2023/2024



# Bangor University SDG Progress Report





# SUSTAINABLE G ALS



The Sustainable Development Goals

"We need a surge in implementation. Massive investment and more effective partnerships are needed to drive critical transitions across food, energy, digital connectivity and more, unlocking progress right across the Goals.

And underpinning all our efforts must be a more concerted effort to dismantle gender barriers and empower all women and girls – because we cannot expect to achieve the Goals without gender equality."

António Guterres, Secretary-General of the United Nations

Sustainability is at the heart of Bangor University, as portrayed in our vision statement in Strategy 2030:

"A globally connected University, realising opportunities for success through transformative, innovative, impact-driven research and teaching, with a commitment to sustainability."

As a University community, we must act in a manner which ensures that the needs of our students, staff and local community are met, without compromising the ability of those in the future to meet their own needs.

Bangor University is committed to educating and inspiring future generations, conducting leading research, being a leading employer, and taking an active role in the community.

Sustainability at Bangor University is therefore wide-reaching, and it involves everything: from the health and well-being of its staff, to recycling in its student accommodation; from the content of the curriculum to its research activities.

#### Sustainability Strategy 2030

# Sustainability reports are not just about looking back

This Report presents our fifth annual published SDG report to show a small sample of the many ways in which we are contributing through research, public engagement, learning and students, and operational elements, to the 17 UN Sustainable Development Goals. This SDG Report is a continuous work in progress, allowing Bangor University to track its impact and improvements over time.



INDUSTRY, INNOVATION AND INFRASTRUCTURE

# NO Poverty

# RESEARCH

# Not enough for essentials, as the cost of living crisis bites

The cost of living crisis has negatively impacted mental health for many people in Wales and many have had to cut down on essentials like food and heating to make ends meet. These are the findings from a <u>Public</u> <u>Health Wales survey, co-authored by a</u> <u>Bangor academic</u>, into the impacts of the rising cost of living.

Over 2,000 people across Wales were asked a variety of questions relating to their financial circumstances, whether they felt they could cope financially during the cost of living crisis, and how it was impacting their health and day-to-day behaviours.

The vast majority of respondents (94%) said their cost of living had increased in the previous six months and 43% rated their current household financial situation as worse than it was six months ago.



Goal: End Poverty in All Its Forms Everywhere

# **PUBLIC ENGAGEMENT**

# £5 million funding to tackle challenges facing Wales' rural communities

A partnership including <u>Bangor University</u> has received over £5 million in funding to research and explore solutions to rural challenges.

Researchers and policymakers will work with communities from across rural Wales to explore innovative solutions to a range of major challenges faced by rural communities, on issues such as the "rural premium" on poverty.

Funded by UKRI, the research partnership aims to fill evidence gaps, explore innovative solutions, and enhance the use of research to support effective policies to foster a 'wellbeing economy'.

It will focus on the challenges of building a regenerative economy, supporting the net zero transition, enhancing health, wellbeing and access to services, and empowering communities and culture, including Welsh language revitalisation.

#### **Festival of Social Science**

The Festival of Social Science is an annual celebration of research and knowledge about humans and society, a key theme for the <u>Bangor University hosted 2023 festival in</u> <u>November</u> was 'lifelong wellbeing'. The festival explores topics relating to social science – from health and wellbeing to crime, equality, education and identity.

Two of the panel of speakers this year included Bangor University researchers focussing on Universal Basic Income and Wellbeing, Carer's Identities and Needs, and Discourses Around Benefits.

#### University's response to the cost of living

<u>Bangor University</u> understands that the cost of living is a concern amongst our student population, and have been collaborating with the Student's Union to offer a range of help.

- We provided a hot meal at University sites from Monday to Friday for £2.
- The University is directly funding the Period Poverty scheme, previously funded externally via a Students' Union initiative.
- Halls laundry prices have been reduced.
- Prices of drinks in the Academi nightclub were frozen at 2021/22 prices.
- Prices of student tickets for Pontio Cinema were frozen at 2021/22 prices.
- Undeb Bangor established a free-to-loan Interview Clothing Library for students.
- The Student's Union had a Cost of Living swap shop event in October.

#### All-inclusive living & no hidden costs

Bangor is rated in the Top 3 in the UK for Student Accommodation (WhatUni Awards 2023). The fee includes the following:

- · All bills and utilities.
- Gym and membership.
- Weekly Campus Life events.
- Award-winning internet.
- 24-hour security.
- Mentor support.
- Room and contents insurance.

Living in <u>University Halls</u> means that the above is included in your fee, and there are no hidden costs, with prices starting at £99 from September.

Students can also become part of the <u>Residential Life Team</u> responsible for fostering a close residential community and supporting the welfare of all students living in Bangor University accommodation. This role benefits from an accommodation package worth over £5500.

# **OPERATIONS**

#### Hardship Fund

The University provides a <u>Hardship Fund</u> to support students to cover essential costs that could not be planned for. Hardship Funds are one of the ways in which we support our students along with our Bangor Bursaries, short-term loans and crisis grants.

The fund is available to registered Bangor University students – undergraduate or postgraduates whether they are from the UK or International students studying full or parttime courses.

#### **Money Support**

The <u>Money Support Unit</u> is part of the Student Support Team, and the experienced members of staff can provide advice, information and guidance on all aspects of student funding.

Our advisers can help:

- Assess financial situations and support in creating a spending budget that will meet essential needs.
- Make sure students are accessing their full Student Finance and Bangor bursary entitlements.
- Look at ways to save on costs.

We have a number of support mechanisms in place to help with money problems including:

- A means-tested hardship fund and short-term loans.
- Crisis Grants and food vouchers when there is an immediate need.

#### World Fairtrade Day

University Catering, Residential Life and the Students' Union teamed up in May to deliver a program of events to <u>raise awareness of</u> <u>Fairtrade</u>. These included information stalls, free Fairtrade food, and a series of short Fairtrade documentaries to learn more about what a Fairtrade cooperative is, and how climate change is affecting Fairtrade industry.



# Launching the Llond Ceg podcast at the Royal Welsh Agricultural Show

A series of <u>Welsh language podcasts about</u> <u>sustainable Welsh food</u> 'Llond Ceg - Bwyd Cymraeg Cynaliadwy' was launched at the Bangor University stand at the Royal Welsh Agricultural Show in Builth Wells in July.

The aim of the podcasts, which have been produced with funding from the Coleg Cymraeg Cenedlaethol, is to offer a flexible and accessible resource to anyone who wishes to understand and learn more about aspects of sustainability, with an emphasis on food.

As part of the series, experts who work along the food chain chat about how food is an essential part of our landscape and identity, the local food system in Wales and the challenges in ensuring food waste reduction and support for families and individuals who need access to affordable and nutritious food.



Llond Ceg podcast

Goal: End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture

# RESEARCH

Investigating whether chlorophyll byproduct could be a sustainable answer to the £50million problem of potato blight

<u>Bangor University</u> are collaborating on a project led by Western Europe's largest producer of chlorophyll, Blankney Estates Ltd, to investigate whether the large amount of grass wax it produces as part of its chlorophyll production process could be used as a more sustainable alternative to current fungicide controls for late potato blight.

The 12-month project is funded by the Department for Environment, Food and Rural Affairs (DEFRA) through the Farming Innovation Programme, delivered in partnership with Innovate UK. Late potato blight results in up to £50 million of annual losses for UK farmers and is caused by a fungus-like organism (Phytophthora infestans) that results in leaf and stem damage and eventual rotting of the potato.



Blankney Estates farms 14,000 acres of land, and grows a wide range of arable crops for human consumption, animal feed and energy production. 1,500 acres of this land are dedicated to growing a type of grass called tall fescue for chlorophyll extraction, which is used in a range of food, pharmaceutical and cosmetic applications, mainly as a natural green colourant. During the process of chlorophyll pigment extraction, large residual volumes of natural grass wax are produced and subsequently discarded as waste.

#### Bangor University Students Cook Up a Free Storm on the High Street

Undeb Bangor, Bangor University's Students' Union, has been collaborating with Bangor City Council to <u>provide free meals to those in</u> <u>need</u>.

The project commenced in September and was awarded a £1,500 grant from Bangor City Council to assist with the purchase of new kitchen equipment and the hiring of the hall.

The food served caters to both vegetarians and carnivores, and is far removed from the concept of a soup kitchen. They offer nutritious, filling, and tasty meals to satisfy all palates and age groups. There are no questions asked when coming to get food; all they request is that you show up with an appetite. The hot meal facility is open every Saturday from 3pm to 6pm at Penrhyn Hall.

#### Bangor University Innovation and Leadership Training Award (BUILT)

Developed by Bangor University staff and alumni, BUILT brings together students to form cross-disciplinary teams to work on creating a solution to a <u>sustainability and</u> <u>food-based challenge</u>. This year's programme saw 34 undergraduate and postgraduate students present their proposals.

The semester-long programme gave students the opportunity to learn basic business knowledge such as forecasting, planning and profit/loss reporting, gaining an appreciation of what it takes to start a company and getting experience in taking an idea through design thinking to potentially prototyping for market consumption. The 2024 winners were Team Tatws with their product 'Grad Chef', an app which directs students to local products and businesses with a recipe feature which will prevent food waste.

#### **OPERATIONS**

#### 75% off fresh packaged food after 3pm

In November, catering introduced a new initiative where the cost of any fresh packaged food is reduced by 75% after 3pm on its useby date across all University outlets. Items are labelled with pink stickers.

#### **Food Waste Data**

In 2023/24 Bangor University <u>diverted 100%</u> of its waste from landfill. 7.62% of all waste was sent to a local Anaerobic Digestion facility in Gwynedd called Biogen Gwyriad. We send all our food waste to a closed-loop Anaerobic Digestion Facility rather than an in-vessel composting plant as it is recognised by the government as one of the best methods for food waste recycling, producing electricity and heat as well as biofertiliser.



