Biotechnology and Biological Sciences Research Council

eastBIO

East of Scotland Bioscience Doctoral Training Partnership

EASTBIO SYMPOSIUM 2025

Understanding Your Impact: Science that Matters

3rd-4th June 2025

John McIntyre Conference Centre (JMCC)

University of Edinburgh

18 Holyrood Park Road

Edinburgh

EH16 5AY

TUESDAY 3RD JUNE 2025

10:30 – 10:55	**Registration & Refreshments**	**Foyer**
11:00 – 11:05	**Welcome to Symposium**	**Pentland**
11:05 – 11:45	**Keynote: Beyond the Lab: Transforming Research into Real-World Impact** *Dr Ismar Haga (University of Edinburgh) & Dr Harriet Day (BBSRC)*	**Pentland**
11:45 – 12:15	**Workshop: Science in Society** *Dr Dave Blackbell (Scottish Policy Research Exchange)*	**Pentland**
12:15 – 12:45	**Tea/Coffee Break**	**Concourse/Centro**
12:45 – 13:30	**Science in Society - Identifying Strengths and Opportunities for Impact** *Dr Dave Blackbell (Scottish Policy Research Exchange)*	**Pentland**
13:30 – 14:30	**Lunch Break** Group Photo	**Foyer**
14:30 – 15:30	**Communicating Research Creatively** *Dr Vivek Nityananda (Newcastle University)*	**Pentland**
	Meet the EastBio Management Group - for supervisors	**Prestonfield**
15:30 – 15:45	**Comfort Break**	**Concourse/Centro**
15:45 – 16:15	**PIPS Speakers – Parallel Sessions** Career Development & Placement Impact - Pentland Interdisciplinary Research & Problem Solving - Prestonfield Public Engagement & Research Communication - Duddingston	**Break out rooms:** **Pentland** **Prestonfield** **Duddingston**
16:15 – 17:00	**Impact Unveiled: Honest Conversations on Science and Society** *Prof Andrew Millar (University of Edinburgh), Dr David Blackbell (SPRE), Dr Vivek Nityananda (Newcastle University), Dr Michael McDonald (University of Edinburgh), William Smith (University of St Andrews).*	**Pentland**
17:00	**Close of Day 1**	
18:30 – 23:30	**Dinner and Ceilidh**	**South Hall**

WEDNESDAY 4TH JUNE 2025

9:30 – 11:30	**EastBio Management Group Meeting** *EastBio Management Group and Student Reps*	**Prestonfield**
9:30 – 10:15	**Keynote: Impact Through Time: Evolving Perspectives Across Scientific Careers** *Dr Daniel Berg (University of Aberdeen) & Prof Cait MacPhee (University of Edinburgh)*	**Pentland**
10:15 – 10:45	**The Human Side of Impactful Research: EDI Challenges and Opportunities** *Professor Sinead Collins (University of Edinburgh)*	**Pentland**
10:45 – 11:00	**Comfort Break**	**Concourse/Centro**
11:00 – 11:45	**Panel discussion: Are you Managing?** *Professor Sinead Collins (University of Edinburgh); Dr Daniel Berg (University of Aberdeen); Prof Cait MacPhee (University of Edinburgh); Dr Laura Glendinning (University of Edinburgh)* **Close of Main Symposium**	**Pentland**
11:45 – 12:15	**Wellbeing Walk** *An optional 30-45-min walk around Holyrood Park. Use this walk as an opportunity to chat with new people and get a breath of fresh air.*	**Meet in Foyer**
12:00 – 13:00	**Lunch Break** *Lunch will be served for 12:00 for those not attending the Wellbeing walk*	**Concourse/Centro**
13:00-15:00	**Thematic Sessions**	**Break out Rooms:** Pentland – Rules of Life Prestonfield – Health Duddingston – Clean Growth Holyrood – Crops & Soil Salisbury – Livestock & Aquaculture
15:00-15:30	**Tea/Coffee Break**	**Concourse/Centro**
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Welcome

DR JO STEVENS, UNIVERSITY OF EDINBURGH

To our conference attendees and participants,

Welcome to Edinburgh for the annual 2025 EastBio Doctoral Training Partnership Symposium! This year's symposium is based around the central theme of the Societal Impact of Research, beginning with our keynote lecture co-delivered by Edinburgh University's Strategic Research Coordinator Ismar Haga and BBSRC's Senior Portfolio Manager Harriet Day.

I hope you enjoy the various lectures, workshops and panels that our organising committee have scheduled over the course of the next two days. I hope you have fun, learn something new and most importantly make new friends and collaborators during your discussions over lunch, coffee, the hugely popular evening ceilidh and the wellbeing walk.

And finally, please join me in extending a heartfelt thank you to all of our students and DTP Support Officer Hazel Harrop for their time, energy and hard work in making this symposium happen.

Kind regards,

Dr Jo Stevens (she/her)

College of Medicine and Veterinary Medicine, University of Edinburgh

IMPORTANT INFORMATION

EMERGENCIES

FIRE ALARM

There are no fire drills planned during our event, if the fire alarm sounds please make your way out of the building using the fire exits as guidance, and meet outside the front of the JMCC building.

EMERGENCY CONTACTS

Hazel and Maria are your main points of contact on the day. We will monitor the bioenq@ed.ac.uk inbox during the two days of the Symposium. There will also be a representative from the venue available on both days.

ARRIVAL

PARKING

There is free parking available at Pollock Halls on a first-come, first-served basis; we are unable to reserve spaces. Alternatively, charged on-street parking can be found throughout the city.

TRAVEL

Edinburgh Waverley train station is less than 2 miles from John McIntyre Conference Centre with direct routes to and from many cities across Scotland. From there you can either walk 35 minutes to JMCC, or there are a number of Lothian Buses routes that will drop you a short distance from JMCC. Find out more here.

STORAGE

Luggage storage will be available in Boardroom 2, by the registration area of the symposium. Although the registration desk will be attended throughout the two days, items stored there are left at your own risk. Please ensure you collect all items by 5.15pm each day.

REGISTRATION

Registration will take place from 10:30am on the 3rd of June in the foyer of JMCC. We understand that some guests may be attending later in the day and so will aim to have someone in this area at all times to provide your name badge.

Please try to have your Eventbrite ticket QR code ready to be scanned.

You name badge pack will include traffic light cards to indicate whether you wish to be approached by other delegates, with a red stripe indicating that you wish to be left alone for the time being, and green indicating that you are open to socialising.

If you have your lanyard from the induction or previous symposia events, please bring that along to help us to save waste!

PHOTOGRAPHY CONSENT

There will be a photographer present on 3rd June, capturing sessions and networking activities both to commemorate the event and to be used on the EastBio website, for news items by partner institutions, and EastBio promotional activities. For further information about Edinburgh University's approach to data protection and your rights go to: https://data-protection.ed.ac.uk/data-protection-policy. If you do not wish to be photographed for these purposes, please complete this form https://forms.office.com/e/WgqHFgQE8K and be sure to collect a discreet sticker from the registration desk so that the photographer can identify you.

ACCOMMODATION CHECK-IN

Accommodation will be provided in Chancellors Court and the Scott Hotel. Your allocation will be shared with you in the information email, but if you are uncertain please get in touch with bioenq@ed.ac.uk. Check in is from 3pm, for Chancellors Court please go to the main Pollock Halls reception. For the Scott Hotel Please go directly to the hotel. Check-out for all hotels is 11am.

VENUE

TOILETS

There are gender-neutral toilets available opposite the Prestonfield room, as well as standard gendered toilets throughout the venue. An accessible toilet can be found in the Foyer.

FLOORPLAN

A floorplan on the venue can be found at this link: https://drive.google.com/file/d/1CAzjLL-Dnzq6Q2-7lImzRHr-PlFhx4gQ/view?usp=sharing

ACCESS

The venue is fully accessible. Please contact bioenq@exseed.ed.ac.uk to arrange any access requirements.

STUDENT REPS

Look out for our students reps helping on the day who will be wearing EastBio t-shirts. We will do our best to have someone available at the registration desk throughout the event if you have any questions, either for the event or related to EastBio more generally.

WI-FI

There is Wi-Fi available throughout the venue, both Eduroam and venue specific Wi-Fi. Delegates are welcome to bring a laptop or tablet if you wish.

VENUE FOOD STATEMENT

We would like to make you aware that we cannot eliminate or guarantee that cross contamination of food items will not happen, from within our kitchens or on food service stations.

Whilst we make every effort to limit contamination, and to accommodate dietary preferences and food intolerances (allergen specific, vegan or vegetarian) across our menu portfolio, our food may have come into contact with other food items and several allergens such as dairy, eggs, nuts or shell fish.

For those with severe allergies or food intolerances we advise it may be best for the individual to consider providing your own food options.

