and symptoms for people living in different global regions; however, much of the population health research conducted draws heavily on data collected from people of white European origins. The study aims to bridge this gap by studying individuals representing diverse genetic and environmental contexts and learn which DNA methylation patterns contribute to their disease risk in each context. This will enable identification of disease-causing mechanisms that are common worldwide and those which are unique to particular groups or regions.

Research study participation for people with autism

Researchers conducting the Autistic Adults and Randomised Controlled Trials (APRiCoT) study interviewed 49 autistic adults, without learning disabilities, between December 2019 and July 2020. They wanted to understand how autistic people felt about randomisation and other trial components. Understanding this would help the study team identify potential barriers and facilitators to recruiting trial participants from this group.

During the APRiCoT study, interviewees reported being

highly motivated to participate in research. They believed taking part in research was a moral obligation because it was the right thing to do. They also saw its potential to directly benefit their community in areas such as mental health, where not much research into effective treatments has been done.

Participants saw added value in including autistic people in decision-making at all stages of the research process, from generating research questions to the dissemination of findings. They felt that developing and conducting research

in close collaboration with the autistic community would help to establish trust. They also suggested that adapting communication and being flexible about how participants kept in touch with researchers throughout the study could provide improved access for the autistic community.

Beasant L *et al.* (2023). [Autistic adults' views on the design and processes within randomised controlled trials: The APRiCoT study](#). *Autism*.

Read the Bristol Biomedical Research Centre [news item](#)

Assisted dying ethical review published

The Minister for Health and Social Services published the [Assisted Dying in Jersey Ethical Review](#) report, which has contributions by three experts of medical law and ethics from the Universities of Bristol, Manchester and Toronto.

The ethical review builds on the Island of Jersey States Assembly "in principle" decision that assisted dying should be permitted in Jersey. It summarises ethical arguments on key aspects of assisted dying and maps these ethical considerations across the Jersey-specific proposals.

The contributors have published work on the subject of assisted dying ethics and have contributed as specialist witnesses in the development of assisted dying legislation internationally.

They are:

- [Richard Huxtable](#), Professor of Medical Law and Ethics, and Director of the [Centre for Ethics in Medicine](#), Medical School, University of Bristol, UK
- [Trudo Lemmens](#), Professor and Scholl Chair in Health Law and Policy, Faculty of Law and

Dalla Lana School of Public Health, University of Toronto, Canada

- [Dr Alex Mullock](#), Senior Lecturer in Medical Law, and co-director of the Centre for Social Ethics and Policy, School of Law, University of Manchester, UK

The Council of Ministers is preparing to lodge proposals for debate by the end of March 2024 with the intention to debate before the end of Summer 2024.



gov.je

Information and public services for the Island of Jersey
L'information et les services publiés pour l'île de Jèrri

GW4 funding for collaborative data & digital projects

Five successful research projects have been awarded GW4 seed funding. The projects were developed during this year's GW4 Crucible programme, with the theme 'Our Data and Digital World – Opportunities for Transformative Interdisciplinarity'.

The GW4 Crucible leadership development programme offers early career researchers and future research leaders the opportunity to come together with their peers, from across the four GW4 institutions of Bath, Bristol, Cardiff and Exeter, to consider new interdisciplinary and collaborative approaches to research and its impact.

The [collaborative and innovative projects](#) cover a diverse range of data and digital related research topics, from AI's use in education to surveillance practices and digital health platforms. In total, GW4 awarded almost £23K to the projects, which included:

ARTiD (Artificial Intelligence for Dementia)

Led by Dr [Jasmina Stevanov](#) (Bristol Veterinary School), this group will investigate the needs and requirements for developing a digital platform for remote early

detection of dementia, by gathering interdisciplinary researchers from across the UK and Europe at a workshop to discuss the challenges and limitations of the available technologies and data sources in the intelligent diagnosis of dementia.