Recycled Composting Anaerobic Digestion Energy Recovery

#### 2023/24 Total Waste and Waste Streams

#### Fairtrade

Bangor University has been granted <u>Fairtrade</u> <u>status</u> since September 2009 making an ongoing commitment to support Fairtrade. We offer and support Fairtrade-accredited products in all our outlets, and are working

towards the new Fairtrade accreditation. We also support students who wish to investigate Fairtrade, trade justice and ethical consumption within their dissertations.





#### Player welfare support to Women's U18 Six Nations from Bangor researchers

<u>Members of Bangor University's Rugby</u> <u>Knowledge Exchange</u> (RuKX) ran player welfare clinics for national teams taking part in the Women's U18 Six Nations in April.

The clinics covered current issues in female rugby drawing on research expertise from Bangor University, including concussion, breast injury awareness and menstrual health.

The players attending the welfare clinics came from the national teams of Ireland, Scotland, Italy and Wales. Data gathered during the sessions will support research underway in RuKX and be provided to the national federations to help improve their female player education programmes.

# 'ADHD Contested' – Medicine, Science and Society

In May Professor Edmund Sonuga-Barke, a Bangor alumni, gave a <u>public lecture</u> on exploring the implications of challenges for both science and practice going forward, as we shift our focus from 'fixing' dysfunction to accepting and supporting neuro-divergence to promote successful development. Goal: Ensure Healthy Lives and Promote Well-being for All at All Ages

# RESEARCH

# Childhood adversity linked to how we engage with healthcare services

<u>New research by Bangor University</u> and Public Health Wales has found that adults who suffered adverse childhood experiences (ACEs) such as child maltreatment or living in a home with domestic violence, report lower engagement with healthcare services.

Childhood experiences can influence health, wellbeing and behaviours across the life course, and exposure to ACEs can increase people's risks of adopting health-harming behaviours and developing physical and mental ill-health.

# Psychologists develop a new tool to assess readiness to perform well

Expertise in the psychological processes that underpin the <u>highest levels of human</u> <u>performance at Bangor University</u> is being used to develop an industry-first 'readiness to perform well' psychological assessment tool for elite performers in sport and business.

Building on a history of collaboration between psychological services company Changing Minds and Bangor University's Institute for the Psychology of Elite Performance, the twoyear Knowledge Transfer Partnership builds on the company's evidence-based 'Performing Well' assessment framework.

Changing Minds Performance Services works with elite-level teams, organisations and individuals to help them perform at their very best in high-pressure environments. Their services have supported success across elitelevel football, cricket, rugby, tennis and Olympic sports.

#### Bangor University Launches New Pharmacy Degree to Address Local and National Healthcare Needs

The <u>new Pharmacy degree</u> at Bangor University has been given the go-ahead, with students set to begin their studies in September 2025. The four-year Master of Pharmacy (MPharm) undergraduate degree programme is the primary route that students take to become pharmacists.

As Bangor University continues to grow and develop its new North Wales Medical School, the offering of Pharmacy alongside Medicine and allied Health programmes is part of the institution's strategy to ensure that there are opportunities for local applicants to enter these important fields and that graduates fulfil the workforce needs of north Wales and beyond.

#### Bangor graduate shortlisted for Student Nurse of the Year

Bangor University graduate Katie Bright was shortlisted for Student Nurse of the Year in the learning disabilities category by the Student Nursing Times Awards 2024.

The Student Nursing Times Awards highlight excellence in all specialities of student nursing and provide an opportunity to congratulate individuals as well as the lecturers, practice supervisors, universities, trusts and private organisations that support student nurses during their studies.

Katie Bright, from Anglesey, graduated as a learning disabilities nurse from Bangor University in December 2023 with a first-class honours degree. She is now a learning disability nurse for Betsi Cadwaladr University Health Board and working at an assessment and treatment unit for patients with learning disabilities and mental health illness whilst raising two young children.

## **OPERATIONS**

#### **Student Wellbeing Service**

The <u>Wellbeing Service</u> is part of the Student Support and Wellbeing Service based within Student Services. They have professionally qualified counsellors, mental health professionals and information specialists who are experienced in helping students deal with all kinds of practical and emotional issues such as study-related matters, trauma, relationships, emotional regulation, mental health disability-related issues, accessibility, harassment, inclusion and much more.

They run several <u>workshops/groups/wellbeing</u> <u>lectures</u> during the academic year, focussing on:

- How to manage self-care;
- Art Psychotherapy groups;
- Reflective Art Workshops;
- Emotional Regulations Skills.

#### 'Look after your mate' workshops

Bangor University, as part of our new Student Led Mental Health & Wellbeing Strategy, delivered training for the <u>'Look after your</u> <u>mate'</u> workshops for students across the University. We have 10 accredited members of university staff from different backgrounds who deliver the training throughout the year.

The aim of the workshop is to support and empower students who are supporting friends or housemates who are experiencing Mental Health issues. The workshop advises on how to know when a friend may be struggling, look at communication techniques, signposting and boundaries, self-care, and looking after

yourself whilst supporting a friend.





# RESEARCH

Language skills 'on pause' during COVID – report

Some school children felt that their Welshlanguage skills were "on pause" during the Covid pandemic, according to research by <u>Bangor</u> and Aberystwyth Universities.

The research explored the experiences of learners in Welsh-medium education who were from non-Welsh-speaking families, and the perceptions of their parents during the public health emergency, particularly in the transition from primary to secondary school.

The research findings identify the value of strengthening the links between primary and secondary settings to ease the transition process. They also underline the importance of assessing pupils' Welsh language skills between key stages - for example, when transitioning from primary to secondary school to identify any support required. The study also stresses the importance of ensuring effective communication between home and school, and making use of bilingual communication - for example, providing lists of key terminology that would aid parents in accessing and understanding feedback. The importance of increasing extra-curricular opportunities to use the Welsh language within and outside of school is also highlighted.

Goal: Ensure Inclusive and Equitable Quality Education and Promote Lifelong Learning Opportunities for All

#### **PUBLIC ENGAGEMENT**

#### **Eco-Science Day for Schools**

The <u>Eco-Science Day for Schools</u> in March introduced school pupils to a wide range of scientific fields and disciplines, to inspire and educate them to get involved in science. The day included the following for Year 7 and 8 pupils from local schools:

- Talk on 'Unconscious bias in science' by Dr Gareth Evans-Jones, School of History, Law and Social Sciences.
- Interactive sessions with University staff. School pupils had the opportunity to learn, ask questions and get involved in a range of demonstrations and exhibitions including Co-Lab, M-SParc, Digital Signal Processing, Nuclear Futures Institute, Robotics and Technocamps, as well as interactive stalls provided by academic schools and external partners.

# A-level students from across north Wales take part in Murder Investigation Day

Students from across north Wales schools and colleges learnt more about how police investigations are conducted at a 'Murder Investigation Day' <u>organised by Bangor</u> <u>University's criminology, sociology and law</u> <u>course leaders</u> in December.

During the day, students heard directly from police and other experts, including the HM Coroner for East and Central North Wales, the Scientific Support Manager and North Wales Police's Major Investigation Team Detective Chief Inspector about their own experiences of working on murder investigations. Students then viewed a crime scene, listened to filmed interviews with both suspects and witnesses and learnt how all the evidence is pieced together.

Bangor University is accredited for Wales' first-ever postgraduate programme with additional learning needs specialism

Bangor University is introducing an <u>innovative</u> <u>new teaching qualification</u> to address the current shortage of teachers across Wales who specialise in supporting children with additional learning needs and neurodiversity.

The postgraduate course, a first in Wales, has been accredited by the Education Workforce Council and will be available from September 2024. It is designed to support those new to the education workforce and teaching assistants experienced in supporting pupils with additional learning needs (ALN) who would like a career as a teacher.

# Honorary Fellows honoured for a lifetime's contribution to Welsh-medium education

In March at the Coleg Cymraeg Cenedlaethol Annual Congregation <u>at Bangor University</u>, Professor Delyth Prys, Wyn Thomas, and Linda Wyn were announced as Honorary Fellows of the Coleg for their lifetime contribution to Welsh-medium education.

Professor Delyth Prys received recognition for her outstanding contribution over thirty years. Following key contributions in standardising terms for the National Curriculum and the Language Board, as well as spending a long period as Head of the Language Technologies Unit at Bangor University's Bedwyr Centre, Delyth set about standardising higher education terms at the Coleg Cymraeg Cenedlaethol.

Wyn Thomas was accepted as an Honorary Fellow for his key contribution at Bangor University in developing Welsh-medium provision in Music and also supporting developments in other areas during his time as Pro Vice-Chancellor of the University.

# **OPERATIONS**

#### Bangor is named 2nd in Wales in the UK University League Table

Thanks to valuable reviews, Bangor University has achieved an outstanding ranking of <u>2nd in Wales</u> according to the recently released StudentCrowd UK university rankings.

The StudentCrowd league table is compiled through reviews and votes by students who have studied or are still studying at each university. It reviews everything from the campus and facilities to clubs, societies, the Students' Union, Careers Service, and Internet and Wi-Fi. Over 570 reviews were submitted to the platform about Bangor University over the last year.

#### **Bangor Science Festival**

In March the University held <u>Bangor Science</u> <u>Festival</u> as part of British Science Week organised by the British Science Association.

Objectives of Bangor Science Festival are:

- To enthuse and inspire young people about science; to empower them as citizens, and to create the next generation of scientists and engineers.
- To identify areas of public interest and concern, where scientists can contribute to discussions for exchange of ideas and expertise.
- To enhance public access to research and to stimulate discussion of scientific methods and results, their relevance, and the wider implications for society.
- To support researchers in their endeavour to be reflective about issues raised by their research.