Our Wellbeing Portals display an allergen profile for each menu item, with additional dietary information such as nutrition, ingredients and calories to help customers make safe and informed choices:

Conferences and Events: conferenceandevents.mysaffronportal.com/

EASTBIO CATERING AND SUSTAINABILITY STATEMENT

EastBio is passionate about becoming a more sustainably minded DTP, and as part of these efforts we are trialling an entirely plant-based catering at the Symposium Lunch. At the dinner, there will be a meat-based main course, with all dietary requirements catered to. You can find out more about the carbon footprint of catering at the University of Edinburgh here: https://catering.ed.ac.uk/sustainability/carbon-footprinting.

We will also be providing QR codes linking to online versions of our Symposium booklet and schedule in order to reduce printing.

WELLBEING

SAFE SPACES AND QUIET ROOM

We want the Symposium to be as accessible, safe and inclusive as possible. If you need some space away from other delegates, you are welcome to use boardroom 1 as a quiet room. Please note that student reps may come in and out of this room every so often, but it will be less busy that the rest of the venue.

Mental Health First Aiders (MHFA) will be around throughout the event, and will be wearing green ribbon pin badges. If you would like to talk to someone, please either approach one of the MHFA or speak to Maria or Hazel (both MH First Aiders) at any point during the day.

TRAFFIC LIGHT CARDS

In your lanyard pack you can find 2 'traffic light' cards. You can use these to indicate whether you wish to interact with other delegates. If you are happy to be approached by others, you can display the green stripe card; if you are feeling less chatty at any time, you can display the red stripe card. Please be aware of other people's traffic light colour.

WELLBEING WALK

A 30-45-min walk around Holyrood Park. Use this walk as an opportunity to chat with new people and get a breath of fresh air.

FEEDBACK AND COMPLAINTS

There will be a feedback box at the registration desk where you can post feedback which will be considered as the event goes on. There is also a QR code linking to an anonymous feedback form should you feel more comfortable using this; this form can also be found here: https://forms.office.com/e/eTy6snU78s and be used to submit feedback after the event. Any immediate concerns or verbal complaints on the day can be directed to Maria or Hazel at any point, especially if a response by the team is necessary.

KEYNOTE – BEYOND THE LAB: TRANSFORMING RESEARCH INTO REAL-WORLD IMPACT

DR ISMAR HAGA, UNIVERSITY OF EDINBURGH & DR HARRIET DAY, BBSRC

Joint keynote by Dr Ismar Haga and Dr Harriet Day to introduce the concept of impact, defining its true meaning and addressing common misinterpretations. Through the perspectives of an impact expert and a representative of a funding body, this session will offer a broad and complementary view on the role of impact in research, highlighting its importance and the frequent mistakes found in funding applications.

DR ISMAR HAGA

A specialist in poxvirus biology and host-pathogen interactions, Dr Haga has transitioned from laboratory research to research strategy leadership. After completing his PhD at Imperial College London and MSc at Brazil's University of Campinas, he conducted postdoctoral work at several leading institutions including Trinity College Dublin and the Roslin Institute. His virology research focused particularly on how viruses evade host immune defenses, generating insights with potential therapeutic applications.

In his current role as College of Medicine and Veterinary Medicine Research Office Lead at the University of Edinburgh, Dr Haga oversees clinical research governance and coordinates college-wide research infrastructure. He plays a central role in implementing the university's Impact Strategy, drawing on his firsthand experience in both basic and translational research to help bridge the gap between scientific discovery and real-world application. His unique combination of technical expertise and strategic perspective informs his approach to enhancing research quality and impact.

DR HARRIET DAY

As Senior Portfolio Manager at BBSRC, Dr Day manages strategic funding programs that support innovative bioscience research with strong potential for societal benefit. Her PhD in neuroscience from the University of Nottingham investigated sex differences in fear memory using advanced electrophysiological techniques and computational modeling, work published in leading journals. Following research roles in academia and industry, including at Sygnature Discovery, she now applies her multidisciplinary background to identify and nurture high-impact research proposals while helping scientists effectively communicate the potential benefits of their work to funding panels and stakeholders.

SESSION LEAD: CAMILO MUÑOZ SCHULER

WORKSHOP: SCIENCE IN SOCIETY

DR DAVE BLACKBELL, SCOTTISH POLICY & RESEARCH EXCHANGE (SPRE)

Throughout this session, we will consider the ways in which research can have an impact on society, in particular through policy. We will aim to provide you with an appreciation of the relationship between science and society, by discussing different types of stakeholders, and different types of impact. This session will also allow you to think about the ways in which research impact can be achieved.

This workshop will begin with a talk from Dave Blackbell, co-director of Scottish Policy and Research Exchange (SPRE), who will introduce the concept of research impact, and lead us through the different ways our research may be able to impact society and policy, as well as the methods we can use to ensure our research has an impact. This will set us up for the second half of the workshop.

For the second part of the Science in Society workshop, we will split up into smaller groups and, thinking about what we have learnt in Part One, we will begin to discuss impact in relation to our own research, with the aim of identifying our own individual strengths and opportunities for impact. This will also help us to develop a motivation to start seriously thinking about the impact our research can have, and consider some of the vital resources that we will need to help us along the way.

Each group will have at least one supervisor to help support discussions and provide insight from a range of different research areas.

DR DAVE BLACKBELL

Dave is a knowledge mobilisation specialist, with a PhD in climate science and 10 years of experience in environmental policy, climate mitigation research, and leading impact-focused research programmes. He is currently the co-director of SPRE (Scottish Policy and Research Exchange), which supports the needs of the Scottish research-policy landscape and aims to improve how evidence and research shapes policy.

SESSION LEADS: MELISSA RAMSAY, IRINA GULIAEVA, LARA DASAR

COMMUNICATING RESEARCH CREATIVELY

DR VIVEK NITYANANDA, NEWCASTLE UNIVERSITY

In this session, we will hear from Dr Vivek Nityananda about the variety of ways that we can communicate our research to the public. Public outreach and engagement in scientific research is one very important area of research impact, as the majority of research is publicly-funded and it is important to communicate findings to the public in order to improve scientific understanding, reduce the spread of misinformation and foster positive relationships between researchers and other groups. This is particularly important for research which can have a direct impact on groups within our society (e.g. health research).

This talk will explore some of the more creative and inspiring ways that research can be communicated to the public, and how best to communicate complex ideas in engaging and informative ways. Following the main talk, we will complete a small group activity to get our creativity flowing and think about how our own research could be presented in the public sphere.

DR VIVEK NITYANANDA

Vivek is currently a BBSRC David Phillips Fellow based at Newcastle University in the Centre for Behaviour and Evolution. His multidisciplinary research combines psychology, evolutionary biology, neuroscience and ecology to study cognitive and sensory behaviours in animals, including pollinator welfare, vision and attention in bees, vision and prey detection in the praying mantis, and the evolution of overconfidence. Alongside his research, Vivek has engaged in science communication at great length, and is a talented playwright and artist. He is the author of Beyond Doubt and First Proof, as well as the plays The Big Welcome and I Dream of Theresa May.

www.viveknityananda.com

SESSION LEADS: MELISSA RAMSAY, HOPE OBASI

MEET THE EASTBIO MANAGEMENT GROUP

FOR SUPERVISORS

The session encourages an open conversation between the EastBio Management, the team and Advisory Board members, on the one hand, and current supervisors in attendance, on the other. The Q&A session starts with a short, informal presentation by the EDI Committee chair on the EastBio diversity recruitment data between 2020 and 2025, in response to a key request that emerged from the Programme Survey by current supervisors in 2023/24. The Management Group may also discuss some of our plans for supporting the development of current supervisors under the BBSRC DLA funding, from October 2025 onwards. Supervisors are encouraged to come with questions, comments and/or further feedback on their experience from the programme.

PIPS SPEAKERS

EastBio students who have completed their placement will share their experiences of impact. Each talk will be 10 minutes long followed by roundtable discussions, and will cover the following areas:

PARALLEL SESSION 1: CAREER DEVELOPMENT & PLACEMENT IMPACT

PENTLAND ROOM

PRESENTERS:

Nadine Sommer - “Shaping the Future of Health - My Experience with the NEST Team at DHSC”

Broc Drury - “Helping Crohn's & Colitis UK Redesign Patient Information”

PARALLEL SESSION 2: INTERDISCIPLINARY RESEARCH AND PROBLEM-SOLVING

PRESTONFIELD ROOM

PRESENTERS:

Rosie Gallagher - "Lessons I would have told myself as 1st year student, my PhD journey so far"

Christoph Wagner - "How to work inefficiently - a guide to humbling a bioengineer"

PARALLEL SESSION 3: PUBLIC ENGAGEMENT AND RESEARCH COMMUNICATION

DUDDINGSTON ROOM

PRESENTERS:

Sesny Gall - "Want to optimize your PIPS experience? Have it abroad!"

Benjamin Thompson - "Four Brains are Better than One: Developing Accessible Research Engagement and Teaching Aides"

SESSION LEADS: LARA DASAR, IRINA GULIAEVA, CAMILO MUÑOZ SCHULER

IMPACT UNVEILED: HONEST CONVERSATIONS ON SCIENCE AND SOCIETY

Can research at universities shape bills passed by the government? How does a groundbreaking discovery find its way into classrooms, industries, or even your next family dinner conversation? How do research organisations know what work to fund? To close Day 1 of the EastBio 2025 Symposium, we invite you to join us for an interactive panel discussion with selected speakers from a diverse range of fields. Bring your questions and curiosity to explore the diverse ways research creates impact across science and beyond.

