Welcome to Heriot-Watt’s Festival of Research and Enterprise, a showcase of the cutting-edge, impactful research undertaken by the academic community at HWU and of the diversity of high quality researcher support offered by professionals within the new ‘Research Engagement Directorate’ (RED) and related departments.

Organised by the Research Futures Academy, the Festival celebrates Heriot-Watt’s research and enterprise success; enhances our research culture; builds research capacity through training and development; and fosters peer networking and collaboration. The online event is expected to attract students and staff from all academic Schools and professional sections across the University, plus HW Alumni.

Come and take part in our Festival of Research and Enterprise and help us build our research excellence together.

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**Strand A: Frontier Research**

**Environmental Science: ‘Living on a Microbial Planet’**

*Wednesday 21 October 2020, 10:00-11:30*

*Chair: Professor Tom Wagner*

*Speakers:*

- **Dr Julia de Rezende**, *Life beneath our feet: what can we learn from understanding oil reservoirs as microbial habitats*
- **Dr Aaron Cahill**, *Fugitives From Our Legacy of Petroleum Resource Development and a Potential Microbial Solution*
- **Dr Clay Magill**, *Fungus, insects and human ancestors: how microbes serve as meat*

If our rough estimates are about right there are far more microbes on Earth than there are stars in the universe, $10^{30}$ compared to $10^{22}$-$10^{24}$. These numbers are far too big to imagine but they give an impression that microbes are an integral part of life on Earth, going back to the very early states of evolution. Because there are so many of them and they can cope with almost any...
Net Zero
Thursday 22 October 2020, 10:00–11:30

Chair: Professor John Andresen  Associate Director of Low-Carbon Systems, The Research Centre for Carbon Solutions  (https://rccs.hw.ac.uk/)

Speakers:
Dr. Mijndert van der Spek,  Associate Director of Utilisation, RCCS;  Net Zero Carbon: Enabling the transition from Vision to Reality
Dr. Phil Renforth,  Associate Director of Negative Emission Technologies, RCCS;  Lock it in Rock: The potential for going beyond net zero through CO₂ mineralisation
Dr. Susana Garcia,  Associate Director of Capture and Storage, Capturing the Beast:  A PriSMa into low-cost CO₂ removal

A Net Zero carbon future is becoming a reality and Heriot-Watt University is playing a crucial role in achieving this goal. In particular, industrial decarbonisation has received £170 million from the Industrial Strategy Challenge Fund (ISCF) and matched by industry of funding up to £261 million. The Research Centre for Carbon Solutions (RCCS) is working closely with the six largest industrial clusters, that support over 1.5 million job, and export goods and services worth £320 annually, while emitting 40 million tonnes CO₂ per year or about one third of all UK business and industrial emissions. Will we be able to achieve at least one low-carbon industrial cluster by 2030 and the world’s first net-zero carbon industrial cluster by 2040? These Net Zero presentations will seek to remove some of the smoke on this question.

Booking Link

Inclusive Society - Challenges and boundaries old and new:
Inclusion/exclusion in society
Monday 26 October 2020, 10:00–11:30

Chair: Professor Jemina Napier

Speakers:
Professor Mairead Nic Craith,  Inclusion as a challenge: The Case of Northern Ireland
Professor Suzanne Fitzpatrick,  Covid-19 as a challenge: The impact on vulnerable and marginalised groups in society
Dr Annelies Kusters,  Translanguaging as a challenge: Inclusion/exclusion through languaging practices

Understanding the institutions and functioning of human society and examining interpersonal and social relationships of individuals as members of society through a scientific lens are the critical underpinnings of social science research. Knowledge of the social sciences can help us improve our societies. By studying these institutions and individuals, we can become better informed about how societies function. This session draws together three social scientists from across Heriot-Watt University who will share their different areas of research related to living in an inclusive society.
Their research helps us to understand how people navigate challenges of potential exclusion that are perpetuated by pre-existing or emerging societal boundaries. This research that explores political, geographical, economic, cultural and language boundaries provides greater insight into the role of institutions and individuals in promoting an inclusive society.

**Research responding to Covid**

**Tuesday 27 October 2020, 10:00–11:30**

Chair: Professor Vicki Stone

Speakers:
- Dr Filipe Vilela  Development and impact of surface disinfectants that eradicate pathogens with light
- Dr Bing Xu  Fast track vaccine cold-chain assessment and design for mass scale Covid-19 vaccinations in Bangladesh
- Prof Vicki Stone  Anti-Covid facemask coatings
- Prof Glen Bramley  Potential distribution and foodbank demand resulting from Covid-19 crisis in UK
- Prof Susana Garcia Lopez  Developing strategic alliances to accelerate the deployment and impact of innovative CO2 capture technologies in a post-Covid green recovery era.
- Prof Morag Treanor  Aberlour families and Covid-19

The impacts and risks of Covid-19 infections will remain an international issue for months, or even years to come. The Covid-19 research webinar will introduce multiple strategies to reduce spread of Covid-19 which include surface disinfectant technology and personal protective equipment. Impacts of the infection on families and food bank demand will be discussed, as well as fast-tracking vaccine delivery in remote locations. Finally, we will consider the impacts of Covid-19 on sustainability issues such as CO2 storage.