Considering the rising risk of dementia spectrum diseases and the advantage of remote healthcare platforms, this project focuses on understanding the needs of stakeholders and requirements for development of a digital platform for remote early detection of dementia by employing various



data modalities and machine learning techniques. Ultimately, our aim is to pave the way for creation of personalised, and cost-effective remote diagnostic tools that can benefit ongoing programs and studies e.g. NHS innovative collaboration for digital health.

Panic around pandemics: A case study for applying natural language processing to historical archives to identify patterns of discriminatory language

Led by Dr Tristan Cann (University of Exeter), this pro-

ject seeks to explore the barriers researchers face when applying quantitative methods such as natural language processing to archival data, in order to understand the requirements needed to make existing archival texts accessible for large scale computation analysis. Bristol collaborators include [Barbara Cad-dick](#) (Bristol Medical School) and [Thomas Larkin](#) (Department of History).

Hate speech is a challenging term due to its fluid nature. This project defines it broadly as the use of discriminatory language to foster negative attitudes towards different groups. This definition will allow the project to explore the ways in which language varies and changes through historical and geographical contexts. Language evolution is expected to pose a challenge by affecting the utility of lexicon-based approaches for hate speech detection. The project will explore this challenge through alternative natural language processing techniques (e.g. word embeddings and lexicon updating through word co-occurrence), testing whether they are suitable for successful navigation of these lexical challenges.

[Read about all the funded projects on the GW4 website](#)

Highly Cited Researchers 2023 list

A total of 20 University of Bristol academics have been named on [Clarivate's Highly Cited Researchers 2023](#) list - up by three on last year.

The annual list acknowledges the most influential researchers in the world, who have published multiple papers frequently cited by their peers during the last decade. The full list of names has been taken from papers ranked in the top 1% of most cited works for their field and publication year in the [Web of Science](#) citation index.



The Bristol academics on the list include:

- Professor of Molecular Pharmacology [Eamonn Kelly](#), School of Physiology, Pharmacology and Neuroscience, whose research is focussed on opioid receptors.
- Neil Marrion, formerly a Professor of Neuroscience in the School of Physiology, Pharmacology and Neuroscience
- Professor of Biological Psychology [Marcus Munafò](#), School of Psychological Science, whose research focuses on understanding pathways into, and the consequences of, health behaviours and mental health, with a particular focus on tobacco and alcohol use
- Chair in Cognitive Psychology [Stephan Lewandowsky](#), School of Psychological Science, who tries to understand how the mind works by writing computer simulations of our memory and decision-making processes
- Professor of Psychiatry [Stan Zammit](#), Bristol Medical School, who studies studying the epidemiology of psychiatric disorders

The use of sexual behaviour evidence in rape trials

Public policy has been concerned for some years with whether the current system is delivering justice for victims of sexual violence. The government has commissioned numerous reviews including the End-to-End Rape Review in 2021. A key concern has been the way generalised, factually incorrect, and prejudicial beliefs about what constitutes rape and how rape victims (ought to) react influence legal proceedings.

The Law Commission of England and Wales, tasked



with examining [law and policy on evidence in sexual offence prosecutions](#), published a lengthy consultation paper in May 2023. Their provisional proposals are evidence-based, creative and ambitious. In this briefing by the University's [PolicyBristol](#) team, drawing on our [recent research](#) on sexual history and behaviour evidence in rape trials, we consider the extent of the challenge the Law Commission faces in resolving the many difficulties in this area, highlighting priorities for change.

One of the Law Commission's key objectives for law reform is to limit reference to and re-

liance on [myths and misconceptions](#) in rape and serious sexual offence trials. We worry that the concept of 'myths and misconceptions' may not be a robust enough policy and change-driving tool. Characterising myths and misconceptions as consciously held beliefs misunderstands how problematic assumptions about sexual behaviour enter and function in the trial process.

[Our research](#) shows that that myths and misconceptions influence legal reasoning and decision-making in complex ways.

[Read PolicyBristol's brief](#)

Increased threat of war enhances pup survival

Animal offspring may survive better when their groups are in greater conflict with rival factions. Battles between competing groups can lead to serious injury or death and inter-group conflict has always been thought to have a negative effect on reproductive success.