SESSION CHAIR:

PROF ANDREW MILLAR

Professor Andrew Millar FRSE studied the systems biology of the 24-hour biological clock in plants for 30 years, while gradually moving from organising research communities towards the science-policy interface. He served as Chief Scientific Advisor for Environment, Natural Resources and Agriculture to the Scottish Government in 2018-2021, advising on science for policy, and on BBSRC Council in 2018-2024, advising on policy for science. He resigned his Fellowship of the Royal Society in early 2025 over disinformation concerns.

SESSION SPEAKERS:

DR DAVE BLACKBELL

Dave is a knowledge mobilisation specialist, with a PhD in climate science and 10 years of experience in environmental policy, climate mitigation research, and leading impact-focused research programmes. He is currently the co-director of SPRE (Scottish Policy and Research Exchange), which supports the needs of the Scottish research-policy landscape and aims to improve how evidence and research shapes policy.

DR MICHAEL MCDONALD

Dr Michael McDonald, an EastBio alumnus, completed his PhD at the University of Edinburgh, exploring extremophilic microbial communities in acid mine drainage. His work on heavy metal detoxification aids environmental restoration and earned recognition from the Microbiology Society. Following his postdoctoral work, Michael is now moving into teaching, sharing his passion for chemistry. He has mentored both high school students during outreach programmes, as well as supporting undergraduate, MSc and PhD students. He enjoys playing the violin, and is trying to improve his Gaelic, while advocating for accessible science education.

DR VIVEK NITYANANDA

Vivek is currently a BBSRC David Phillips Fellow based at Newcastle University in the Centre for Behaviour and Evolution. His multidisciplinary research combines psychology, evolutionary biology, neuroscience and ecology to study cognitive and sensory behaviours in animals, including pollinator welfare, vision and attention in bees, vision and prey detection in the praying mantis, and the evolution of overconfidence. Alongside his research, Vivek has engaged in science communication at great length, and is a talented playwright and artist. He is the author of Beyond Doubt and First Proof, as well as the plays The Big Welcome and I Dream of Theresa May. www.viveknityananda.com

WILLIAM SMITH

William Smith, a third-year EastBio PhD student at the University of St. Andrews, studies neural resilience in Drosophila locomotion. Facilitated by funding from the RS McDonald Grant and the Scotland Future Series, he pioneered methods of carbon accounting to measure research emissions. His preprint (Calculating Carbon Costs of a PhD in Neuroscience, DOI: 10.1101/2025.01.20.633775) and website (willco2st.org), paired with his Android app (WillCO2st, https://shorturl.at/ZfAST), champion PhD carbon appendices, inspiring sustainable science. He is currently working with industry partners to create tools to facilitate greener procurement.

SESSION LEAD: MARTA CHRONOWSKA

KEYNOTE – IMPACT THROUGH TIME: EVOLVING PERSPECTIVES ACROSS SCIENTIFIC CAREERS

DR DANIEL BERG, UNIVERSITY OF ABERDEEN & PROFESSOR CAIT MACPHEE, UNIVERSITY OF EDINBURGH

In this keynote, Dr Daniel Berg and Professor Cait MacPhee will trace how the meaning and pursuit of impact transform across a researcher's career. Through their combined perspectives as early-career and established scientists, they will share how their approach to impact has shifted, moving from initial challenges in aligning projects with funder expectations to later-stage opportunities to drive systemic change. This session will reflect on the practical realities of embedding impact into nascent research and discuss how impact expands beyond publications to encompass mentorship, policy, and enduring institutional contributions. Together, they will reveal how scientists can intentionally cultivate impact at every stage, turning external requirements into authentic scientific purpose.

DR DANIEL BERG

Neuroscientist specializing in neural stem cell biology and brain development, with expertise in the origins of adult neurogenesis. He earned his PhD at Karolinska Institutet under Professor András Simon, pioneering work on brain regeneration using the unique model of red-spotted newts. His postdoctoral training at Johns Hopkins University and University of Pennsylvania with Professor Hongjun Song focused on understanding the embryonic precursors of adult neural stem cells in the mammalian hippocampus. This foundational work revealed novel markers like Hopx that identify stem cell populations destined to maintain neurogenic capacity throughout life.

Currently, Dr Berg leads an innovative BBSRC-funded project investigating the dentate gyrus, a brain region crucial for memory that maintains neural stem cells into adulthood. His lab combines cutting-edge techniques including single-cell RNA sequencing, lineage tracing, and live imaging to unravel why certain embryonic neural stem cells retain their regenerative potential while others differentiate. By examining the unique mTOR signalling pathways and migratory behaviours of these cells, his work bridges developmental neuroscience with potential therapeutic applications for epilepsy, schizophrenia, and brain injury. This research promises both fundamental insights into how stem cells maintain their identity and practical pathways to enhance brain repair.

PROFESSOR CAIT MACPHEE

Pioneering biological physicist whose interdisciplinary work bridges physics, biology, and materials science. As the first female Professor of Physics in the University of Edinburgh's 440-year history, she brings a distinct perspective to studying how biological molecules self-assemble, from protein aggregates implicated in disease to microbial biofilms. Trained initially in biochemistry at the University of Melbourne, she transitioned to physics during her Royal Society Dorothy Hodgkin Fellowship at Oxford, recognizing that physical principles could unravel biological complexity. Now leading Edinburgh's Biological Physics research, her innovative approaches to understanding protein aggregation have transformed both fundamental science and practical applications in pharmaceuticals and food science.

A Fellow of the Royal Society of Edinburgh and recipient of a CBE, Professor MacPhee's research impact extends far beyond the lab. Her work on modulating protein aggregation has informed therapeutic strategies for diseases like Alzheimer's, while her investigations into biofilm physics address critical challenges in antimicrobial resistance. Passionate about interdisciplinary collaboration, she actively works to break down barriers between scientific fields and for women in STEM. This commitment to broadening participation

informs her leadership in astrobiology research and her advocacy for more inclusive scientific communities, making her a powerful voice for how diverse perspectives advance discovery.

SESSION LEAD: CAMILO MUÑOZ SCHULER

THE HUMAN SIDE OF IMPACTFUL RESEARCH: EDI CHALLENGES AND OPPORTUNITIES

Join us for a talk from Professor Sinead Collins (University of Edinburgh) on Equality, Diversity, and Inclusion (EDI), where we will explore the multifaceted challenges and opportunities that EDI presents in academic and research environments. Through her experience as EDI Director for the School of Biological Sciences, Prof. Collins will discuss how varying cultures of inclusivity influence decisions regarding study, job opportunities, and research collaborations. This talk will provide insights into the unique challenges and opportunities within academic institutions from an EDI perspective, encouraging personal reflection on how inclusivity can be further integrated into our academic and professional lives.

PROFESSOR SINEAD COLLINS, UNIVERSITY OF EDINBURGH

Professor Sinead Collins is a leading researcher in the field of microbial evolution, investigating how classical adaptive processes are affected by environmental complexity in phytoplankton and microalgal populations. She earned her Doctor of Philosophy from the Department of Biology at McGill University in 2005.

Her work combines both lab experiments and fieldwork to develop fundamental theories on how phytoplankton populations may respond to global change and collaborates with oceanographers to apply her findings to marine ecosystems. In recognition of her outstanding contributions to her field, she was elected as a fellow of The Royal Society of Edinburgh (RSE) in 2024.

Professor Collins also served as the EDI (Equality, Diversity, and Inclusion) Director for the School of Biological Sciences at the University of Edinburgh, and has been an active member of the EDI community throughout her academic career.

SESSION LEADS: ALI SOMERVILLE, HOPE OBASI

PANEL DISCUSSION: ARE YOU MANAGING?

The session seeks to explore the associated personal challenges of managing a forward-facing research-active career at different career stages. The aim is to allow panel members and audience to reflect on personal practices of managing and balancing institutional pressures, professional ambitions, personal values, goals and needs to produce good research that is socially beneficial, inclusive and respectful. The discussion follows on organically from the keynote talks on impact experiences from different perspectives but has a more specific EDI focus. It encourages openness about ordinary – but still challenging – balancing acts involved in impactful research produced by human beings.

SESSION CHAIR:

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DR LAURA GLENDINNING

The microorganisms that live in animals (the microbiota) play vital roles in disease resistance, and in helping animals extract nutrients from their feed. Dr Laura Glendinning’s group explores the composition and function of these microbial communities in various species.

Dr Glendinning graduated from the University of Leeds in 2011 with a BSc hons in medical microbiology. After briefly working in industry she went on to do a masters by research at the University of Edinburgh, followed by a PhD at The Roslin Institute. Her PhD focussed on the composition and dynamics of the sheep lung microbiota. She joined Mick Watson’s group as a research fellow (core scientist) in 2018 and in 2022 joined Andy Law's group as a research fellow. In 2023 she became a Chancellor's Fellow at the University of Edinburgh.