# **5** GENDER EQUALITY

# RESEARCH

#### WISGYR Project

The <u>Welsh Injury Surveillance in Girls' Youth</u> <u>Rugby (WISGYR) project</u> is a 3-year research study funded by World Rugby, supported by the Welsh Rugby Union (WRU), and managed by researchers from the School of Psychology and Sport Science at Bangor University.

To make the game of rugby safer, and more enjoyable and to increase participation, two of World Rugby's player welfare research priorities are to fund (i) player welfare research in women's rugby, and (ii) injury surveillance and prevention research at all levels of the game.

The WISGYR project aims to address the lack of injury risk information available in youth female rugby, specifically in the community game. By putting the player first, we hope to identify welfare risks to young female players, investigate ways to reduce these risks and develop and share best practice guidelines.

Over 3 years we will be recording injuries in girls' rugby matches to assess the risk. We will be collecting this information from girls aged between 7 and 18 years old from the WRU girls' hubs, secondary school games and local clubs in the north Wales region. Goal: Achieve Gender Equality and Empower All Women and Girls

# **PUBLIC ENGAGEMENT**

# Women in Science @Bangor - Inspire Inclusion

Bangor University celebrated <u>International</u> <u>Women's Day 2024</u> by taking this year's global theme 'Inspire Inclusion' as an opportunity to celebrate our women in science at a free-to-attend event.

The speakers from the School of Ocean Sciences reflected on their experiences, and their journeys and talked about how they are inspiring inclusion in their fields:

- Yueng-Djern Lenn, Professor in Physical Oceanography.
- Kodi Edwards studying for an MSc in Marine Biology, and Bangor University Inclusive Scholarship recipient.

# The Ghost Reader: Recovering Women's Contributions to Media Studies

A new book <u>The Ghost Reader</u> offers a fresh perspective on the intellectual history of the field of media studies. The Ghost Reader was edited by Dr Elen D. Hristova, Lecturer in Film and Media at Bangor University along with Professor Aimee-Marie Dorsten, Point Park University, Pittsburgh and Professor Carol A. Stabile, University of Oregon.

The book recovers and republishes the work of a diverse group of women who laboured at the margins of media studies as it took shape during the formative years of communication research between the 1930s and 1950s.



The Ghost Reader book

#### Student Data 2023/2024

Our latest <u>Student Equality Report</u> notes female students have remained at an average of 60% over the last five years, which is slightly higher than the UK average of 57%.

# Bangor Alumna among world's most influential women



Susan Chomba

Graduates from Bangor University are making an impact around the globe. If proof were needed, one graduate, <u>Susan Chomba</u>, who was in the first cohort to graduate with a Masters degree in Sustainable Tropical Forestry, has been included among the world's 100 most influential women.

The list, produced by the BBC includes former US First Lady Michelle Obama, human rights lawyer Amal Clooney, Ballon d'Or-winning footballer Aitana Bonmatí, feminist icon Gloria Steinem and Hollywood star America Ferrera.

This year's list also highlights women who have been working to help their communities tackle climate change and take action to adjust to its impacts. Now a director at the World Resources Institute (WRI), Susan Chomba says her experience of childhood poverty in Kirinyaga county in central Kenya motivates her to help improve the lives of others. She primarily concerns herself with protecting forests, restoring landscapes and transforming Africa's food systems.

# **OPERATIONS**

#### Gender Pay Gap Report 2024

The <u>Gender Pay Gap Report 2024</u> shows our median gender pay gap has been maintained at 5.7%. This remains lower than the UK figure (7%) and lower than the UK HE sector figure (9%) for the 7th successive year. We acknowledge that a gap still exists and are focused on further reducing our pay disparities.

#### Bangor University awarded Athena Swan Silver in recognition of gender equality work

Bangor University has been successful in achieving an <u>Athena Swan Institution-level</u> <u>Silver Award</u>. The University is only the second University in Wales to have achieved Silver, with fewer than 40 Universities UKwide having progressed to Silver.

The Athena Swan Charter is a framework used worldwide to support and transform gender equality within higher education and research. Institutions can apply for Bronze, Silver or Gold Charter mark awards. Bangor University has held a Bronze award since 2011 (successfully renewed in 2014 and 2018). To achieve Silver, Institutions are required to demonstrate progress and evidence significant success in addressing gender inequality.

As part of the submission, Bangor University developed a five-year action plan covering eight priority areas which reflect the university's ongoing commitment and ambition to further progress gender equality.





Don't just wait for the water firms – three things we can do right now to clean up Britain's rivers

Britain's rivers and coasts are polluted – there is no escaping that fact – and water companies are coming under more and more pressure to fix things. Most recently, a law firm has announced its plans to take collective legal action against the UK's six biggest water companies over alleged pollution and overcharging.

Private water companies have admitted they need to do more and pressure must be kept on them to do so – they cannot be let off the hook. But anyone who wants to see cleaner rivers and coasts can't simply sit back and wait for the promised investment and improved practices, because the problems facing Britain's waterways are far greater than those caused solely by the water industry – and the solutions will need many other sectors of society and industry to get involved.

In a widely <u>publicised article, a Bangor</u> <u>academic</u> details three things that would improve Britain's rivers and coasts, which don't require the water companies: 1. Less concrete, more soil

- 2. Develop the UK's 'kidneys'
- 3. Individual responsibility

Goal: Ensure Availability and Sustainable Management of Water and Sanitation for All

#### RESEARCH

#### School of Natural Sciences wins one of 10 funded projects set to boost innovation in sustainable aquaculture

Bangor University's <u>School of Environment &</u> <u>Natural Sciences</u> has successfully won a portion of a £4.6 million fund to bring academia and industry together to tackle key challenges facing sustainable UK aquaculture.

The grant to Bangor University of (£720,000) from the Biotechnology and Biological Sciences Research Council is one of 10 projects funded across the UK.

Researchers at the School along with commercial partners Mowi and Scottish Sea farms will explore how regulating exposure to light can help tackle some of the challenges posed by infectious diseases on salmon farms.

Previous research underpinning the project has shown that juvenile trout exposed to continuous light were less resistant to skin parasites.

#### Global Study Reveals Extensive Impact of Metal Mining Contamination on Rivers and Floodplains

An estimated 23 million people are believed to be affected by potentially dangerous concentrations of toxic waste according to a ground-breaking study, which has provided new insights into the extensive impact of metal mining contamination on rivers and floodplains across the world. The <u>multi-author</u> <u>study</u> offers a comprehensive understanding of the environmental and health challenges associated with metal mining activities.

#### Bangor University hosts centre to develop a new generation of environmental scientists

Bangor University has been named as a hosting partner for one of four new Centres for Doctoral Training (CDTs) to boost UK expertise in flood prevention, wetland restoration, critical minerals and freshwater quality.

The Natural Environment Research Councilfunded centres will teach the next generation of PhD students who will go on to build careers in research, business and public service. Each centre will be supported with  $\pounds 2.6$  million funding.

Bangor University is one of five hosting partners for the Centre for Doctoral Training in Real-Time Digital Water-based Systems for Environmental Health Protection (RED-ALERT CDT), led by the University of Bath.

#### Study

Our <u>Freshwater Ecosystems</u> module provides an introduction to freshwater ecosystems, habitat types, geomorphology/hydrology & structure of freshwater ecosystems, classification of lakes, rivers & wetlands, freshwater communities & relationship, human impacts on freshwaters & approaches to conservation & restoration, fish ecology, life assessment and management & fisheries economics and ecosystem services and their management.

The <u>Management Plan</u> module teaches students how to critically appraise best practices for the maintenance of water quality referring to international standards, evaluate the likely impacts of proposed changes in agricultural activity due to different policy levers, and evaluate 'best practice' with regard to interventions designed to address catchment water quality.

# **OPERATIONS**

#### Water Reuse

The Environment Centre Wales building was designed with a rainwater harvesting system. The water collected by the building is used to supply water for all the toilets in the building.

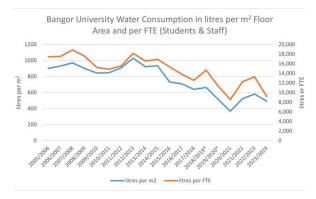
Treborth Botanic Garden and Henfaes Research Centre/Bangor Forest Garden both make use of water butts to collect rainwater for the purposes of watering plants. Treborth Botanic Garden has a total waterbutt capacity of over 6,000 litres which is used to offset the use of clean water for watering plants. In <u>2023/24 the University harvested over 110m3</u> of rainwater across its sites.



The Environment Centre Wales collects rainwater for flushing toilets

#### Water Usage

During the <u>2023/24 academic year, Bangor</u> <u>University</u> used more than 110,000 cubic meters of water. The University sets itself targets to reduce water use as part of its Environmental Management System. Between 2005 and 2024, total water use was reduced by 45.0% per m2 floor area.



Bangor University's Water Consumption



Mining our way out of the climate crisis: potential environmental risks associated with resourcing low carbon technology

In January, Graham Bird a physical geographer and more specifically an environmental geochemist provided a <u>free</u> <u>public lecture</u>. The talk explained the growth in demand for minerals to resource lowenergy technology, exemplified the environmental impacts that may arise, and also the progress that has been made in the prevention and remediation of such impacts.

#### M-SParc Unveil Plans for Second Building

Bangor University and Menai Science Park (M-SParc) <u>unveiled plans for the second</u> <u>building on the site</u> designed to solidify north Wales as a powerhouse for low-carbon innovation. This second building will serve as a central hub in the low-carbon sector.