But findings turn that long-held belief on its head. Using a decade of life-history data from a wild population of dwarf mongooses, University of Bristol researchers

found that pup survival rate actually increased when the cumulative threat of conflict



with rival groups was greater. The team conducted detailed behavioural observations of the study groups in South Africa to investigate what might drive the improved pup survival. They found that when rivals or indicators of their recent

presence are encountered, adults increase their sentinel (raised guarding) behaviour.

The work was conducted as part of the [Dwarf Mongoose Research Project](#), which has studied habituated wild groups continuously since 2011.

Morris-Drake A *et al.* (2023). [A positive effect of cumulative intergroup threat on reproductive success](#). *Proceedings of the Royal Society, Series B*.

Dwarf mongoose pups in South Africa © Josh Arbon

The physical activity stories of six Bristolians are brought to life in a newly published paper, the final publication to come from the NIHR Applied Research Collaboration (ARC) West's *How Do You Move?* project. The paper presents first person monologues exploring the experiences of people from diverse backgrounds who regularly take part in physical activity.

The UK government has [guidelines about how much physical activity people should do to stay healthy](#). However, many people don't manage

to do as much physical activity as the government recommends. There are many reasons for this, including where people live, what work they do or how much spare time they have.

The [How Do You Move? project](#) explored how we can improve that way physical activity guidelines are communicated to the public. It was a collaboration between ARC West and Knowle West Media Centre, with funding from the



Brigstow Institute at the University of Bristol.

• [Abiir from Easton](#) who advocates for cycling and supports

How do you move?

others to get on their bike

- [Ben from Bedminster](#) who campaigns to improve the built environment for walking
- [Lesley from Staple Hill](#) whose involvement in the running community has been part of her cancer recovery
- [Stephen and Nikki from Easton](#) who have used physical activity as a way to manage mental health challenges
- [Vince from Bedminster](#) who does boxing, along with other group exercise, to support his mental health

Trinder-Widdess Z *et al.* (2023). [How Do You Move? Everyday stories of physical activity](#). *NIHR Open Research*.

[Read more, watch the videos](#)

Ultra-processed foods taste no better

New research that compared the taste perception of less processed foods with ultra-processed foods (UPFs), found participants viewed UPFs no more pleasant tasting than less processed foods.

The study, led by Bristol's [Nutrition and Behaviour Group](#), wanted to test the common but largely untested assumptions that food energy density (calories per gram), level of processing, and carbohydrate-to-fat ratio are key factors influencing food liking and desirability.

ity.

The experiment involved presenting volunteers with colour images of between 24 and 32 familiar foods, varying in energy density, level of processing (including UPFs), and carbohydrate-to-fat ratio. Participants were then asked to rate the foods for taste pleasantness (liking), desire to eat, sweetness, and saltiness while



imagining tasting them. Results from the study showed that, on average, UPFs were no more liked or desired than processed or unprocessed foods. However, foods that combined more equal amounts (in calories) of carbohydrate and fat, were more liked and desired than foods containing the same number of calories mostly as carbohydrate, or mostly as fat.

Rogers PJ *et al.* (2023). [Evidence that carbohydrate-to-fat ratio and taste, but not energy density or NOVA level of processing, are determi-](#)

Maternal depression and child's higher education

Maternal depression can impact young people's educational attainment in secondary school, mental health, and socio-emotional development. It was not known how maternal depression impacts young people going to university, which can effect a person's earnings and socioeconomic circumstances over their lifetime.

This study investigated whether maternal depression was related to whether a young person studied at university, how far they moved for university, and the reasons for choosing a particular university. The

research team also explored how the young person's own mental health, sense of control over events in their life (locus of control) and exam results in their teenage years related to their decision for higher study.

The team found that for each questionnaire the mother reported experiencing elevated symptoms of depression in the young person's lifetime, the young person was 12% less likely to have studied at university, even after considering socioeconomic factors. They also found that this effect was explained by differences in the young people's exam results in secondary

school at 16, and to a lesser extent their locus of control at 16, suggesting targets for intervention. The findings suggest that to reduce long-term inequalities related to maternal depression, interventions could focus on improving educational outcomes in secondary school for young people affected by maternal depression.