**Booking Link**

**Med Tech - a growing EPS research strength of HWU**

**Thursday 29 October 2020, 10:00-11:30**

Chair: Professor Robert Thomson

Speakers: Dr Rainer Beck  
- Dr Michael Crichton  
- Dr Michael Tanner

This Frontier Research session will involve three talks from academics within the School of Engineering and Physical Sciences at Heriot Watt University. The talks will focus on a variety of ground-breaking medical technologies that are being developed within Heriot-Watt University, ranging from advanced single photon cameras that can peer through tissue to reveal the position of medical devices, to remarkable new types of laser scalpel that can resect tumours with ultimate precision.

**Booking Link**
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<td><strong>Success in Innovation:</strong></td>
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<td>Wednesday 21 October 2020, 12:00 – 13:00</td>
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Join us for a panel discussion featuring entrepreneurs from flourishing Heriot-Watt spin-outs and showcasing successful academic collaborations and partnerships. Designed to inform and provide expert advice and tips, speakers will offer an insight into their journey, discussing successes, pitfalls and lessons learned along their way. This is the perfect opportunity to hear first-hand accounts from successful entrepreneurs who have effectively developed their business from concept to commercial application.  
[Booking Link](#)

| Collaborating with Industry:          |
| Thursday 22 October 2020, 09:00 – 10:00 |
This webinar, led by the Heriot-Watt Enterprise and Business Development teams, focuses on developing industrial partnerships and covers key areas such as understanding industry, engaging with industry and building powerful networks.  
Participants will discover how to identify target audiences, foster collaboration and develop key engagement strategies. Additionally, participants will have the opportunity to deepen their understanding of how to develop and present a value proposition which is true to academic goals as well as attractive to prospective partners, funders and customers.  
The webinar is designed to provide expert advice and equip participants with the insights and tools required to extract economic value from research.  
[Booking link](#)

| Communicating your research          |
| Monday 26 October 2020, 14:00-15:30  |
Delivered by [Converge](#)  
Communicating the value of your research outside your field is an essential skill. In this interactive workshop, we will consider how the audience, environment and tools available in different settings guide and impact how you communicate, with a particular focus on commercially relevant scenarios such as potential industry collaborators, customers and investors.  
[Booking link](#)
IP and Commercialisation (workshop)
Tuesday 27 October 2020, 09:00-10:00
Led by Commercialisation & IP Manager Lindsay Holman, this Introduction to Intellectual Property workshop covers intellectual property rights and how these are used in the commercialisation process, protecting IP and the practicalities of licensing and spin out companies. Lindsay’s role within Enterprise includes invigorating the University’s IP Policy for a truly Global outreach, maximising the University’s existing IP portfolio and developing an effective commercialisation pipeline from invention through patenting to licensing and new company formation.

Enterprise ‘Open Doors’
Thursday 29 October 2020, 12:00-13:30
An introduction to the Enterprise team at GRID, Heriot-Watt
Heriot-Watt’s Enterprise Team offer mentoring and expert advice for start-ups and University spin-outs across a range of business-related activities including funding options, intellectual property, finance, sales and marketing support. The team encourage the abundance of entrepreneurial talent amongst staff and students by arranging start-up surgeries and bootcamps which outline the necessary steps towards successful enterprise creation. Join us for this session with our Enterprise Executives and gain a deeper understanding of the resources, training and support available to you as you progress on your entrepreneurial journey.

Strand C: Researcher Development
Fellowship College Briefing Session
Thursday 22 October 2020, 14:00 – 15:00
Delivered by the Research Development Team
Heriot-Watt University operates a Fellowship College which helps develop Research Fellowship proposals and to ensure these are of the highest standard which maximises your chances of success. The University issues 4 deadlines a Year for internal and external candidates to submit outline proposals for Research Fellowships across various Funders. For Successful candidates - support in costing and developing the proposal to their chosen Funder/Scheme is provided by the Research Development Team in RED, as well as their chosen academic mentor(s). Ahead of the next internal deadline, Nisha Patel from the Research Development Team will be covering the fellowship application process used at Heriot-Watt. The session will review the difference between Fellowships and standard research grants, eligibility and support mechanisms.
To book a place, please email researchdevelopment@hw.ac.uk directly, with your Full Name, Host School and email address by 12pm Wednesday, 21st October 2020 and we will send you a calendar invite.

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**Research for Global Goals**  
**Monday 26 October 2020, 09:00 – 10:00**  
*Delivered by the Global Challenge Research Fund Team*

The Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all. Heriot-Watt researchers are contributing to that ambition with support from the Global Challenges Research Fund (GCRF), with positive impacts in disadvantaged communities in three continents. Our international research collaborations are changing lives for the better.