A key aspect of the project is the growth of the University's low-carbon research, including the Nuclear Futures Institute. This investment will create a powerful innovation ecosystem bridging the gap between academic research and real-world applications, attracting top talent and further investment through the inclusion of a large innovation hall and a dedicated materials analysis laboratory. Goal: Ensure Access to Affordable, Reliable, Sustainable and Modern Energy

# RESEARCH

# Bangor University to collaborate with Rolls-Royce on space nuclear power

Bangor University is continuing its relationship with Rolls-Royce in the field of space nuclear power technology. Rolls-Royce has secured funding from the UK Space Agency under the National Space Innovation Programme (NSIP), which adds more support for the development of its space nuclear power technology. The new £4.8m award from NSIP Major Projects will help to significantly advance the development and demonstration of key technologies in the space nuclear Micro-Reactor.

Over the next 18 months, in collaboration with academic partners from the University of Oxford and Bangor University, the project will develop the whole system design, underlying capabilities and key technologies. The programme will help unlock the UK's participation in the developing space nuclear power markets and demonstrate the UK's capability and readiness to move towards a detailed design.

# Some countries could meet their total electricity needs from floating solar panels, <u>research shows</u>

When the figures were considered country-bycountry, five nations could meet their entire electricity needs from FPV, including Papua New Guinea, Ethiopia and Rwanda. Others, such as Bolivia and Tonga, would respectively meet 87% and 92% of electricity demand. Many countries in Africa, the Caribbean, South America and Central Asia, could meet between 40% and 70% of their annual electricity demand through FPV. FPV can free up land for other uses and they keep panels cooler, making them more efficient.

# Bangor University postgraduates to play a critical role in new-era nuclear energy research

Bangor University's valuable role in advancing new-era nuclear research has been confirmed as the National Nuclear Laboratory (NNL) announced a £9.35 million investment in two projects: an innovation centre and the design of a test facility.

The NNL will partner with industrial and academic partners, including <u>Bangor</u> <u>University</u>, to support the development of nuclear fuels capabilities in the UK through the creation of a Uranics Innovation Centre.

The Uranics Innovation Centre is an industrial and academic partnership to support the development of front-end fuel capabilities in the UK. This will be achieved through the supervision of a series of post-doctorate and master's degree research projects with NNL's partner universities including Bangor University, Lancaster University and the University of Manchester. Research projects will include Light Water Reactor fuel supply, HALEU supply chain, Advanced Modular Reactor fuel fabrication capabilities and enabling UK fuel production capabilities.



#### Study

Our <u>Marine Renewable Energy module</u> enables students to critically appraise the role of the marine renewable energy industry, including the current status and future challenges, and understand the environmental and geological impacts of marine renewable energy extraction.

# **OPERATIONS**

# Minister visits the Prince Madog as it undergoes green retrofit

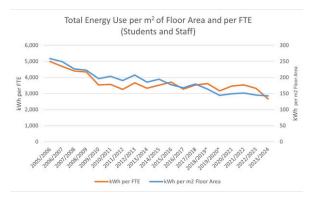
A £5.5 million green retrofit using UK Government funding is underway on a <u>research vessel based at Bangor University</u>. The vessel is currently undergoing a retrofit to equip it with a hydrogen propulsion system with a diesel-fuelled main engine to enable zero-emission operation at slow speeds or over short distances. In normal operation, it will reduce emissions by up to 60%.

#### **Energy Use at Bangor**

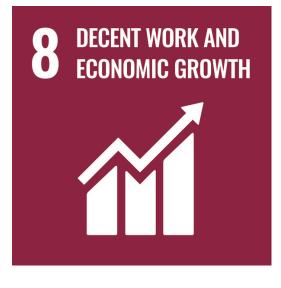
During the <u>2023/24 academic year, Bangor</u> <u>University</u> used around 31.8 million kWh (31.8 GWh) of energy. Most of this energy (17.26 million kWh, approximately 54.1%) was in the form of natural gas for heating buildings and providing hot water. Carbon emissions associated with the University's use of natural gas totalled 3,157 tonnes <u>CO2e</u> for 2023/24.

Electricity for lighting, computers and other equipment was the next most significant form of energy use at the University (14.0 million kWh approximately 44.0%). The other 1.9% of energy use was in the form of LPG and Heating Oil, to provide heating to our properties that are not connected to mains gas.

An additional 134,786.40 kWh was generated by rooftop solar panels, and used solely by University buildings.



Bangor University's Energy Consumption



# RESEARCH

#### IEF member wins Association of European Operational Research Societies award

Dr Chrysovalantis Vasilakis, senior lecturer in economics at Bangor, and his co-authors <u>won</u> <u>the Association of European Operational</u> <u>Research Societies (EURO) award for Best</u> <u>European Journal of Operational Research</u> <u>(EJOR) paper</u> in the Theory and Methodology category.

The paper, Forecasting and planning during a pandemic: COVID-19 growth rates, supply chain disruptions, and governmental decisions, discusses how operational research played a vital role in aiding policymakers during the COVID-19 pandemic. By utilising data from multiple countries, predictive analytics tools were developed to forecast COVID-19 growth rates and demand for products/services during the pandemic. Various models, including statistical, epidemiological, machine learning, and a hybrid approach, were used for forecasting.

Dr Vasilakis is also the joint author of a paper entitled: <u>The impact of finance on income</u> <u>inequality: a threshold analysis</u>. The paper identifies the optimal level of financial development for income inequality in a panel of countries employing a non-linear panel Generalized Method of Moments approach. Goal: Promote Sustained, Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All

# **PUBLIC ENGAGEMENT**

Bangor Business School to consult Welsh businesses on leveraging the power of their data to benefit their business

<u>Bangor Business School</u> is using its expertise in powerful data analytics to help Welsh companies gain valuable insights and grow sustainable businesses.

A team of experts in data analytics and finance will develop a greater understanding of how North Wales businesses currently use data analytics to drive decision-making and what future plans they have to expand and develop their data analytics capabilities. This has been made possible thanks to significant funding from the Welsh Government's Smart Flexible Innovation Support (S\_FIS) scheme, which supports demand-driven Research, Development and Innovation.

#### Head of Arts, Culture and Language leads call to develop screen industry workforce skills now and for the future

Professor Ruth McElroy led a panel discussion at the 'Going Global' event organised jointly by the UK Government's Department for Business and Trade, S4C and TAC (Teledwyr Annibynnol Cymru) – the voice of the Welsh independent TV production sector at <u>Bangor University in November</u>. Amongst the panellists for the 'Big Picture' session were media lawyer with Lee & Thompson, Anwen Griffiths, the actor, producer and director Celyn Jones, and Lee Walters from Media Cymru. A lively debate was had on the key challenges facing the industry, including finance and funding, before moving on to the skills agenda.

#### From Afghanistan to Anglesey: Masi makes an impact through graduate skillsmatching internship

Employers seeking out talent in Anglesey, Gwynedd and Flintshire are being given a financial boost thanks to a <u>new skills-</u> <u>matching graduate internship initiative</u> funded through the UK Shared Prosperity Fund, part of the UK Government's 'Levelling Up' agenda and facilitated by Bangor University.

Masi Jahan, originally from Afghanistan, is one of the first Bangor graduates to take up one of the 12-week 'Talent Voucher' placements offered through the Scheme. Since March, he has been able to share his expertise in data analytics and visualisation with BIC Innovation. Whilst on paid internship, he is undertaking valuable R&D for the business consultancy, whilst also gaining essential workplace experience following his Computing MSc at Bangor University.

#### DSP Centre co-hosts Communication Systems Testing and Measurement Training with Keysight

<u>The University's Digital Signal Processing</u> <u>Centre (DSP Centre)</u> recently partnered with Keysight Technologies, a market-leading design, emulation, and test solutions company, to deliver a one-day training seminar on test and measurement techniques for communication systems.

Electronic engineering students, researchers, and local telecommunications companies received technical lectures from Keysight experts, on topics ranging from instrument care and maintenance to reducing test risk and improving measurement accuracy. The Training Seminars will be delivered annually for five years and aim to boost local skills and employment, and ultimately contribute to the economic and social wellbeing of the community.

# **OPERATIONS**

#### **Careers and Employability Service**

The <u>Careers and Employability Service</u> is a team of dedicated professionals who are committed to helping students reach their career potential during their course and beyond graduation. They provide a free range of services and support:

- 1-2-1 Employability advice;
- CV guidance;
- Workshops & Events;
- Enterprise advice and support;
- Work Experience support;
- Internships.

#### **Careers and Employability Fair**

This <u>event</u> featured over 100 exhibitors and more than 50 guest speakers, making it an unmissable opportunity for students looking to explore their career options, network with professionals, and gain valuable insights into the job market.

The Careers and Employability Fair is the pinnacle of My Graduate Career Week, a week-long event dedicated to empowering our students for successful transitions into the professional world. As part of this exciting week, there were eight career masterclasses designed to enhance employability skills, covering topics such as CV writing, networking strategies, interview preparation,

and effective job searching. The fair itself provided the perfect opportunity to put these newfound skills into practice.



# **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



# RESEARCH

#### Bangor University receives Queen's University Prize at Buckingham Palace

<u>Bangor University's work</u> for the benefit of public health was recognised with the presentation of a Queen's Anniversary Prize medal and certificate at Buckingham Palace.

The University was recognised for its novel system for public health surveillance through the analysis of harmful pathogens in wastewater, deployed nationally during the pandemic and now adapted to measure a wide range of public health indicators.

# Bangor scientists design fuel that would sustain life on the Moon

Research being carried out by <u>Bangor</u> <u>University's Nuclear Futures Institute</u> on powering rockets and developing the fuels required for supporting life on the Moon has been featured across the media.