Bowman S *et al.* (2023). [Maternal depressive symptoms and young people's higher education participation and choice of university: Evidence from a longitudinal cohort study.](#) *Journal of Affective Disorders.*

GW4 Mental Health Research Network

The GW4 Alliance has launched a new cross-institutional [Mental Health Research Network](#), designed to connect investigators, foster new conversations, share knowledge and spark new research collaborations across the universities of [Bath](#), [Bristol](#), [Cardiff](#) and [Exeter](#).

The Network, which is open to investigators from across the GW4 Alliance, is intended to facilitate interdisciplinary working, drive innovative approaches to mental health research, and accel-

erate progress in addressing key challenges and questions across the fields of mental health and mental illness.



Improving mental health outcomes forms a core component of GW4's strategic focus on advancing health and well-being research and innovation for all, as set out in the Alliance's recently launched [Strategic Vision 2023 -2028](#).

Research into neuroscience and mental health is an area of complementary strength between GW4 universities, and is a critical societal challenge, with 1 in 4 people experiencing a mental health problem each year.

If you are a staff member researching mental health or helping to develop mental health research activities at a GW4 Alliance university, and you are interested in signing up to the Mental Health Research Network, [please register to join via the online form](#).

Extreme heat and disease in urban areas

Advanced tools and more experimental studies are needed to urgently understand the impact of extreme heat events on urban health and wellbeing in the UK. A study under the [TRUUD](#) project aims to reduce non-communicable disease (NCD - such as cancers, diabetes, obesity, mental ill-health and respiratory illness) and health inequalities linked to the quality of urban planning and development.

The team looked at gaps in our knowledge between the urban environment and heatwaves, indoor heat, and non-communicable diseases

and examined what we already know about the effects of extreme heat, NCDs and related risk factors to help urban planners factor health



considerations in the decision-making process. Findings consistently demonstrated that higher temperatures above defined heat thresholds were significantly associated with increased mortality rates. The studies included in the review

reported that for every 1°C rise above the heat threshold, mortality increased by up to 2.5%, emphasising the urgent need for mitigation strategies. Furthermore, the projected impact of temperature rise on heat-related mortality showed alarming figures, with estimates suggesting a potential 90% increase in heat-related deaths between the 2020s and 2050s under medium-emission scenario.

Ige J *et al.* (2023). [A systematic review of the impacts of extreme heat on health and wellbeing in the United Kingdom](#). *Cities and Health*.

Award for improving quality of sexual healthcare

A collaborative project working with child sexual abuse survivors to improve their experiences of sexual health services has won a British Medical Association (BMA) prize. At a ceremony on 31 October

2023, Dr Jane Meyrick, Associate Professor of Health Psychology at the [University of the West of England \(UWE\)](#) and Dr Michelle Cutland from [The Bridge Sexual Abuse Referral Centre \(SARC\)](#) were presented with the 2023 BMA MEDFASH prize. They accepted the



prize on behalf of the collaboration, including [The Green House](#), the specialist support service for young survivors of child sexual abuse and their families in Bristol, South Gloucestershire, Bath and North East Somerset, and North Somerset.

Through Bristol Health Partners [Sexual Health Improvement Health Integration Team](#), researchers worked with service providers in partnership with survivors of child sexual abuse to identify changes that could be made

to the patient pathway to improve sexual health follow-up for patients, parents, and health professionals.