SESSION LEADS: ALI SOMERVILLE, HOPE OBASI, TALENT MABAMBE

THEMATIC SESSIONS

HEALTH: ENTERPRISE, INNOVATION & UNWINDING AT THE MUSEUM

In collaboration with the Livestock and Aquaculture group, the first part of the afternoon will focus on Enterprise and Innovation, designed to walk you through key ideas in developing an entrepreneurial mindset. Whether you're curious about how research becomes a business, wondering what your IP rights actually are, or just want to understand what "commercialisation" even means as a PhD researcher, this session is for you. It's a chance to explore how much ownership early-career researchers can have over their work, how to navigate the commercial landscape, and what tools are out there to help you turn ideas into impact. There'll also be a chance to ask questions and hear from people who've helped shape real businesses from academic research.

Afterwards, the Health group will get a chance to relax and explore the exciting Surgeons' Hall Museum, a perfect setting for casual chats, shared ideas, and a bit of unwinding. Whether you're deep into your startup dreams or just tagging along to see what it's all about, this mix of learning and exploring is one you won't want to miss.

SESSION LEADS: MEGAN SAATHOFF, KINGSLEY WARNE, ZUNAIRA AMAN

RULES OF LIFE

Schedule:

- Science outreach talk
- Break
- Speed networking session
- Walk to the National Museum of Scotland
- 3.30-4.30pm Talk on History of anatomical study (Senior Curator of Science, Dr Tacye Phillipson)
- Optional self-guided tour or open end at the museum

SESSION LEADS: PRATITI NANDA, HOPE OBASI, TABLOW MEDIA, LAURA ARBANAS

LIVESTOCK & AQUACULTURE: UNDERSTANDING HOW RESEARCH INNOVATIONS GO FROM THE BENCH TO BUSINESS

The final Livestock and Aquaculture meeting of the academic year is all about how research findings can be turned into viable business ideas. In keeping with the Symposium theme of Impact, we will be joined by Edinburgh Innovations and local biotech businesses who will share their tools and experience about the journey from research to commercialisation. Plus, an opportunity to put some of those ideas into practice!

SESSION LEADS: HANNAH RADDINGS & CAMERON XAVIER-JACKSON

CLEAN GROWTH

As our final thematic meeting, we will be holding a mini-seminar, where each member of the group will present a 20-30 minute research update on their findings from the first 10 months of their PhD. Given the variety in projects in the thematic group, presentations should provide an accessible description of the main

research aims and findings, as well as placing a particular emphasis on the impact these findings may have on the scientific community and general society. Following each presentation, we will open up the floor to questions, encouraging meaningful discussions within the scope of each students' PhD project. Overall, this thematic meeting provides our members with a valuable opportunity to develop their oral presentation and science communication skills, which are essential in the career of a researcher.

SESSION LEADS: BENEDICT TAN & MADITA BUCH

CROPS AND SOIL: BIOTECHNOLOGY VS. HOLISTIC APPROACHES IN AGRICULTURE

The first half of the meeting will feature a discussion comparing biotechnological approaches to agriculture with agroecological methods. It will explore the benefits, limitations, and sustainability of both approaches in addressing challenges like disease, pests, and climate change, as well as their environmental impacts and implementation challenges.

In the second half, participants will work in groups to design sustainable farms, planning strategies to ensure long-term food production that can withstand future challenges while minimizing impacts on local ecosystems.

SESSION LEADS: EVE ANTHONEY & THOMAS PUGH

CONCLUSIONS AND ACKNOWLEDGEMENTS

The EastBio team has worked with our student reps to plan and deliver the 2025 symposium on the societal impact of bioscience research.

Research requires individuals capable of asking the questions that can promote benefits for the majority of the people, including the researchers themselves - a process that starts early in a student's path. The day and half of the symposium proceedings bring together our students and supervisors with a variety of experts to discuss the crucial issue of how research generates impact in society. The type and range of sessions our students have planned and deliver address this question by encouraging not just constructive conversations around communicating science but also agency in shaping impact in a way that is human-centred and helps to manage the multiple challenges facing us today. The student reps have wisely approached the focus topic with an emphasis on skills and self-reflection. To name some of the programme highlights: interactive workshops led by our new partner, the Scottish Policy and Research Exchange, panel discussions with EastBio alumni/ae and students who have completed their professional placements, insights from the funding body reps and academics with great impact stories to tell but also their own how-to when managing the intricate challenges of producing impactful work, now and in future.

Have a wonderful day or two with us but, also, get any opportunity you can to speak to and show your appreciation to our inspiring and tireless student reps!

Dr Maria Filippakopoulou (she/her)

EastBio Partnership Manager

EASTBIO STUDENT REP ORGANISERS

Many thanks to our student reps who worked so hard to organise this symposium.

Rebecca Atkinson

Marta Chronowska

Lara Dasar

Irina Guliaeva

Talent Mabambe

Camilo Muñoz Schuler

Hope Obasi

Melissa Ramsay

Ali Somerville

DELEGATE PROFILES

EASTBIO TEAM

Nikki Copeland He/Him

EastBio Advisory Board; Lancaster University

Cell cycle, DNA replication, cancer

Vardis Ntoukakis

EastBio Advisory Board; University of Warwick

Plants, Microbe, chromatin

Geraint Thomas He/Him

EastBio Advisory Board; University College London

Cells and cell signalling

Impact on understanding of health and also improvements in engineering biology.

Andrew Desbois He/Him

EastBio Management Group; University of Stirling

Antimicrobial resistance; aquaculture; microbiology

Antimicrobial resistance (AMR) is a major global challenge and my research seeks to describe the problem in aquaculture and provide a greater understanding for how this may be tackled successful. My research includes a focus on potential mitigation measures and their evaluation, with recent work has taken a closer look at existing policy interventions at national and global scales. A goal is to influence AMR policies that aim to address this challenge.

Mary Doherty

EastBio Management Group; IBioIC

Industry, partnerships, training

Samantha Miller She/Her

EastBio Management Group; University of Aberdeen

David Smith He/Him

EastBio Management Group; MRI

Host & Parasite Biology

My research focuses on identifying and understanding key molecular interactions between host and parasite that permit pathogen invasion and persistence. Through identifying key molecules, my aim is to translate these into the development of novel vaccines. I primarily work on livestock diseases and have led the development of physiologically and biologically-relevant lab-based livestock organoids ("mini organs") to facilitate our investigations into host-parasite interactions.

Jo Stevens She/Her

EastBio Management Group; University of Edinburgh

Maria Filippakopoulou She/Her

EastBio Manager; University of Edinburgh

student support; wellbeing; professional skills development

supportive, inclusive & respectful research culture

Hazel Harrop she/her

EastBio Support Officer; University of Edinburgh

GUEST SPEAKERS

Dave Blackbell He/Him

Guest Speaker; Scottish Policy & Research Exchange

policy-engagement, knowledge-mobilisation

Sinead Collins She/Her

Guest Speaker; University of Edinburgh

experimental evolution, phytoplankton ecology, ocean change

My research informs our understanding of how primary production in the open ocean and polar regions is likely to be impacted by ocean global change. This impacts projections of changes to marine food webs and to nutrient cycling. In addition, I develop free tools to improve experimental design for multiple driver experiments, and participate in policy and outreach based on my research.

Laura Glendinning She/They

Guest Speaker; University of Edinburgh

Microbiota poultry livestock

Ismar Haga He/Him

Guest Speaker; University of Edinburgh

Cait MacPhee

Guest Speaker; University of Edinburgh

Physical Biology, Proteins

My research focusses on the structure and function of microbial biofilms, and I am one of the Directors of the National Biofilm Innovation Centre (NBIC). NBIC aims to link up academic researchers with industrial/health sector end users and maximise the translation of research into practical solutions.

I am a soft matter/biological physicist who works very closely with molecular microbiologists at the University of Dundee and I enjoy the challenges of interdisciplinary science.

Vivek Nityananda He/Him

Guest Speaker; Newcastle University

Sensory Ecology, Comparative Cognition, Aimal Welfare

STUDENTS

Haya Al Siyabi She/Her

Student; University of Edinburgh

cancer simulation metabolism

It would help non invasive diagnosis and disease monitoring of liver cancer patients as well as creating novel disease targets for liver cancer treatment.

Zunaira Aman She/Her

Student; University of Edinburgh

AMR & Cell engineering

Laura Arbanas She/Her

Student; University of Edinburgh

axolotl, spinal cord, regeneration

Axolotls can regenerate tissue that is just as robust and functional as the original, including the spinal

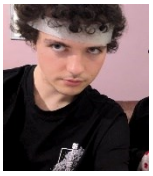
cord. Alone in the UK, every 4 hours a human is paralysed by a spinal cord injury, leading to loss of sensation and movement, potentially across the entire body. To this date, there are no effective therapies available. What really drives my curiosity is whether axolotls have something that is fundamentally different to us, or whether we humans have the exact same toolbox, but upon injury, we just don't know how to access it. Assuming humans have the inherent ability to regenerate, I want to understand what could trigger and unlock regenerative programmes in humans.