Bangor University is leading one of eight projects funded by the UK Space Agency to revolutionise our ability to journey deeper into space – and even travel to Mars. The research will make space travel both safer and more efficient, using remote technologies and supplies found in space to sustain astronauts and spacecraft. Goal: Build Resilient Infrastructure, Promote Sustainable Industrialisation and Foster Innovation

# **PUBLIC ENGAGEMENT**

IONA Minerals and Bangor University Partner on Eco-Friendly Industrial Soap Research and Development

An Anglesey company is taking the next step in its R&D process with <u>research expertise at</u> <u>Bangor University</u>. IONA Minerals is keen to develop a new type of soap bar for the industrial market, containing the right ingredients to remove oil, grease and grit, but made from natural materials.

IONA Minerals was awarded a £5,000 'midi' voucher by the Isle of Anglesey County Council to collaborate with Bangor University's Biocomposites Centre, who specialise in developing sustainable, biobased materials and taking ideas from bench to pilot scale. Having done some research themselves, IONA Minerals was keen to draw on the Biocomposites Centre's decades-long materials expertise to move their very early product ideas forward.



#### Engage: Lectures in Engineering, Computing and Design

Engage is a series of lectures for anybody to attend for free on a range of Engineering, Computing and Design topics, organised by <u>Bangor University's IEEE Student Branch and</u> <u>School of Computer Science and</u> <u>Engineering</u>. Academics and leaders give fascinating lectures about core technologies, modern ideas, or key principles.

#### North Wales Young Researchers' Conference

As part of the Bangor Science Festival in March, <u>Bangor University hosted</u> the North Wales Young Researchers Conference (NWYRC) competition, an opportunity for AS and A-level students interested in all areas of STEM to take part in an actual research conference.

Based on actual research conferences which take place across the globe, NWYRC consists of a theme and an abstract round which selects participants to compete in the final afternoon event where they will present their topic. The theme for 2024 was Technology of the Future.

# Entrepreneurial graduate Michal takes more than a degree

Having just graduated with a First-class Honours degree in Psychology, and inspired by entrepreneurial experiences gained at Bangor University, <u>Mikołaj Michał Nawrot</u> has created his own business.

Michał won the University's Enterprise Excellence Award 2023 which is awarded to only one student at Bangor University by the Employability Service for outstanding development of enterprise skills throughout their university experience.

Michał has now created Synargize, a consultancy which will work with companies using an academic and evidence-based approach to help them scientifically drive sales through the technological marketing techniques that they use. Since forming his business, Michał has also received support from Bangor University through its involvement in the psychology strand of the Celtic Advanced Life Science Innovation Network (CALIN) a large-scale Europeanfunded research network.

# **OPERATIONS**

#### **Industry Collaborations**

At <u>Bangor University</u> we are committed to ensuring a prosperous and sustainable future for all. Partnerships with businesses are an important way in which we make a difference to our local community and the wider UK.

We work with businesses to design our teaching programmes, shaping our graduates and providing student internship opportunities that help businesses to flourish. Our doors are open to all kinds of partnerships, from facilities and consultancy to collaborative research projects, training opportunities and more.

We're collaborating with the likes of Vodafone, FiberSpeed and Comtek to tackle digital inequality by delivering high-speed internet to more than 1 million people.

Our Language Department has collaborated with a cutting-edge online events platform to help develop real-time text and voice translation.

Plans for the world's largest tidal stream energy site are set to go ahead off the coast of north Wales, generating enough clean energy to power 180,000 households. Collaboration with Bangor Business School has been instrumental in moving the project forward.

Based in Bangor University's Menai Science Park (M-SParc), Cybersecurity innovators Cufflink are making global advancements in keeping personal and business information safe, and free from data hacking, with the help of experts from the University.

The research at the University's Nuclear Futures Institute is providing international opportunities, with global industry partners including Jacobs, Westinghouse, National Nuclear Laboratory, UKAEA, Tokamak Energy and Vessco Engineering.



New language survey to ask how Welsh is being used in Gwynedd, Ynys Môn and Conwy

<u>Bangor University</u> is researching people's attitudes towards the Welsh language, its use in various contexts and how its use can be further promoted in northwest Wales.

It is not a secret that Welsh is an endangered language. Despite population increases from 2.6 million to 3.1 million, numbers of speakers has roughly halved in this time, falling to its lowest in 1981 with efforts to preserve and revitalise the language having varying levels of success. Gwynedd Council hopes the project will help them and others to promote and encourage more people to use Welsh every day in Gwynedd, especially when using Council services including face-to-face contact, telephone calls and online services.

#### Gwynedd Dementia Centre for people living with dementia and their unpaid carers comes to Bangor

A new service, the Gwynedd Dementia Centre, has joined the <u>Ageing and Dementia</u> <u>Health and Well-being Hub at Bangor</u> <u>University</u>. The centre offers tailored information, education, advice, and long-term support for people living with dementia, their unpaid carers, and family.

# Goal: Reduce inequality within and among countries

# RESEARCH

# Project to help Deaf BSL using community in Wales to reduce health inequalities

A £1m 3-year research grant from the UKRI will see an interdisciplinary team led by a Bangor University academic working with Deaf British Sign Language-using Communities in Wales to tackle health inequalities.

For the past 5 years, linguist, Dr Christopher Shank has been working with an interdisciplinary team, jointly led by members of the Deaf community, to research and identify factors that impact the Welsh Deaf BSL using the community's health, wellbeing and access to health information, services and resources.

Through the new project, those involved, including members of the Deaf community, will again be instrumental in co-constructing, co-designing, implementing and evaluating solutions to known health inequities and inequalities facing Deaf people using British Sign Language (BSL) in Wales. The work aims to improve healthcare services through work with Deaf people, the NHS, health boards and other service providers.

# The sound of injustice: Inequitable urban noise impacts people and wildlife

Noise is an unseen pollutant with very real health impacts. Like many other forms of pollution, because of systemic injustice, it affects some people more than others. <u>A</u> <u>study</u> is the first to examine noise inequity in redlined communities. Results show that louder noise levels more commonly correspond with redlined urban areas and have detrimental effects on urban ecosystems proportional to their volume.

# Black History Month: Celebrate and Elevate

Bangor University held a free, family-friendly event as part of <u>Black History Month in</u> <u>October</u> to Celebrate and Elevate the voice and contributions of black women in north Wales.

Professor Charlotte Williams OBE, author of 'A Tolerant Nation?' and award-winning personal memoir 'Sugar and Slate', which explores the intertwined history of Wales, Africa and the Caribbean held a talk. Marie-Pascale Onyeagoro-Okonkwor's monologue performance 'I am African Everywhere' and the screening of 'People Like Us' by awardwinning filmmaker Lal Davies were also presented.

Bangor University catering service collaborated with successful local businesswoman Maggie Ogunbanwo of 'Maggie's African Twist'. The 'Saluting our Sisters' exhibition by Bangor University staff and students on the women that have influenced their work and studies was exhibited as well as meeting the Bangor Student Union African Caribbean Society.



Student Data 2023/2024

The latest <u>Student Equality Report</u> notes 8% of UK students identified as black, Asian or minority ethnic in 2023/24. 25% of students at Bangor disclosed a disability, significantly higher than the UK average of 15%.

# **OPERATIONS**

#### **Changing Places Toilet in Pontio**

Standard accessible toilets do not accommodate the needs of all individuals with disabilities. People with profound and multiple learning disabilities, as well as those with physical disabilities such as spinal injuries, muscular dystrophy, and multiple sclerosis, often require additional equipment and more space to use the toilet safely and comfortably. These needs are addressed by Changing Places toilets.

Unlike standard accessible toilets, Changing Places toilets offer extra features and should be provided alongside regular accessible toilets. Bangor University has a Changing Places toilet in the <u>Pontio Arts Centre</u>.

#### **University joins PRIDE celebrations**

The University stood in support of the LGBTQ+ community by flying the Rainbow Flag during Pride month celebrations.

Bangor University has its own <u>LGBTQ+</u> <u>Network for students and staff</u>. The LGBTQ+ Network is open to anyone who studies or works at Bangor University and identifies as lesbian, gay, bi, trans, queer or questioning, plus friends and allies of the community.



Black History Month events



# Bangor University hosts graduation ceremony for Children's University

Young learners from Gwynedd and Anglesey gathered at <u>Pontio, Bangor</u> for a special graduation ceremony in February after completing a range of extracurricular learning activities and experiences as part of the Children's University initiative.

The inspirational Children's University scheme celebrates participation in learning activities and opportunities outside school hours by encouraging children and young people to try new learning experiences, in a bid to nurture a lifelong love of learning and raise their aspirations. Pupils from 39 schools across north Wales graduated from the scheme at four ceremonies where they were celebrated for their achievements in front of their classmates, family and teachers.

As part of the Bangor event, there was special entertainment and activities, including a performance by Ysgol Bro Lleu with Colin Daimond of Bloco Swn drums, and Ysgol Llandegfan performed the Children's University Anthem they wrote with The Welsh Whisperer at their school. There was also an opportunity to 'have a go at clogging' with music by folk group AVANC and 'Have a go at Circus skills' with Circo Arts for all the children, proud parents and teachers.

#### Goal: Make Cities Inclusive, Safe, Resilient and Sustainable

## RESEARCH

# Study demonstrates the use of community science as a conservation tool for wildlife population estimation

Wildlife population estimates are a crucial tool for conservation efforts. They allow conservationists to set goals, monitor management actions, and evaluate conservation successes.

<u>In a study</u>, researchers have demonstrated a cost-effective method for estimating population size using a combination of freely available community science (aka citizen science) data and small numbers of structured surveys.

# Simply looking at the natural world in urban areas can reap benefits

The study, by <u>Bangor University</u> and Technion- Israel Institute of Technology, involved city-dwellers, and showed how paying visual attention to greenery, rather than human-made structures, can alleviate anxiety and enhance restorative feelings.