The partnership work resulted in a new patient pathway for The Bridge SARC in Bristol into local sexual health services for our children and young people, designed through supported engagement with The Green House's Voice Group of young survivors. The redesigned and co-created pathway has been in use since January 2023. Improvements will be captured through a similar collaborative evaluation and will be survivor led. [Read more](#)

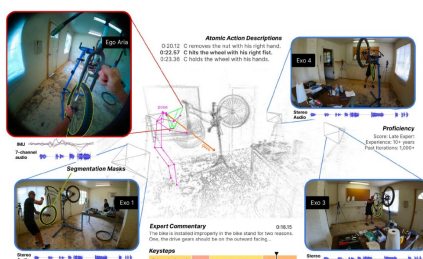
AI window into complex human activity

More than 1,400 hours of footage capturing humans performing tasks simultaneously from their point of view and externally, will help give AI models an understanding of how humans carry out activities.

Building on the work that two years ago led to the release of [Egocentric 4D Live Perception](#), the world's most diverse egocentric dataset, the Ego4D consortium has drastically expanded the reach and ambition of their research with the newly published Ego-Exo4D – a foundational dataset to support research on video learning and multimodal

perception.

A University of Bristol research team led by [Professor Dima Damen](#) at the School of



Computer Science is part of an international consortium of 13 universities in partnership with Meta that is driving research in computer vision through collecting joint egocentric and exocentric datasets of human skilled activities.

The result of a two-year effort by Meta's FAIR (Fundamental Artificial Intelligence Research), [Project Aria](#), and the Ego4D consortium of 13 university partners, Ego-Exo4D is a first-of-its-kind large-scale multimodal multiview dataset and benchmark suite. Its defining feature is its simultaneous capture of both first-person 'egocentric' views, from a participant's wearable camera, as well as multiple 'exocentric' views, from cameras surrounding the participant. Together, these two perspectives will give AI models a new window into complex skilled human activity.

GW4 Open Research Prize 2023

GW4 have announced the winners and runners-up of the inaugural GW4 Open Research Prize. The award, delivered as part of GW4 Open Research Week, celebrated best practices in making research more transparent, reproducible, and visible.

Open Research Prize 2023

New for 2023, the [GW4 Early Career Publishing Prize](#) is a pilot initiative from the GW4 Alliance, in collaboration with the [Bristol University Press \(BUP\)](#). It seeks to

celebrate Early Career Researchers and support the prize winner in exploring publication of the research in their doctoral thesis as an open access monograph.

Victoria Pittman, Editorial Director at Bristol University Press,

said: “Bristol University Press is a leading social science publisher, committed to making a difference. Collaborating with the GW4 Alliance on the Early Career Publishing Prize will be

a fantastic chance to support a talented early career researcher with the opportunity to publish an open access monograph which has the potential to widen the accessibility and impact of their research, for the global community, and increase their visibility as a researcher.”

This year’s winning entry for the GW4 Early Career Publishing Prize is [Alison Oldfield](#) (School of Education, Bristol): *Going to the farm: socio-material ethnography of autistic young people in a natural environment*.

JCPP Advances Best Paper Award

The Association for Child and Adolescent Mental Health (ACAMH) Awards aim to recognise high quality work in evidence-based science, both in publication and practice, in the field of child and adolescent mental health.

A [paper on adolescent social media user types and their mental health and well-being](#) has won the *Journal of Child Psychology and Psychiatry Advances* (JCPP) [Best Paper Award 2023](#). The paper is chosen by the [editors](#) of the JCPP; papers are eligible if they have been published in the journal in

2022. The winning and shortlisted original articles are chosen based on a range of criteria including scope, relevance and study design.



A University of Bristol team won the award for this year: Winstone L, Mars B, Haworth, Heron J & Kidger J (2022). [Adolescent social media user types and their mental health and well-being: Results from a](#)

[longitudinal survey of 13–14-year-olds in the United Kingdom](#). *JCPP Advances*.

The paper’s findings suggest that broadcasters—adolescents with high levels of content sharing in addition to messaging and browsing online—are most likely to be experiencing poor mental health a year later. Recommendations regarding social media use should expand to consider different user types, and mental health implications of their engagement with different online activities in addition to screen-time.

FUNDING OPPORTUNITIES

Research Professional provides access to an extensive database of funding opportunities, and can send out tailored alerts based on specific keywords input by the user. UoB staff and students have **FREE** online access to the database from any device.