Peter Ashdown He/Him

Student; University of Aberdeen

Opioid Receptor Function

My research focusses on the function of the Opioid GPCRs (7-TMRs), in particular the Delta and Mu receptors, and the role of ubiquitin in the post-activation itinerary and desensitisation/downregulation of said receptors. In practice, this is basic research in understanding the rules of life. However, as opioid analgesics are widely prescribed and come with sometimes severe side-effects, I hope my research contributes to the development of analgesics with an enhanced safety profile. Further, understanding the relationship between physiological tolerance, receptor sensitisation and receptor density may improve our understanding of addiction and the treatments thereof.



Michael Astbury

Student; University of Edinburgh

SynBio, Cyanobacteria, CRISPRi

Cyanobacteria have potential as a chassis strain for carbon capture, utilisation and storage technologies, reducing carbon dioxide emissions.

Rebecca Atkinson She/Her

Student; University of Dundee

Plant-Pathogens/ Membranes/ Extracellular Vesicles

My research focuses on the plant disease, Phytophthora infestans and the ways in which it translocates proteins into the plant host cell. By determining what specific proteins P. infestans uses, I hope to generate work that can be used to engineer plant resistance to diseases such as P. infestans.

Thomas Ballinger He/Him

Student; University of Edinburgh

Protein Complex Assembly

I would like my research to lead to more sustainable industrial synthesis methods or to be applied in bioremediation.

Leigh Bell She/Her

Student; SRUC

poultry nutrition peptides

Beth Bridge She/Her

Student; University of Edinburgh | SRUC

bats, agroecology, bioacoustics

I would love it if my research informed agro-ecological policy in Scotland and the wider UK, to allow for more effective policies encouraging tree planting in agricultural systems. I hope that my research provides the evidence to rework old policies, leading to a quicker and more effective improvement in biodiversity of agricultural land that considers those who live and work there.

Fiona Bunn She/Her

Student; University of Edinburgh

Biotechnology, Critical metals

My research on bioleaching is primarily focussed on the recovery of Rare Earth elements from waste materials and low-grade natural sources. Bioleaching can offer key benefits over traditional hydrometallurgy, especially for trace elements, including improved selectivity and lower energy inputs. As a technology, bioleaching could enable a more sustainable and secure supply of the critical metals that are essential for the Green Transition, but also has wider potential applications, such as in biomining for space exploration. I hope my research can highlight just one of the areas where biotechnology can contribute to a more sustainable world.

Kasidis Chaiyasut He/Him

Student; University of Stirling

Wound-healing, mesenchymal stromal cell, Atlantic salmon

My research focus on the wound regeneration in the skin of Atlantic salmon, one of the most important aquaculture species in the UK. Atlantic salmon are farmed in intensive system, making them more prone to skin damage. As skin is one of the main barrier which protect the fish from the environmental pathogen, excessive skin damage will lead to increased disease susceptibility, worsening welfare and production. The aims of our research to gain more insight in the molecular process behind wound healing, especially in the roles of mesenchymal stromal cells (MSCs) in wound healing. By gaining a better understanding of wound healing mechanism in skin, we expect that we could provide an interventions, such as functional diets or selective breeding, to help improve skin regeneration in the fish, in order to improve the welfare and production of the salmon aquaculture.

Marta Chronowska She/They

Student; University of Edinburgh

computational protein design

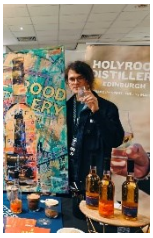
My research into data-driven methods for protein design holds potential to contribute significantly to both scientific advancement and societal progress. Novel enzymes can accelerate drug discovery, allow tailored medical treatments, and lower healthcare costs; support sustainable industries by development of green catalysts; drive innovation and spur new industries, create jobs, and reduce costs in drug and material development; inform policy discussions on ethical bioengineering and synthetic biology regulation, ensuring responsible use of emerging technologies.

Kitty Clouston She/Her

Student; University of Edinburgh

biocatalysis, biotechnology, microbes

My research aims to develop more sustainable manufacturing routes for the chemical industry, by using biological processes instead of traditional chemical synthesis, and replacing fossil-fuels with renewable feedstocks. Using enzymes and metabolic pathways to make valuable compounds tends to produce less toxic waste than chemical methods, and operates at lower temperatures, under neutral ambient conditions, which lowers the energy requirements. Industrial application of these biosynthetic processes would hopefully result in lower carbon emissions, reduced petrochemical consumption, less pollution, and perhaps lower energy usage for the chemical industry.



Dougal Clumpas He/They

Student; University of Edinburgh

Peated Whisky Flavour

My research aims to better understand the character and origin of distinctive 'peated' flavours in whisky production to reduce the industry impact on peatlands by improving efficiency or finding alternative ways of creating these flavours.

Emily Cope She/Her

Student; University of Aberdeen

Cardiovascular, pharmacology, inflammation

By increasing our understanding of the resolution of inflammation and how we can drive it therapeutically, our research could lead to development of more targeted drugs for cardiovascular and metabolic disease, which share a chronic low-grade, non-resolving inflammation. In a real-world context, this could lead to streamlining of treatment regimens and improved health outcomes for the increasing prevalence of individuals diagnosed with metabolic syndrome.

Gabriella Crawford She/Her

Student; University of Aberdeen

Neuro-immune Vascular Organoids.

Lara Dasar She/Her

Student; University of Aberdeen

My research aims to define the relationship between the chronobiology of exercise and glycaemic outcomes, across the menstrual cycle. I hope that by understanding this relationship, exercise strategies can be optimised both from a performance perspective, and as a therapeutic tool in the management/treatment of metabolic disorders.

Federico De Filippi He/Him

Student; University of St Andrews

Ava Drake

Student; University of Stirling

AMR aquaculture

My research aims to improve how antimicrobial resistance (AMR) risks are assessed in seafood production by developing a framework that considers the entire supply chain, from farming practices to environmental impacts and global trade. It will address the overlooked risks of AMR in seafood production, which is an understudied area compared to other sectors. As AMR is a global “wicked problem” that affects everyone, threatening public health, animal health, food security, and environmental sustainability, current approaches often overlook key transmission pathways, leading to gaps in mitigation efforts. By identifying intervention points, my work will support better regulatory strategies, promote responsible antibiotic use, and help safeguard public health, food security, and the environment. Ultimately, my research will contribute to more effective AMR management in aquaculture, reducing risks for consumers and producers alike.

Broc Drury He/Him

Student; University of Edinburgh

Immunology, IBD, gut

I would like my research to impact therapeutic targets for people with inflammatory bowel disease specifically but also other conditions in which the mechanisms of my research are relevant. Because my research focuses on a highly plastic cell type, the monocyte or macrophage: I

would like to think that my findings could be applied to a wide range of health problems.

James Fennell He/Him

Student; University of Stirling

ShellFish, Sustainability, Genetics

My research on the population genetics and shell material properties of farmed Mytilus mussels will improve our understanding of shell breakage at harvest, helping improve sustainability within the industry. The examination of hybridization within the genus at farm sites and how this effects Calcite hardness and fracture toughness may impact current government policy within this sector.

Emily Fields

Student; University of Dundee | JHI

gene editing in potatoes

My research focuses on how to efficiently and precisely edit the potato genome. The goal is ultimately to have the ability to improve potato varieties with disease resistances while shortening the development time that is current industry standard. Within the time constraints of a PhD it isn't likely that I will have a new and improved potato variety, but I hope to have developed solid groundwork towards a new variety. In addition to the development of new varieties, I hope genetically engineered crops can be shown to be safe through rigorous testing and improve crop yields.

Rosie Gallagher She/Her

Student; University of Dundee

Data Science / interdisciplinary / image analysis

John Girgis He/Him

Student; University of Edinburgh

Neurons, Memory, Agonists

I hope we all have more faith in our brain's plasticity, and therefore our confidence in free will.

Peyton Goddard

Student; University of Dundee

Host-parasite interaction

Louise Goossens She/Her

Student; University of Edinburgh

UTIs Organoids Microscopy

My research focuses on the bacterial physiology of E. coli in urinary tract infections. I use tissue culture models to understand how these bacteria behave in the urinary tract in the presence or absence of (combinations of) antibiotics. This translates to the real-world context as 'know your enemy'. If we have a better understanding of how E. coli behave in specific conditions, we can adjust treatments to be more effective. We hope that foundational knowledge can help reduce antimicrobial resistance and bring relief to patients.

Rosina Graham She/Her

Student; University of Edinburgh

immunology, proteins, inflammation

My research into sexual dimorphisms in macrophage pro-inflammatory function can improve our understanding of differences between male and female immune response mechanisms. In the bigger picture, I hope that this can be used to inform the development of personalised medical approaches to target inflammation and disease.