These insights offer valuable guidance for urban planners and architects, suggesting that integrating more natural features into city landscapes can play a crucial role in enhancing the mental wellbeing of residents.

# Most people would welcome more trees and wildflower meadows in townscapes

A recent collaboration between <u>Bangor</u> <u>University</u> and the UK Centre for Ecology & Hydrology has shown that most people want more nature like trees and wildflowers in their towns and cities. Survey results showed that 73% of people wanted more trees, and 75% wanted more wildflower meadows.

# Bangor University's Brambell Natural History Museum

Bangor University's Brambell Natural History <u>Museum</u>, was open to the public in November, allowing learning more about the specimens on display. There was a chance to ask questions of the available students and an activities corner for children of all ages. This event was part of the Welsh Museums Festival from 28 October to 5 November.

The Zoology Collection consists of approximately 40,000 pieces, approximately 500 of which are on display in the Natural History Museum, Brambell Building. The Zoology Collection began as a teaching resource and is still used as such today. This fascinating collection is an inspiration to the University and to the wider community.

The collection includes full skeletons, skulls, taxidermy, antlers, eggs and specimens preserved in spirit jars. Highlights include the Irish elk antlers, which are approximately 7500 years old, the skeleton of a Tasmanian devil, a two-headed lamb, a collection of New Zealand birds and a Galapagos tortoise. Some of the species on display are now endangered, such as the kakapo from New Zealand.

#### Study

Social work changes lives and a career in social work is varied and rewarding. Our 2year <u>Social Work MA</u> provides a pathway to professional social work practice and includes academic modules complemented with practice placements. This equips and prepares students to qualify as social workers and take up professional social work posts within the social care workforce. We work in close partnership with Gwynedd, Ynys Môn and Conwy local authorities, who host and provide placements for students on the programme.

# **OPERATIONS**

#### **Bangor University Community Day**

Bangor University held a free-to-attend <u>Community Day</u> on Saturday 14 October. Anybody could come along to discover more about their local university, from its history to the research we do, get a taste of student life, and learn more about all the ways in which we connect with our local community and the wider world.

Events included tours of several buildings, including the Business School's Trading Floor and the Law School's Moot Court. There were videos on the history of the University, bilingual reading sessions for both adults and children, and workshops on slate engraving in our FabLab.

A number of performances took place in Pontio by music department students, the Students' Union Concert Band and Brass and Jazz Group, Poetry readings from various poets across a range of genres, Readings of new works by the Welsh Language Department and a performance by 'Canfod y Gân' Group, Canolfan Gerdd William Mathias.



#### **Annual Exhibition – Celebrating 140**

The annual exhibition of the <u>Archives and</u> <u>Special Collections</u> this year formed part of a varied programme of events throughout the year which celebrated the 140th anniversary of our institution. A selection of representative and evocative examples was chosen to illustrate the life and work of the students and staff of the past and present.



Bangor University among first signatories to new environmental sustainability standards for researchers

As one of the institutions that supported the development of the new standard, <u>Bangor</u> <u>University</u> is delighted to be among the first tranche of universities to sign the environmental sustainability concordat for research.

In adopting the concordat, the University will work towards developing new research practices that will expect researchers to use the most sustainable approaches they can, and to explain in new grant applications how they plan to reduce energy consumption, reuse equipment, and recycle waste products. The requirements are part of a new Wellcome policy that sets out expectations for sustainable research.



Coconut Husks

Goal: Ensure Sustainable Consumption And Production Patterns

#### RESEARCH

University part of multimillion-pound research hub to develop enzyme-based plastic recycling

A <u>new research hub</u>, the first of its kind in the UK, is being formed to develop and optimise enzyme-based technologies for plastic recycling and material recovery.

The consortium of leading researchers from seven UK Universities including Bangor aims to develop and optimise enzyme-based plastic recycling technologies, to convert problematic waste streams into valuable commodity chemicals and novel materials.

# The Welsh innovators turning discarded coconut residues into eco-friendly alternatives to paper packaging

A Cardiff-based company founded by an entrepreneurial family, Woodfree Ltd, is working with <u>Bangor University's</u> <u>Biocomposites Centre</u> to turn a previously underutilised by-product of coconut production into a low-cost, sustainable feedstock ideal for producing low-cost fibres for a range of applications, including paper and packaging materials.

The company's vision is to reduce the vast amount of deforestation which takes place around the world to produce paper used for packaging. For the past few years, Woodfree Ltd has been researching non-wood sustainable materials which could help, and in this search found one that was especially abundant, neglected and readily available around the world: coconut husks.

Woodfree Ltd are now taking their research to the next level thanks to an Innovate UK Transformative Technologies grant.

#### Waste Awareness Week



#### **End-of-Year Reuse Drive**

Students leaving each year are reminded to donate unwanted items like pots, pans, and utensils which will be given to new students in need in September.

#### Cost of Living Swap Shop

Several <u>pop-up events took place at the</u> <u>Students' Union</u> in October

- Clothes Swap: Reduce waste, refresh your wardrobe, and find unique fashion pieces—all for free.
- Free Reusable Period Product Giveaway: Helping to reduce single-use waste and save money at the same time.
- Repair Cafe: Skilled volunteers were on hand to help repair and restore, saving money and reducing waste.



# **OPERATIONS**

#### Bring your own cup

We all love a panad (cup of tea in Welsh) in the morning to get us going, but in the UK 2.5 billion coffee cups are used and thrown away each year! Did you know that at all <u>Bangor</u> <u>University catering outlets</u>, when you bring a reusable cup, they will reduce the cost of your hot drink by 20p?

Don't own a reusable cup yet? Don't worry! If you purchase one from the Catering team, you'll not only be able to benefit from 20p off all your future drinks (when you bring your reusable cup), but you'll also get your first drink for free.



#### Waste Data

In <u>2023/24 Bangor University</u> diverted 100% of its waste from landfill. Out of the waste diverted, 55.28% was recycled and 44.72% was recovered. 737.79 tonnes of waste was generated in total, a 1.89% increase from the previous year.



Bangor University's 2023/24 Waste Data



#### RESEARCH

# How will freshwater from the Arctic change our weather and climate?

The Arctic is losing millions of tons of ice, which is entering the Arctic seas as freshwater. The mass influx of this fresh water into the Atlantic has already been established as a potential climate tipping point.

With this in mind, <u>oceanographers at Bangor</u> <u>University</u> are leading a transatlantic team of researchers working to better understand how that freshwater will affect short-term weather patterns, and to improve the models which predict future climate, and to reflect the possible changes to ocean layering, circulation and northwards ocean heat transport within the Atlantic.

# Naturally regrowing forests are helping to protect Amazon's remaining old forests

The climate crisis and UN Decade on Ecosystem Restoration have generated great interest in the value of secondary forests. These are forests that have regrown naturally on land abandoned by agriculture. Research between Lancaster University, <u>Bangor</u> <u>University</u> and the University of British Columbia has produced new evidence of just how important they are in counteracting the effects of forest fragmentation across the Amazon basin. Goal: Take Urgent Action to Combat Climate Change and Its Impacts

# PUBLIC ENGAGEMENT

Professor Julia Jones shares her expertise on BBC Panorama investigation about 'Big Brands Green Claims'

An investigation televised in May from the <u>BBC Panorama series</u> explores how green claims often depend on questionable forest carbon credits which research claims are 'worthless'. The programme features <u>Professor in Conservation Science, Julia</u> <u>Jones</u> discussing her research about how well these credits (which aim to reduce emissions from deforestation and degradation) are working.

#### Two Bangor University professors named among the 10 most influential environmental professionals in the UK

The prestigious ENDS Report has unveiled its latest Power List of the <u>100 UK environmental</u> <u>professionals who have made the greatest</u> <u>impact in the past two years</u>.

Professor Christian Dunn, from the School of Environmental and Natural Sciences at Bangor University, has been named one of the most influential environmental professionals on the list for his work on wetland science.

Also named is Professor Bridget Emmett OBE, an ecosystem scientist at the UK Centre of Ecology & Hydrology (UKCEH) and an Honorary Professor at Bangor University. Professor Emmett has led more than 20 multipartner projects that tackle urgent challenges such as the need for cleaner air, more sustainable land management practices, restoring soil health, climate mitigation as well as developing new opportunities for policy and business such as green finance.

#### Study

The module Climate Change and the Politics of Climate Justice covers a range of topics such as Introduction to Environmental Sociology, History of Environmental Sociology, Capitalism and environmental exploitation, Knowledge and power, The economies of globalization, Climate crimes and climate justice, Citizenship, civic local and global empowerment, Identity and democracy, The rise of environmental politics and movements, Protests, Law and Justice, Global governance and the environment, Migration and climate crisis, The legacy of mass extinction, The environment and mental and physical well-being, and The Green New Deal, Towards a sustainable future.

<u>Climate Change: Science and Impacts</u> teaches students about the major regional and global trends in predicted future climate, major patterns of past global and regional climate change at a range of temporal scales, the impacts of predicted climate change and the proposed approaches to mitigation or adaptation.

The <u>Life in a Changing Climate</u> module covers how climate change and aspects of zoology and biodiversity are connected and interact. National and international policy is covered, along with potential conservation and management practices needed to cope with a changing climate.

<u>Climate Change in Contemporary Culture</u> begins by informing students of the basic science of climate change, before turning to its central investigation: considering the ways in which key texts respond to, and intervene in, the representation of climate science in contemporary culture. Students will learn about the ways in which literature, film and media shape our understanding of climate change, and thereby society's response - or lack of it - to environmental crisis.