You can search for funding information by discipline, sponsor, database searches, by recent calls or by upcoming deadlines. If you register for the site and log in, you'll be able to:

- **Set up automated funding opportunity email alerts - tailored according to your discipline and research interests**
- **Save searches and bookmarks**
- **Sign up for higher education news bulletins**

Find out more about the platform on the [RED website](#). Note that some calls may have an internal process; check the [major bids webpage](#) to see if such a process is in place.

The following listings represent a *brief selection* of available funding for the Bristol Neuroscience community. **Full listings of opportunities** are sent out via Faculty and/or School Research Directors, and **are available on the [Research Development website](#)**.

* Research Professional

National Institutes of Health

[Joint NINDS/NIMH Exploratory Neuroscience Research Grant \(R21 Clinical Trial Optional\)](#)

Closing date: 7 January 2024

Award amount: USD 275,000

Supports exploratory and innovative research projects, which fall within the missions of the NINDS and NIMH. Awards will provide support for the early and conceptual stages of projects. These studies often assess the feasibility of a novel avenue of investigation and involve considerable risk, but have the potential to bring about breakthroughs in the understanding of important areas of neuroscience, or to the development of novel techniques, agents, methodologies, or models, of high value to the neuroscience community.

Medical Research Council

[Research grants - neurosciences and mental health](#)

Closing date: 10 January 2024

Award amount: unspecified

These support research projects focused on neurosciences and mental health. The aim is to transform the understanding of physiology and behaviour of the human nervous system throughout the life course in health, illness, as well as how to treat and prevent disorders of the brain.

Alzheimer's Research UK

[Senior research fellowship](#)

Closing date: 10 January 2024

Award amount: £420,000

Enable researchers to manage their own independent research group and become internationally recognised within the field of biomedical dementia research.

Alzheimer's Research UK[Race against dementia fellowship](#)

Closing date: 10 January 2024

Award amount: £500,000

This supports early-career scientists in their pursuit of innovative solutions to the big questions in dementia research. The objectives are to: accelerate progress towards research breakthroughs through innovative and ambitious dementia research; provide outstanding early career dementia researchers with a unique package of flexible funding and developmental opportunities to fast-track their progress towards becoming independent research scientists; facilitate diverse secondments that foster interdisciplinary and inter-institutional interactions on a global scale.

National Institute of Mental Health[Cellular and Molecular Biology of Complex Brain Disorders \(R01 Clinical Trial Not Allowed\)](#)

Closing date: 5 February 2024

Award amount: unspecified

Encourages research on the biology of high-confidence risk factors associated with complex brain disorders, with a focus on the intracellular, transcellular, and circuit substrates of neural function. Studies may be either hypothesis-generating (unbiased discovery) or hypothesis-testing in design and may utilize in vivo, in situ or in vitro experimental paradigms.

BRACE[PhD studentships](#)

Closing date: 17 February 2024

Award amount: £110,000

These enable PhD students in South West England or South Wales to conduct medical scientific research into the different forms of dementia. Research is supported in four main areas: How the brain works, in order to understand more clearly what has gone wrong in someone with dementia; Development of effective and accurate means of diagnosing the condition as early as possible; Finding new treatments and assessing their effectiveness in clinical trials; Investigating the potential link between certain genes in our DNA (the information we carry in each cell in our body) and the chances of developing dementia.

Guarantors of Brain[Support for short meetings and conferences](#)