This event will celebrate some of our achievements and demonstrate how researchers at all stages of their career can engage with Global Challenges. The GCRF Team is here to help Heriot Watt researchers to contribute to achieving the SDGs.  
[Booking link](#)

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**Identifying and promoting your skills**  
**Tuesday 27 October 2020 – 12:00-13:00**  
*Delivered by Careers Specialist Keith Kilgore*

A key part of effectively planning and implementing the next stages of your career is the ability to analyse the range of skills and aptitudes you have developed. In this session we will look at examples of the key skills that are developed by PhD candidates and consider how you might audit and evidence your own unique set of skills. We will then look at how we can promote these effectively as part of your search for the next career opportunity.  
[Booking link](#)

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**PGR University Induction (UK students)**  
**Wednesday 28 October 2020 – 10.00-12.30**  
*Delivered by the Research Futures Academy*

The Postgraduate Researcher University Induction warmly welcomes our new PGR students to Heriot-Watt University. This PGR University Induction will cover key aspects of what to expect as you start your doctoral journey, what is expected of you as a researcher and how to maximise the opportunities available to you at Heriot-Watt University. It includes contributions from senior academic staff, experienced research students, Postgraduate Representatives and departments providing training and support for early career researchers, including Research Futures Academy.

*Any students who missed their Induction are also welcome to attend.*  
[Booking link](#)
Strand D: Community and Culture

Creating Inclusive Research Cultures
Wednesday 21 October 2020, 14:00 – 15:00
Delivered by Professor Kate Sang, Dr James Richards, Dr Jen Remnant.
Centre for Research on Employment, Work and the Professions, Edinburgh Business School

COVID-19 and the resulting public health measures have made the stark difficulties experienced by many researchers unavoidable. Many journals have reported steep declines in submissions from women, and those with caring responsibilities have faced considerable challenges working from home. Our data suggests however, that COVID-19 may offer opportunities to consider more accessible research careers, for example, with the acceptance of working from home and virtual attendance at conferences. This workshop will explore how research cultures and careers can be made more accessible discussing the latest research on disability inclusion, an evaluation of universities policies on inclusion and researching sensitive topics.

Booking link

Reimagining our Recovery and Future Growth: Heriot-Watt’s commitment to supporting the global recovery efforts in relation to Covid-19
Thursday 22 October 2020, 17:00-18:00
Delivered by Research Engagement, Enterprise, and Development & Alumni

As part of Heriot Watt’s Festival of Research 2020, we are delivering an online session of presentations and discussions exploring Heriot-Watt’s recovery prospectus. This ‘invitation-only’ event will provide Watt Club members with an opportunity to learn more about and engage with Heriot Watt’s Covid-19 recovery and future growth strategies.

The recovery prospectus illustrates Heriot-Watt University’s commitment to supporting the global recovery efforts in relation to Covid-19. As we rebuild, Heriot-Watt University aims to maximise opportunities for innovation, solve significant issues and drive impactful socio-economic benefits. We call on Government, Industry and Communities and invite you to join us in reimagining a new future. One that places a sustainable green economic recovery at its core, and which drives innovation, job creation and talent development. Enabling a positive, lasting contribution to the communities in which we operate.

Booking link
Engaged Research Strategy Launch
Wednesday 28 October 2020, 14:00-15:00

Delivered by the Policy, Strategy and Impact Team

Join Professor Garry Pender, Dr Laura Wicks, and Dr Ellen Meek from UK Research and Innovation (UKRI) to hear about the University’s new Engaged Research Strategy and how it aligns with UKRI’s new roadmap for Research and Development.

Public Engagement is of increasing strategic importance to the University, to strengthen research relevance, accountability, and to build trust. Societal transformation, like rebounding from the effects of the Covid-19 pandemic, progress towards Net Zero and the increasing prevalence of robotics and AI, need strategic engagement to prepare publics and to build relationships and backing.

Over the past two years, Heriot-Watt have been working closely with UK Research and Innovation (UKRI) and the National Coordinating Centre for Public Engagement, to develop our Engaged University Plan, which will shape priorities over the course of Strategy 2025.

At this event, we will also launch this year’s Principal’s Research Impact and Engagement (PRIME) Awards, which celebrate outstanding achievement, innovation and creativity in impact and public engagement with research.

Booking link

Inaugural Lecture - Big Geosciences for the Future:
Professor John Ludden CBE
Wednesday 28 October 2020 – 17.00-18.00

John Ludden: Bicentennial Professor, Environmental Governance and diplomacy, Lyell Centre, EGIS, Heriot-Watt University

Professor Ludden will summarise how he was the instigator and leader of some of the big-geoscience projects of the past decades. These involve satellite missions measuring the Earth’s gravity and magnetic fields, deep Earth sounding through geophysics and drilling the ocean’s abyss. He will describe future global initiatives in the geosciences that will enhance the sustainable development of the planet – one of these is to drill into an active 900°C magma system in Krafla Iceland, to harness its energy, and to experiment with new volcano monitoring technology that will improve prediction and mitigation of future eruptions.

Booking link

All Heriot-Watt staff and students are invited to participate in this virtual event. We hope to see you at the Festival at Research and Enterprise 2020 to celebrate the research undertaken by our academics, take advantage of the diverse support available for our researchers, and to engage with the international University community.