# **OPERATIONS**

#### **Carbon Management**

During <u>2023/24 the University's carbon</u> <u>emissions</u> from Scope 1 and 2 decreased to 6,641.66 tonnes CO2e, compared to 6,749.20 tonnes CO2e in 2022/23 and 9,491.9 tonnes CO2e in 2018/19, based on location-based electricity calculations.

A comparison of Scope 1 and 2 activities between 2022/23 and 2023/24 showed a slight reduction in electricity, LPG, and natural gas use, while heating oil and air conditioning and refrigeration F-gases increased, the latter due to improved data collection. This year all University solar arrays were active, resulting in the highest output since their installation.

#### Carbon Literacy for North Wales Organisations

M-Sparc offers <u>Carbon literacy training</u> to the public, an educational program designed to increase awareness and understanding of carbon emissions, climate change, and their associated impacts.

# Egni 2024: M-SParc host conference to address the challenges of Net Zero

<u>M-SParc's 5th annual Egni (Energy)</u> <u>Conference</u> in May addressed key policies that affect the country's journey towards net zero. With the general election announced that week, the timing was perfect and gave the audience an opportunity to challenge policy- and decision-makers to accelerate the pace of progress towards a sustainable future.

The conference lineup featured voices from various backgrounds of the energy sector, from nuclear to tidal, as well as levels of government, including David TC Davies; Secretary of State for Wales, Jeremy Miles; Cabinet Secretary for Economy, Energy, and Welsh Language, and Rhun ap Iorwerth; Leader of Plaid Cymru.



Conservation project for "ocean superheroes" wins big in UK Parliament

The Wild Oysters Project, which is restoring Conwy Bay's oyster beds, has scooped a top prize for their incredible work as it won The Great British Wildlife Restoration award.

<u>Bangor University</u> is the local partner with international conservation charity ZSL (Zoological Society of London), along with Blue Marine Foundation (Blue Marine) and British Marine. They have won the inaugural Great British Wildlife Restoration award, from a shortlist of 21 other native species projects in the special native species competition organised by BIAZA, the British and Irish Association of Zoos and Aquariums.

Members of Parliament and the House of Lords voted for The Wild Oysters Project.



Goal: Conserve and Sustainably Use the Oceans, Seas and Marine Resources For Sustainable Development

#### RESEARCH

# Lake ecosystems could be uninhabitable to their key species within a century

Lakes in lower latitudes, which do not freeze over, are most at risk from surface overheating according to a <u>new study</u> published in Nature Geoscience.

Climate change may lead to previously unseen lake temperatures. This, in turn, could lead to conditions beyond which key aquatic species can survive and could happen within the current century.

These conditions could occur as soon as our climate warms by 2.4°c above pre-industrial levels in these lower latitudes and at a 4°c increase in higher latitudes. Projecting when this will occur is key to any actions we may be able to take to protect these valued ecosystems.

#### Climate change is depleting deep sea oxygen, but tides are helping to keep the ocean healthy

Without sufficient oxygen to respire properly, fish experience the same problems as highaltitude mountaineers. Even relatively small oxygen deficits mean they become sluggish, their reproduction is affected and their growth is stunted. That's one reason an oxygen deficit deep in the oceans is a problem – and climate change is making it worse.

<u>Research at Bangor</u> shows how storms interact with the tide in summer to play an important role in churning up the oceans and "mixing down" oxygen. This mixing helps maintain healthy conditions in deeper coastal seas around the UK and elsewhere.

#### Study

The <u>Marine Conservation and Coastal Zone</u> <u>Management</u> module covers conservational, legal and socio-economical aspects associated with managing the marine environment. The module is organised into three themes: Integrated Coastal Zone Management, Socio-economics, and Coastal Zone Law.

Our <u>Marine Pollution</u> module comprises a survey of the inputs, behaviour and effects associated with waste disposal to coastal waters. It examines in detail the nature of pollution and how pollution damage is assessed by considering the main types of contaminants/pollutants, their sources, environmental behaviour and possible effects.

The <u>MSci Marine Vertebrate Conservation</u> course teaches students about marine organisms and their habitats, and general principles of marine biology, ecology, conservation, physiology and behaviour. More specialised topics focus on the ecology and conservation of higher-order marine vertebrates, including sharks and marine mammals, and the role of these top predators in the marine ecosystem. There is also an opportunity to consider applied aspects of zoology such as fisheries, aquaculture, conservation biology and ecotourism.

Our <u>Ship-based Field Course</u> provides experience in multidisciplinary fieldwork at sea. A wide range of oceanographic and geophysical instrumentation is introduced including instruments for measuring salinity, temperature, currents, chlorophyll, suspended and sea bed sediments. In addition, sampling of plankton, suspended and seabed sediments will be covered. Students spend one full day at sea on a research vessel, collecting data using onboard instrumentation and collecting samples from the water column and sea bed.

# **OPERATIONS**

#### The RV Prince Madog

The <u>Prince Madog</u> a state-of-the-art, purposebuilt research vessel commissioned by Bangor University, is managed and operated by O.S.Energy, having been in service since July 2001.

The Prince Madog enables the UK's marine scientists to study the biology, chemistry, geology and physics of our seas. Designed to take up to ten scientists and 20 students. The School of Ocean Sciences in Bangor and other university departments in the UK also use the vessel as a teaching platform, training the next generation of marine scientists.

Over the last two decades, data collected from the Prince Madog has contributed to some major scientific findings including:

- Safeguarding sustainable fisheries by assessing the impact of trawling on the seabed.
- Revealing the past climate of coastal seas.
- Locating and identifying shipwrecks.
- Predicting weather and climate by developing new techniques and measurements that are now used globally.
- Supporting the marine renewable energy industry by assessing potential sites for development and undertaking ecosystem and seabed assessments.
- Producing new techniques to measure ocean turbulence and the impact on the mixing of different waters in the ocean.
- Assessing the impact of the physical environment on the foraging energetics of seabirds and the consequences for breeding success.



The Research Vessel Prince Madog



#### Extinct plant returns to Eryri after 62 years

A beautiful mountain plant that once clung to cliff edges in Eryri (Snowdonia) has been successfully reintroduced in to the wild in Wales after being extinct since 1962.

The successful reintroduction has been spearheaded by Plantlife botanist Robbie Blackhall-Miles, an <u>honorary lecturer in</u> <u>conservation here at Bangor University</u> and Project Officer for Plantlife.

This trial reintroduction of Rosy Saxifrage (Saxifraga rosacea), decades in the planning, is a triumph for botanists and their partners -Natural Resources Wales and National Trust working to save species teetering on the edge of extinction in Wales.



Close up of newly planted Rosy Saxifrage - Credit\_ Llyr Hughes

Goal: Protect, Restore and Promote Sustainable Use of Terrestrial Ecosystems, Sustainably Manage Forests, Combat Desertification, Halt and Reverse Land Degradation, and Halt Biodiversity Loss

# RESEARCH

# New method revealed for detecting new global fungi species

<u>Researchers at Bangor University</u>, working with the University of Jyväskylä, Finland report that the key to a quick and costeffective mapping of biodiversity has been right in front of our eyes, and yet invisible, all along - that is, in the air that surrounds us. The team are convinced that such new biodiversity sampling techniques will revolutionize biomonitoring and biodiversity forecasts already in the coming years.

#### Tropical forest loss from growing rubber trade is more substantial than previously thought – new research

Over 4 million hectares of tree cover – equivalent to the size of Switzerland – may have been cleared to make space for rubber plantations since the 1990s <u>recent research</u> found, surpassing previous estimates.

# Experts predict 'catastrophic ecosystem collapse' of UK forests within the next 50 years if action is not taken

A <u>Bangor University Professor</u> is among a team of experts from across Europe who have produced a list of 15 overlooked and emerging issues likely to have a significant impact on UK forests over the next 50 years. This is the first 'horizon scanning' exercise for UK forests. Threats to UK forests include competition with society for water, viral diseases, and extreme weather affecting forest management.

# Rathbone Wellbeing Garden supported by The Bangor Fund

<u>Bangor University's Student Services</u> were awarded a grant of £6,000 from The Bangor Fund, to develop an open and welcoming outdoor space outside Neuadd Rathbone.

With the funding received, the team have been able to create a space that encourages students to maintain and develop positive mental health whilst engaging with the 5 Ways to Wellbeing – Connection, Being Active, Taking Notice, Learning and Giving. Groups of students have been actively involved in developing elements of the garden. The first event saw the planting of nearly 2,000 spring bulbs, including snowdrops, daffodils, tulips and bluebells. Many of the students had no previous gardening experience and, despite the wind and the rain, student attendance and feedback were excellent.

#### Bangor University hosts centre to develop a new generation of environmental scientists

Bangor University has been named as a hosting partner for one of four new Centres for Doctoral Training (CDTs) to boost UK expertise in flood prevention, wetland restoration, critical minerals and freshwater quality.

The Natural Environment Research Councilfunded centres will teach the next generation of PhD students who will go on to build careers in research, business and public service. Each centre will be supported with £2.6 million funding.

Bangor University is one of five hosting partners for the Centre for Doctoral Training in Real-Time Digital Water-based Systems for Environmental Health Protection (RED-ALERT CDT), led by the University of Bath.

# **OPERATIONS**

#### Gold medal-winning Chelsea Garden to find its forever home at the university's Treborth Botanic Garden

A garden which was awarded the Best in Category Award and a Gold Medal at worldrenowned RHS Chelsea Flower Show in May will be relocating to <u>Bangor University's</u> <u>Treborth Botanic Garden</u> over the summer.

Eryri (Snowdonia) based garden design practice, Studio Bristow, showcased a magical and biodiverse 'All About Plants' garden at this year's RHS Chelsea Flower Show, in collaboration with climate change charity, Size of Wales. The garden is supported by Project Giving Back, a unique grant-giving charity that supports gardens for good causes at RHS Chelsea. The design aims to bring to the fore the rich biodiversity of plant life in tropical forests, whilst commenting on the devastating consequences of deforestation.