Olivia Gray She/Her

Student; University of Edinburgh

eDNA lichens temperate-rainforest

Irina Guliaeva She/Her

Student; University of Aberdeen

linguistics, machine learning, neurocognition

Our life revolves around language and yet we still do not fully understand how it is processed in the brain. With the current rise in research in language models, we might get closer to filling this knowledge gap. Language models are shown to exhibit human-like linguistic behaviours. Tasks like structural priming that are used by linguists to assess the processes underlying our use of syntax, are seen to be used in people with language deficits. I hope that with the use of language models, we could better explain brain activation during syntax comprehension, which could further inform clinical approaches in language affected conditions.

Yating Guo She/Her

Student; University of St Andrews

Photocatalysis, synthetic biology, whole-cell

My research focuses on incorporating the engineered microbial production of metabolites in living bacteria as renewable starting materials in photochemical reactions. In a real-world context, it provides a novel and sustainable method to produce high value product and replace traditional methodologies which use petrochemical-derived starting materials with greener processes.

Emma Hardy She/Her

Student; University of Dundee

Plant science, temperature response

My research project focuses on how plants respond to warm temperature. Though I work in a model organism, I would like my research to be translated into crops in the future. The ultimate goal of my research is to make crops that are more resilient to warmer temperatures, and I hope that my research can contribute to this.

John Harvey He/Him

Student; University of Edinburgh

pet food sustainability

By informing consumers, producers and policy makers about the environmental impacts of pet food, I hope to encourage a shift to more sustainable diets for dogs and cats.

Jed Hawes

Student; University of Dundee

Epigenetics in plasmodium

Rebecca Hilgenhof She/Her

Student; University of Edinburgh

leaf evolution plant

Megan Hine She/Her

Student; University of Edinburgh

Synaptonemal Complex Protein Interactions

I would like my research to contribute towards existing knowledge, so that it can be applied in a clinical setting. Identifying synaptonemal complex protein interactions will allow for a greater understanding of how these proteins may behave in cancers, which will allow for advancements in biomarker development and preventative treatment strategies.

Jack Horne He/Him

Student; University of Aberdeen | SRUC

Soil, Metagenomics, Nutrient Cycling

My research focuses on identifying critical nitrogen cycling pathways in soil, particularly how soil pH influences these processes. I aim to integrate this knowledge into a holistic soil health assessment that combines physical, chemical, and biological criteria. This will provide a comprehensive understanding of soil health. Using these findings, I plan to develop guidelines for sustainable agricultural practices to enhance food security. I hope to implement these guidelines in developing countries, improving agricultural productivity and environmental sustainability while promoting economic development and food security.

Talal Hossain He/Him

Student; University of Edinburgh

Antibacterial phage UTI

My Research of finding and designing anti-bacterial phage cocktails can improve clinical outcomes of UTIs. I would like my research output to help people with infections get better.

Barbora Illithova she/her

Student; University of Aberdeen

Whole-person perception

Perceptions of others' characteristics can have significant consequences, e.g., untrustworthy-looking defendants receive harsher sentences. Current views on person perception often focus on evolutionary functions, suggesting that traits like prominent jaws indicate untrustworthiness. However, this perspective underestimates learning and adaptation. By examining facial and bodily morphology along with learned associations, my research demonstrates that perceptions are in the eye of the beholder. I hope my research can inform decision-making in areas like hiring practices, criminal justice, education, and general social interactions, ultimately fostering a fairer society where individuals are judged by their actions rather than biased perceptions.

Jamie Innes He/Him

Student; University of Aberdeen

Neurodegeneration, ALS, Neuropharmacology

My research investigates the genomic and nongenomic molecular mechanisms through which novel retinoic acid receptor ligands exert therapeutic effects in neurodegenerative disorders, with a primary focus on amyotrophic lateral sclerosis (ALS). ALS has a poor average prognosis of 2–5 years, and treatment options remain limited, with Riluzole being the only licensed drug in the UK, offering modest efficacy. By characterising these molecular pathways, my work aims to advance the development of more effective therapies, ultimately improving patient outcomes and quality of life.

Ines Jimenez Pulido

Student; University of Edinburgh

myelin, neurodevelopment, tool development

Louise Kandler she/her

Student; University of St Andrews

Louisa Kosin She/Her

Student; University of Edinburgh

egg incubation, hatching window, ERP expression

My research on light exposure during egg incubation seeks to positively impact the poultry industry by improving animal welfare through the synchronization of the hatching window. This does not only reduce stress on chicks but also optimizes resource use for farmers. Additionally, understanding the signalling pathways of extra-retinal photoreceptors provides insights into how light influences embryonic development. This knowledge allows for more precise incubation conditions, promoting healthier and more robust chicks. This approach not only supports sustainable practices but also advances our understanding of avian biology, leading to more efficient and ethical poultry production systems.

Laina Langridge She/Her

Student; University of Aberdeen

disease ecology, epidemiology, genetics

Thomas Lawson

Student; University of Dundee

Streptococcus vaccine development

I want the research that I conduct to accelerate the rate at which a Streptococcus glycoconjugate vaccine enters the clinical testing stage. My research will achieve this by optimizing the assembly process of glycoconjugates through experimenting with alternative E. coli strains and conducting pilot studies that utilize new delivery systems to produce effective, long-lasting host immunity.

Max Leach He/Him

Student; University of St Andrews

Beetle Locomotion and Sensory Research

Expand the knowledge we have on a pre existing model organism in order to both improve existing neuroscience research and to have better insight into a known pest that damages food stocks in the global south

Talent Mike Tendai Mabambe He/Him

Student; University of Aberdeen

Rice Biofortification

Ellen Macpherson She/Her

Student; University of Aberdeen

neuroscience, language, electroencephalography

My research aims to deepen our understanding of predictive processing in the human brain, with real-world applications in neuroscience, AI, and language sciences. By using machine learning to decode EEG signals, this project can enhance brain-computer interfaces, improve early diagnosis of cognitive disorders, and refine natural language processing in AI. Understanding how predictions shape perception may also inform educational strategies and therapies for language impairments. Ultimately, this research bridges neuroscience and technology, contributing to advancements in both human communication and artificial intelligence by revealing how the brain anticipates and processes information in real time.

Matin Mahmoudi He/Him

Student; University of Edinburgh

virology, host-response, screens

Emily Mahony Any/all

Student; University of Edinburgh

Chicken intestine development

I would like my research to improve the health of chickens and provide a better understanding to illnesses that can affect their development

Vito Margaritondo He/Him

Student; University of Edinburgh

Taylor McCarthy She/They

Student; University of Dundee

Protein domains investigation

My project works on a specific protein implicated in Speech Language Impairment (SLI). Mutations in this protein have a neuronal phenotype, and the protein itself localises to the ER. I would like my project to shed light on this protein, and potentially expand our knowledge on complex ER-protein dynamics in the view of neurological conditions.

Sajan McCorkindale He/Him

Student; University of Aberdeen | JHI

environmental,dna,ecology

My research aims to identify and characterise environmentally transmitted pathogens—especially Leptospira strains—across human, wildlife, and livestock interfaces using metagenomics. By recognising which strains have the greatest impact on community health, improving diagnostic tools, and informing targeted interventions, we can help reduce the disease burden in a variety of communities. This, in turn, can assist policymakers and local stakeholders in developing evidence-based strategies for safer water sources, better livestock management, and improved public health practices.

River McDonald She/Her

Student; SRUC

Canine walking equipment

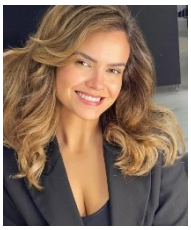
Millions of dogs wear collars, harnesses and other pieces of equipment for walks. I would like my research to help owners and dog professionals make more informed, welfare friendly decisions that enable them and their dogs to find walks more enjoyable.

Brendon Medley He/Him

Student; University of St Andrews

Enzymes, biofuel, clean-growth

I hope to my research contributes to the scientific field that focuses on finding suitable pathways to generating clean fuel that can be used to replace the destructive fossil fuels.



Larissa Melo Chicoski She/Her

Student; SRUC

Antibiotic resistance; Genomic surveillance; Foodborne pathogens

Antimicrobial Resistance (AMR) is a challenge to world-wide One Health with significant economic losses. My project, as part of the Pathogen Surveillance in Agriculture, Food and Environment program (PATH-SAFE) from the UK Food Standard Agency, is towards tracking and monitoring what are the genetic mechanisms related to AMR in foodborne pathogens, which cause disease related to food-chain production, in beef-cattle across Great Britain. In the real world-context, I hope to provide data to identify the prevalence, source and pathways of foodborne disease and AMR, helping to prevent spread by enhanced targeting of interventions, leading an evidence-based policy changes.

Rafael Monteiro do Carmo He/Him

Student; University of Dundee

Plant-pathogen interaction

My research on the role of a protein family in Phytophthora capsici can improve our understanding of pathogen development and virulence, which can be expanded to other Oomycete pathogens. In a real-world context, I hope that this could be used to develop novel control strategies that can be applied to this and related pathogens, as well as shed light into the currently unknow mechanisms underlying pathogen phase change. Such knowledge could lead to an increase of food production by reducing damage cause by this and other oomycete pathogens, which not only cause yearly billionaire losses in crops, but also huge environmental damage to other non-commercial species (e.g. trees).