Closing date: 20 February 2024

Award amount: ££3.000

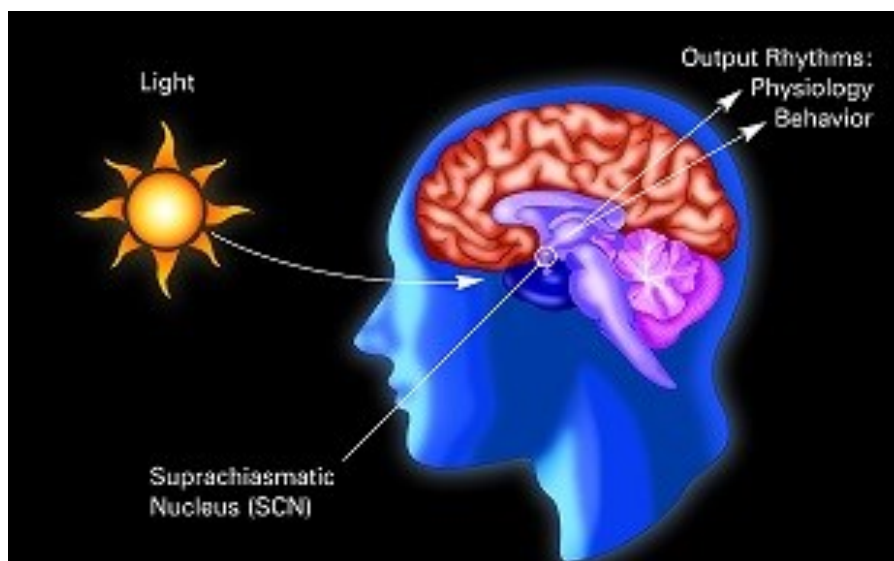
This supports organisers of meetings or conferences that allow trainee neurologists, psychiatrists and neuroscientists to meet and interact with visiting scholars of international repute.

SHOWCASED ARTICLE

Phase-shifting the circadian glucocorticoid profile induces disordered feeding behaviour by dysregulating hypothalamic neuropeptide gene expression

M Yoshimura, BP Flynn, YM Kershaw, Z Zhao, Y Ueta, SL Lightman and BL Conway-Campbell.

Communications Biology.



Scientists from Bristol and the University of Occupational and Environmental Health in Japan, sought to understand how 'circadian misalignment' — a phenomenon commonly associated with 'jet-lag' whereby the body's biological clock is disrupted — affects the hormones responsible for regulating appetite.

Prevalent in night shift workers, in this new study, the international team reveal how circadian misalignment can profoundly alter the brain's regulation of hormones controlling hunger to the detriment of metabolic health.

The team focused on glucocorticoid hormones in the adrenal gland which regulate many physiological functions including metabolism and appetite. Glucocorticoids are known to directly regulate a group of brain peptides controlling appetitive behaviour, with some increasing appetite (orexigenic) and some decreasing appetite (anorexigenic).

In an experiment using animal models, comprising a control group and a out-of-phase 'jet-lagged' group, the team found misalignment between light and dark cues led the out-of-phase group's orexigenic hypothalamic neuropeptides (NPY) to become dysregulated, driving an increased desire to eat significantly more during the inactive phase of the day.

Strikingly, the team discovered that rats in the control group ate 88.4% of their daily intake during their active phase, and only 11.6% during their inactive phase. In contrast, the 'jet-lagged' group consumed 53.8% of their daily calories during their inactive phase (without an increase in activity during this time). This equated to nearly five-times more (460% more) than what the control group consumed during the inactive phase. These results show that it is timing of consumption that has been affected.

CONTACTS



Bristol Neuroscience

Lead: [Paul Chadderton](#), Associate Professor in Neurophysiology

Memory Hub Lead: [Emma Cahill](#), Lecturer

Area of research - Physiological basis of memory and adaptive behaviour

Movement Hub Lead: [Paul Chadderton](#), Associate Professor in Neurophysiology

Area of research - to reveal the cellular and circuit mechanisms involved in motor control and learning in the cerebellum

Neural Computation Hub Lead: [Conor Houghton](#), Associate Professor in Computer Science

Area of research - understanding information processing and coding in the brain

Sleep Hub Lead: [Matt Jones](#), Professorial Research Fellow in Neuroscience

Area of research - neuronal networks in cognition and disease

Mental Health Hub Lead: in progress

Network Facilitator: [Ella Parker](#), *Research Development Manager, Faculty of Health Sciences*

Network Administrator: [Catherine Brown](#) (Elizabeth Blackwell Institute)



Bristol Neuroscience is supported by the [Elizabeth Blackwell Institute](#)



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