Treborth Botanic Garden NGS Open Garden for Charity

In September the University opened up <u>Treborth Botanic Garden</u> for the National Garden Scheme (NGS), to support NGS charities including The Queen's Nursing Institute, Macmillan Cancer Support, Marie Curie, Carers Trust, Hospice UK, Perennial and Parkinson's.

We offered plants for sale and homemade teas and cakes. The greenhouses were open with staff on hand to answer any botanical questions, and our new lichen trail to explore.



# Developing international policy standards for 'automated empathy' AI

One strand of the 'next-generation' of AI applications can be described as 'automated empathy' systems. These use AI to respond appropriately to perceived human emotions and human psychology.

But with such developments come a whole host of ethical and practical questions. Will AI understand subtle cultural, racial or gender differences? How are we to ensure that an individual's needs receive an appropriate response? How can we ensure that 'AI partners' are programmed to serve our interests rather than someone else's? Is current law doing a good enough job of protecting society and allowing us to enjoy the benefits of new technologies?

A <u>research project at Bangor University</u> is dedicated to critically understanding the implications of human-AI partnering and to developing technical standards and global governance of emulated empathy and human-AI partnering.

The resulting IEEE (Institute of Electrical and Electronics Engineers) standard will define ethical considerations, detail good practices, and augment and complement international human rights and regional law. Goal: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

# RESEARCH

# Politicians' connections improve a country's credit ratings

Did you know that appointing a wellconnected Finance Minister could improve your country's credit ratings? So say <u>finance</u> <u>experts at Bangor</u>, Cambridge, East Anglia and Herriot Watt universities.

The findings are revealed in the first study to look at the effect of political connections on the quality of sovereign ratings.

Their study of 38 Finance Ministers and their countries' credit rating levels over eighteen years, showed that professional connections between finance ministers and the top executives of the three largest credit rating agencies (Fitch, Moody's, and S&P) led to those countries receiving higher credit ratings.

The work also reveals that the subjective component of ratings, captured by professional connections between politicians and top credit rating agencies' executives, has a more pronounced role in developing rather than developed countries.

#### Devolved probation powers and a 'stronger evidence-based approach' could improve community safety and social justice

A group of <u>Welsh university academics</u>, along with current and former probation officers, have published ideas on the future of the Probation Service in Wales. The group highlights the important role of the community and community sentences, to promote effective rehabilitation and victim safety.

#### Bangor students receive the Young Peacemakers Award at Llangollen Eisteddfod

Eight students and one alumna, who is now a teacher, have been awarded the <u>Young</u> <u>Peacemakers Awards</u> at the Llangollen International Eisteddfod.

The resources developed by the Bangor University-based group were developed for the Bangor University-housed charity, the National Centre of Religious Education for Wales, which supports teachers and students as they engage with Religious Education, Values and Ethics and Humanities across Key Stage 3, 4 and 5.

The resources include lessons about war and peace, bullying, religion and conflict, jihad, symbols of peace, the Women's Peace Petition and Henry Richard: Apostle of Peace, among other topics.

#### Bangor University uses VR to give students valuable insight into coercive control

<u>Students of Criminology</u>, trainee police officers and individuals working in social services are being given valuable insight into the insidious nature of coercive control in an innovative immersive training session using virtual reality headsets at Bangor University.

During the session, participants are put directly in the shoes of victims of coercive control. They don VR headsets and enter scenarios which illustrate more subtle signs of coercive control, but more importantly, they feel what it is like to experience situations where 'love bombing', 'gaslighting' and 'stonewalling' are part of daily life. Students temporarily visit a VR reality where perpetrators take control of finances, phones and medications, dictating what their victims wear, who they see or what they do daily.

#### **OPERATIONS**

#### **Annual Report and Financial Statements**

The University annually publishes its institutional annual report and financial statement.

#### Stakeholder Engagement

Since the University's foundation in 1884, we're aware of the special connection between the institution and the area in which we're based. Our new <u>Civic Engagement</u> <u>Strategy</u> outlines how we work with our communities. Our work in this area falls under three umbrella themes:

- Identifying and addressing 'big challenges' (e.g. health, climate, Welsh language, housing, poverty, ageing population).
- Enabling innovation and economic opportunities.
- Improving quality of life and sharing knowledge through social and public engagement.

Through partnerships and collaborations, we seek to contribute to the economic, environmental, cultural and social well-being of our area.

The <u>Community Board</u> was introduced in 2022 and replaces the former Liaison Group. The Board is an important way of connecting the University with our communities, to discuss areas for collaboration, to work together on issues of common interest, and to develop our civic engagement (also known as civic mission). The Board provides a platform to discuss the University's strategic aims and how it can work with a range of partners to improve the wellbeing of communities across north Wales.





# RESEARCH

#### How will a growing demand for meat and milk affect the environmental impact of Kenyan highland farms

Experts at <u>Bangor University</u> are set to work with smallholders in the Kenyan highlands to assess the efficiency of their grazing practices and the effect of those practices on the environment. Most Kenyan highlands farms are smallholdings, where pasture accounts from 53% to 100% of the animal food source.

Little is understood about how these important farmers manage their pasture, or how that affects biodiversity or climate resilience, greenhouse gas emissions or livestock productivity. Working with the smallholders, and partners at the International Livestock Research Institute, the University of Eldoret and the Kenyan Natural History Museum, the researchers will investigate how pasture management contributes to biodiversity in these smallholdings.

# Bangor University researchers listed among the worldwide top 1%

Four leading Bangor University researchers Professors Jane Noyes, Karen Hughes, Davey L Jones and Mark A Bellis, are listed among the world's most highly cited researchers, placing them among the <u>top 1%</u> <u>of researchers worldwide.</u> Goal: Strengthen the means of implementation and revitalise the global partnership for sustainable development

# PUBLIC ENGAGEMENT

#### How to restore degraded environments

Communities worldwide are realising that they need to restore degraded landscapes, but there is little practical evidence or guidelines on the best way to do this.

<u>Bangor University</u> joined a new 16-partner European-funded research programme set to work with communities from Sweden and Finland to the Democratic Republic of Congo and Tanzania. It will not only investigate how restoration may impact disease spillover risk but also enable local communities to take part in restoration and set their own restoration priorities. The work will lead to clearer policies and guidelines for restoration which can be followed in any temperate or tropical landscape.

# Carbon credits would enable restoration of UK saltmarshes say experts

The introduction of a carbon credit scheme, enabling companies to invest in the restoration of the UK's degraded saltmarshes and voluntarily offset their greenhouse gas emissions, would be viable, a study led by the UK Centre for Ecology & Hydrology (UKCEH) including <u>Bangor University</u> has found.

A partnership of scientists, charities and financial experts investigated the feasibility of a Saltmarsh Carbon Code, similar to the existing Peatland and Woodland codes, which would create a rigorous and scientificallybased voluntary certification standard for saltmarsh carbon to be marketed and traded by UK companies. This would assure buyers of carbon credits that the climate benefits being sold are real, quantifiable, additional and permanent.

# High Sheriff Awards for voluntary work celebration

This award was introduced in 2007 when the then High Sheriff and University Council Member, Dr Dewi Roberts, and his late wife, Dr Sheila Roberts, wanted to award and recognize the contribution that Bangor University students make to the local community through voluntary work.

In April, <u>three individual awards were awarded</u> <u>along with special recognition to 4 projects</u>. The winners of the individual awards are Malaak Al Lawati, Ben Chandler, and Nicolas Perrott. All were awarded for their outstanding contributions as volunteers. Special recognition was given to 4 projects including The Hot Meals Project, Afonydd Menai, Repair Cafe, and The Healing Gardens. All of these projects have been a pivotal part of the community.

#### **Student Volunteering Week**

In February, <u>volunteers</u> partnered with the Bryn Ifan project, working in partnership with the North Wales Wildlife Trust, to plant 2205 trees in their reserve on the Llyn Peninsula. 45 volunteers joined a beach clean with North Wales River Trust in Beaumaris, collecting 10 full bags of litter.

Some of our student groups supported this, with volunteering projects Freshwater Conservation Club, Beach Clean and Out and About attending, as well as the Musical Theatre Society. 42 items were brought into the Repair Café, of which 10 were diagnosed and 26 fixed. The Raising and Giving Group (RAG) and Guide Dogs Project came together to deliver a pub quiz and fundraise for charity. Wellbeing Projects, Connect and Wellbeing Buddies also delivered a successful day at the Welsh Mountain Zoo for students to enjoy and connect with others and nature.

# **OPERATIONS**

#### Working in Partnership

<u>Bangor University</u> has a successful track record of working in partnership with businesses and the wider community and we are committed to our vital role in the social, cultural and economic life of the area. We aim to explore the possibilities for working collaboratively with other institutions and partners in Wales, the UK and overseas with the aim of becoming ever stronger and more successful in teaching and research.

Bangor Business School works together with both local and global partners, including Policy and Government, Business, Charity and Educational Partnerships. Our aim is to enhance the learning experience for our students and provide businesses with access to quality research and academic expertise. We work with many organisations across the public, private and third-party sectors and see value in working together helping to drive economic, environmental and social benefits.

# £5 million funding to tackle challenges facing Wales' rural communities

A <u>partnership including Bangor University</u> has received funding to explore solutions to rural challenges. Cymru Wledig LPIP Rural Wales, the Local Policy and Innovation Partnership for Rural Wales, connects researchers, communities, and policymakers to support inclusive, sustainable development to support effective policies to foster a 'wellbeing economy'.



Bangor University student volunteers at the Beach Clean in February