Paula Mora Rojas She/Her

Student; University of Edinburgh

Frog genomics colouration

I'm researching the genomics of colouration and population structure of Strawberry poison frogs. They're a great model for studying early stages of speciation and the interplay between natural and sexual selection. My hope is that my work will inspire curiosity and care not only for these frogs but amphibians in general. Amphibians are facing a decline everywhere in the world due to climate change, habitat loss and disease. Poison frogs are a fantastic model to engage the public, due to their brilliant colours and interesting biology. I believe they can leverage public interest, extending it to conservation policies to help amphibians worldwide.

Camilo Munoz Schuler He/Him

Student; University of Aberdeen

development aquaculture transcriptomics

My research explores the immunity of molluscs with a high molecular resolution, allowing to describe this system in animals that are key for aquaculture and food security. The outcomes of my project seek to set the basis to improve aquaculture of molluscs, which will contribute to blue economy and could positively impact the global environment and availability of food worldwide.

Pedro Nadais

Student; University of Dundee

Pratiti Nanda She/Her

Student; University of Edinburgh

Cell biology, cell cycle regulation, mass spectrometry

Amelia Newton She/Her

Student; University of St Andrews

Hope Obasi

Student; University of Dundee

Novel Ubiquitin Methodology

My research on expanding the research toolbox in the ubiquitin field using MALDI-TOF MS and LC-MS aims to elucidate the complex mechanisms of ubiquitin-mediated cellular processes and shed light on the role of ubiquitination in various diseases. In a real-world context, I hope that this research can make a difference by contributing to the development of novel therapeutic strategies and diagnostic tools, informing the design of more effective treatments

for diseases related to ubiquitin dysregulation, and raising awareness among researchers, clinicians, and the general public about the importance of ubiquitin research in understanding and addressing some of the most pressing health challenges of our time.

Zachary Olsen Garza He/Him

Student; University of Edinburgh

chicken, gene editing, germ cells

My research is focused on introducing new techniques for studying chickens. I hope that my research can make it easier to study avian systems and lead to insights that can improve the care and sustainability of poultry livestock.

Joshua Osagiede He/Him

Student; SRUC

Phytoremediation and the specific role, root exudates and microorganisms play a crucial part.

Improve Crop health, mitigating contamination and chemical residue. Cost effective and environmentally friendly solution. Ensures safety and health of both environment and animal life.

Rose Parsa

Student; University of Edinburgh | University of St Andrews

Streptococcus uberis proteins

"My research on a class of surface proteins of Streptococcus uberis, will contribute to our understanding of bacterial pathogenesis, particularly in relation to the clinically and economically-significant disease of mastitis in dairy cattle. By uncovering the specific mechanisms through which these proteins influence infection, this knowledge will assist in the development of more effective diagnostics methods, therapeutics, or vaccine strategies. Ultimately, this could hopefully reduce the economic burden of mastitis on the dairy industry and improve animal welfare, leading to healthier livestock and more sustainable farming practices."

Melanie Podbielski She/Her

Student; University of Edinburgh

Metals bioremediation recycling

My research explores the use of metal-resistant microbial cultures to selectively capture waste metals. I hope the biotechnology developed by me and my lab group will help improve battery recycling techniques, replacing environmentally damaging traditional metal separation methods. It may also have applications for treating contaminated water from mining and refineries. The metal compounds produced by these biological remediation techniques show promise as next generation cathode materials, contributing to a circular economy to for battery manufacturing.My research explores the use of metal-resistant microbial cultures to selectively capture waste metals. I hope this biotechnology will help improve battery recycling techniques, replacing envoronmentlly damaging traditional metal seperstion methods. It may also have applications for treating contaminated water from mining and refineries. The metal compounds produced by these biological remediation techniques also show promise as next generation cathode materials.

Thomas Pugh He/Him

Student; University of Edinburgh

Enhancing crop immunity

Hannah Raddings She/Her

Student; University of Edinburgh

Melissa Ramsay She/Her

Student; University of St Andrews

bioacoustics, social information, sensory processing

My research on the acoustic ecology and foraging behaviour of intertidal marine fish and invertebrates can improve our understanding of how animals use their different senses to survive and thrive, and how anthropogenic noise pollution impacts these behaviours. In a real-world context, I hope that this could be used to develop evidence-based policies on sensory pollution, inform how we use and plan our coastal towns and communities, and get members of the public interested in thinking about some of the less obvious ways in which humans can impact our local ecosystems.

Shravanbhai Babubhai Rathod He/Him

Student; University of Dundee

Olfaction, GPCRs, C. elegans

I strongly believe that understanding molecular aspects of olfaction will help us to understand neurological disorders better and will lead to better therapeutics design.

Jessica Reeves She/Her

Student; University of Aberdeen

Limb development, embryology

Sarah Rehman She/Her

Student; University of St Andrews

Disease dispersal modelling

My research investigates the interactions between pathogens and their hosts, focusing on how these relationships shape disease dynamics in fragmented landscapes. Using genomic methods, I aim to advance our understanding of the links between habitat connectivity, host distribution and genetic diversity, and their consequences on pathogen dispersal in a water vole metapopulation.

In a real-world context, it is vital to understand these interactions when managing disease risks at a broader scale – from wild to human populations. I hope that my research informs landscape conservation strategies, providing insight into how habitat fragmentation impacts disease persistence, spread, and spillover into other species.

Maria Juliana Rodriguez Cubillos She/Her

Student; University of Edinburgh

AI, LLMs, metadata

I like that my research could provide a platform for researchers to make they life easier and metadata more FAIR. My intention is highlight that open science initiative are necessary for the wellbeing of science and provide a tool that is accessible for everyone.

Megan Saathoff She/Her

Student; University of Edinburgh

virology, computational biology

My research seeks to improve our understanding the genotypic and phenotypic fitness landscape of avian influenza using protein language models. This will improve our understanding of the evolutionary drivers of fitness in avian influenza, the reservoir of all influenza, and will allow us to further understand the impact and ecology of the disease.

Arianna Schneier She/Her

Student; University of Edinburgh

plastics, upcycling, microbial biotechnology

Mariya Shtumpf

Student; University of St Andrews

genomics, chromatin, development

Michael Simmonds He/Him

Student; University of Aberdeen

invasive species Madagascar

My projects focus on understanding the socioeconomic impacts of the invasive toad species (Duttaphrynus melanostictus) in Madagascar. Specifically, I explore how their introduction affects the abundance of other pest species, such as rats, through top-down trophic cascades—where the removal of predatory species shifts the ecosystem balance. Additionally, I investigate how these toads impact the ecosystem services provided by native species. The findings from these studies could inform management and policy decisions at both local and national levels.

Ellie Smith She/Her

Student; University of St Andrews

evolution of reproductive mode

Thomas Smith-Zaitlik He/Him

Student; University of Edinburgh

Mastitis, phages, streptococcus

My work focuses on the study of bacteriophages (phages) and the bovine mastitis pathogen, Streptococcus uberis. Phages are viruses which infect bacteria and can potentially be used as novel therapeutics to treat antimicrobial-resistant infections. My work seeks to focus on the phageome of S. uberis. Understanding this could help the development of phage-based therapeutics which could be used by farmers to prevent and treat bovine mastitis.

Ali Somerville He/Him

Student; University of Edinburgh

Virology, entomology, interactions

My research focuses on the host-pathogen interactions between DNA viruses and Drosophila melanogaster. Through this research, I hope to expand our understanding of invertebrate immunity and host responses to viral infection, and establish D. melanogaster as a model for host-pathogen interactions in the context of DNA virus infection.

Nadine Sommer She/Her

Student; University of Aberdeen

fat tissue, MRI, metabolic disease

Sarah Stevens She/Her

Student; University of Dundee

parasitology; cryptosporidium; genetics

My research is on Cryptosporidium parvum, a zoonotic protozoan parasite that causes a significant diarrhoeal disease called cryptosporidiosis in both people and animals across the world. I hope this research can be used to inform potential strategies to interrupt infection to stop parasites spreading from one host to the next; draw attention to the under-recognised impact of cryptosporidiosis in the global health community and demonstrate the urgent need for access to clean water for all.

Sujith Surendranath

Student; University of St Andrews

veterinary, virology, host - pathogen interactions.

My research focuses on understanding the host pathogen interactions in the bovine respiratory diseases. There is very little information on the how the host fights and how the infections evade the host defence mechanisms to establish itself. Bovine respiratory disease is a global problem and UK alone has shown an economic loss of 100 million pounds in terms of treatment and reduced productivity. By deciphering the disease dynamics, we can help in developing better diagnostics and therapeutics and improve the animal health.

Katrien Sutherland She/Her

Student; University of Edinburgh

Benedict Tan He/Him

Student; University of Edinburgh

computational drug discovery

My research focuses on developing novel approaches to improving the state of the art in cancer treatment, including multiple myeloma, leukemia and prostrate cancer. This could have potentially life-saving benefits for patients, while advancing the gold standard of medical knowledge in society.

James Tang He/Him

Student; University of Aberdeen

Evolution, Mammals, Evolvability

Jacob Thomas-Hegarty He/Him

Student; University of St Andrews

Lauren Tribbeck She/Her

Student; University of Aberdeen

peas carbon sequestration

Sara Valkila

Student; University of Aberdeen

Neuroinflammation Autism Interneurons

My research explores how maternal inflammation affects fetal cortical interneuron development, shedding light on how prenatal environmental factors contribute to neurodevelopmental disorders. With autism spectrum disorder rates rising globally, understanding these mechanisms is crucial. By identifying how inflammation disrupts typical brain development in a human-specific tissue model, this research bridges the gap between biological insights and real-world impact. I am contributing to a body of work that I hope would eventually inform early interventions, guide prenatal care strategies, and ultimately reduce the risk of neurodevelopmental conditions.

Christoph Wagner He/Him

Student; University of Edinburgh

Self-regeneration, cell-free, design-build-test-learn

A better understanding of fundamental biological principles and the ability to control them in a synthetic context enables us not only to better handle existing life but further to rationally engineer novel biological techniques. I see my discipline develop new molecular biology methods, improve healthcare and foster the democratisation of science.

Alex Wang he/him

Student; University of Aberdeen

diabetes diagnostics AI

My research is on the development of a type 1 diabetes(T1D) diagnostic test for staging of pre-T1D with the aid of AI. T1D is an immune disease

where the body produces antibodies against self-proteins which, upon full onset, leads to the destruction of beta cells that produce insulin, resulting in a lifetime dependence on external drugs. In a real-world context, I hope that this test could provide a cheaper, more sensitive way to screen the population allowing us to prevent the development of full onset T1D thereby saving the NHS in terms of cost of long term treatment.

Kingsley Warne He/Him

Student; University of Edinburgh

Pathogen, Infection

My research on human fungal pathogens and their ability to rapidly adapt to new host niches can improve our understanding of

Abbygail Wells She/Her

Student; University of Edinburgh | SRUC

Genetics Machine-learning Cattle

Investigating the application of machine learning to the field of animal genetics has the potential to improve the accuracy of selecting animals for breeding. Accurate selection of animals for improved efficiency will improve both the environmental impact of the livestock industry and the economic viability of farming enterprises.

Felicity Wilson She/Her

Student; University of Stirling

Decapods, Welfare, Anaesthesia

Now that decapods have been recognised as sentient beings in UK law, the impetus is moving towards improving their welfare outcomes both in commercial and research settings. Because of this, it is likely in the coming years, that decapod crustaceans will become protected animals under the Animals (Scientific Procedures) Act 1986. A thorough investigation of humane procedures, including anaesthesia and euthanasia, in decapod species of importance to research and teaching would benefit the scientific community by advising real-world experimental protocols and improving the welfare outcomes of animals under experimentation.

Wylan Wong He/Him

Student; University of St Andrews

Photobiocatalysis

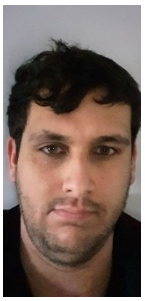
Megan Worsley

Student; University of St Andrews

Nest building

I am researching what causes variation in nest building strategies in birds, such as sex differences in nest building and how likely birds are to nest on human-built structures. I hope that this will make a difference in conservation by informing us of which bird species are likely to be able to adapt their reproductive strategies when faced with urbanisation and habitat loss, and which species may be less able to adapt and more at risk of population decline.

Cameron Xavier-Jackson



Student; University of Edinburgh

Understanding Theileria Attenuation

My research forming a better understanding of the attenuation mechanism for Theileria would increase our understanding of Theileria attenaution, which has little previous overall comprehension, could reveal novel mechanisms for cancerous like transformation in mammalian cells and could offer a novel route to generate attenuated cells through such tools as CRISPR editing

Leo Yin

Student; University of Edinburgh | SRUC

Hyperaccumulation, Phytomining, Agromining

Alyssum argenteum is a nickel-hyperaccumulating species from the Brassicaceae family, known for thriving in ultramafic soils. These naturally metalliferous soils, enriched in nickel, chromium, and cobalt, pose challenges for conventional agriculture but offer potential for agromining—a sustainable technique for extracting valuable metals from plants. With over 500 nickel hyperaccumulators identified globally, optimizing agromining remains crucial. Enhancing Alyssum argenteum's metal uptake through symbiotic plant-growth-promoting microorganisms, phytohormones, and sustainable chelators could improve commercial viability. These strategies will contribute to developing climate-resilient, eco-friendly nickel recovery methods, bridging scientific research with real-world applications in sustainable resource management.

Katja Zumer She/Her

Student; SRUC

cognition, behaviour, genetics

I aim to explore the highly dynamic period of social flux which occurs when groups of unfamiliar individuals are brought together and transition to a state of familiarity. This period of social chaos can be highly injurious, directly affecting fitness and welfare. Traditionally, we have looked at the outcomes once familiarity and relative social stability has been achieved, but not the dynamic process itself. Here I will specifically focus on this period of chaos and explore how behavioural flexibility helps to reduce the injuries from social interactions and how cognitive ability and genotype affect behavioural flexibility. I hope that the project will provide a novel understanding of how the genotype affects the ability of animals to cope with social turmoil.

SUPERVISORS

Guy Bewick He/Him

Supervisor; University of Aberdeen

neuroscience, hypertension, mechanosensation

Elise Cachat She/Her

Supervisor; University of Edinburgh

engineering biology

Dominic Campopiano

Supervisor; University of Edinburgh

biocatalysis, enzyme engineering, natural products

develop green synthetic methods

Megan Davey

Supervisor; University of Edinburgh

human disease, limb, development

Better understanding of human and animal congenital conditions

Hajk-Georg Drost He/Him

Supervisor; University of Dundee

Computational Biology

My ambition is to translate digital biology technology such as Generative AI and Personalised Medicine into affordable healthcare. To achieve this, we need to learn more about the ancient molecular processes that cause human diseases in the first place and then borrow strategies from other species across the tree of life to overcome and prevent these diseases. Analogous to finding new medicines by exploring the biodiversity of rain

forests, our team searches for human disease solutions in the molecular biology of other species that already managed to solve the emergence of this particular disease type. Our team builds the enabling digital technology to translate these advancements for the benefit of the entire human population and we particularly focus on developmental diseases such as cancer.

Karen Halliday She/Her

Supervisor; University of Edinburgh

Photobiology

Emilie Hollville She/her

Supervisor; University of Aberdeen

Neurodevelopmental biology, ubiquitin ligases, programmed cell death

Stephen Jenkins He/Him

Supervisor; University of Edinburgh

Immunology, development, repair

Our lab is trying to understand the mechanisms that regulate the behaviour and survival of immune cells during health and injury, and how these can be manipulated to our advantage. We study these questions with the aim of identifying novel mechanisms that can be targeted to improve tissue repair and resolution of inflammation, and promote healthy ageing.

Craig Lewis

Supervisor; PIC Europe

Pigs Genetics Welfare

Annamaria Lilienkampf She/Her

Supervisor; University of Edinburgh

chemical biology

n/a

Damian Mole

Supervisor; University of Edinburgh

translational clinical research, entrepreneurship

Attila Molnar He/Him

Supervisor; University of Edinburgh

engineering biology, epigenetics, DNA repair

Our mission is to enhance global food security through advanced research and technology to improve crops. In my lab, we specialize in epigenetics and DNA repair, focusing on land plants and microalgae. We utilize genome editing tools, such as CRISPR/Cas, to develop virus-resistant plants and produce high-value compounds in microalgae.

Gemma Pearson

Supervisor; University of Edinburgh

equine behavioural medicine

increased recognition of pain in horses leading to better treatment

Manon Schweinfurth She/Her

Supervisor; University of St Andrews

ethology, cooperation, psychology

As a blue-sky researcher, my primary goal is to generate knowledge. While my work doesn't always have immediate applications, I actively engage in outreach to share findings that challenge perceptions of non-human animals,

fostering appreciation for their cognitive and emotional lives. Making research accessible also promotes critical thinking and inspires people to see themselves as potential scientists. Additionally, some of my research has direct implications for animal welfare, particularly in improving housing conditions for laboratory rats, with broader relevance for social inclusion and wellbeing in both animals and humans.

Giovanni Stracquadanio

Supervisor; University of Edinburgh

AI Engineering Biology Drug Discovery

Chris Sutherland He/Him

Supervisor; University of St Andrews

Ecology, Statsitcs, Biodiversity

Influence environmental policy

Sylvia Vetter She/Her

Supervisor; University of Aberdeen

emissions, soil, modelling

My research on greenhouse gas emissions and soil carbon sequestration, exploring mitigation options and healthy soils in agriculture will add to the knowledge on how to mitigate climate change impacts and reduce the overall emissions. Developing new tools and refining models gives the users the opportunity to explore options and see the impact on their production.

Prerna Vohra She/Her

Supervisor; University of Edinburgh

Salmonella pathogenesis vaccines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