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UOW
Sustainable
Development
Goals Report



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UNIVERSITY
OF WOLLONGONG
AUSTRALIA

SUSTAINABLE
DEVELOPMENT
GOALS

Foreword

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint to achieve a better and more sustainable future for everyone.

At its core are the 17 Sustainable Development Goals (SDGs) which include alleviating poverty, protecting the environment, providing affordable and clean energy, fostering innovation, building sustainable cities and communities, and tackling climate change.

The role of universities in sustainable development extends beyond teaching and research. We also contribute through our operations, governance, policy and practice, and through partnerships and engagement with our communities.

Universities have enormous potential to help ensure the SDGs are achieved by 2030.

Achieving these goals requires action to be taken on a number of levels. This includes equipping future leaders and innovators with the knowledge to initiate change, executing research that works with industry and community to find solutions to global challenges, and ensuring our campuses are environmentally sustainable and inclusive.

Throughout our global network, the University of Wollongong (UOW) works together with industry, research partners, governments, communities and other universities to provide solutions to society's critical economic, environmental, social and health challenges.

UOW's transformative work was recognised in the Times Higher Education University Impact Rankings 2020, where we were ranked 31st in the world based on our success in delivering outcomes addressing the SDGs.

As an SDG educational signatory, UOW is a member of the Australia, New Zealand and Pacific Network of the Sustainable Development Solutions Network (SDSN). The University's responsibility to these goals starts with our own workplaces and practices and carries through to our teaching and research and out to the communities we work in and the partners we work with.

I am pleased to present this *Sustainable Development Goals Report* which outlines many of the University's activities and initiatives that have contributed to the UN's SDGs in recent years. This publication showcases who we are and our commitment to sustainability.



Professor Paul Wellings CBE
Vice-Chancellor and Principal

Times Higher Ed Impact Rankings Results*

31st

UOW is ranked 31st in the world (of 767 universities)

8

Number of SDGs in the top 30

14

Number of SDGs in the top 50



UOW acknowledges and pays respects to the traditional owners of Country throughout Australia and their continuing connection to land, sea and community.

The University of Wollongong attempts to ensure the information contained in this publication is correct at the time of production (October 2020)
*THE Impact Rankings 2020

uow.info/sdgs



Operations and Governance



Teaching and Learning



Community engagement and partnerships



Research



End poverty in all its forms everywhere

STUDENT SUPPORT

UOW provides free support services available to all students, including counselling, career development, disability services, and academic or learning development. Student Support Advisers (SSAs) offer a free and confidential service and are available to all students.



GOODWILL HUNTING

Now a fixture on UOW's Orientation week calendar Goodwill Hunting attracts hundreds of eager students aiming to collect free household items, donated from the UOW staff and community members. Items range from crockery, cutlery, saucepans, bed linen and towels and has generated an enormous amount of goodwill between students, the University and overall community. UOW staff and community members have made the transition for students into their own place easier since Goodwill Hunting had its beginnings almost 10 years ago. The event has become enshrined as a must-do for students as they navigate their way into the start of another academic year and in 2019 over 1000 students participated.



IN2UNI

In2Uni activities engage with students in targeted schools and communities to enable their awareness and aspirations towards higher education. Our strategic aim as an institution is to increase the proportion of domestic undergraduate students from low socioeconomic backgrounds to 21% by the end of 2020, through providing targeted outreach and pathways programs to the community, and seamless transition activities and support to UOW students.



ACCESS & PARTICIPATION ENABLING PLAN FOR STUDENT EQUITY

UOW has a proud history of working closely with its communities to drive increased participation and attainment among underrepresented groups in higher education. These groups include Aboriginal and Torres Strait Islander peoples, those with disabilities, from low Socio-Economic-Status (SES) backgrounds and regional, rural and remote areas. The University has developed the 'Access & Participation Enabling Plan for Student Equity: A Framework for the Implementation of HEPPP 2018-2020' to improve access to undergraduate courses for people from low SES backgrounds, as well as improving the retention and completion rates.



On left: Goodwill Hunting attracts hundreds of eager students aiming to collect free household items, donated from the UOW staff and community members

SOCIAL SECURITY IN A DIGITAL AGE

Governments around the world are increasingly looking to new and sophisticated technologies to automate and streamline the delivery of social services. These 'digital welfare' innovations are ordinarily touted as a means to improve efficiency and quality of service delivery, but can also be a source of injustice and deepen inequality. This empirically-grounded, interdisciplinary research project brings together legal scholars, social researchers and systems analysts to examine the social implications of the digital welfare state for vulnerable communities in Australia.



MICROFINANCE AND WOMEN'S EMPOWERMENT

Led by Dr Farzana Tanima, this project is working alongside feminist activists and not-for-profit women's microfinance organisations in Bangladesh, to investigate how conventional accounting and accountability systems in microfinance organisations reinforce structural barriers disempowering women. The project aims to develop new ways to empower women to bring themselves out of poverty while also taking a variety of other dimensions into consideration, like family planning, responsibilities and power within the home.



CRITICAL ACCOUNTING

UOW's Dr Sanja Pupovac investigates the social and environmental impact of multinational corporations on vulnerable groups in developing countries. Her research is investigating the role of accounting in human trafficking in an economically poor post-conflict Kosovo and the victimisation of a large number of girls and women forced into prostitution. Dr Pupovac believes firmly in the teaching-research nexus and she's continually creating research-informed content and assessment activities to foster high-level skills and ethics among her students. She also sees it as her role to increase awareness among her students about the impact of accounting on societies and organisations.



\$1.6M
in EdStart and Equity Scholarships was distributed to 1200 students in 2019

\$2.5M
was received by 1350 students from low SES backgrounds and regional areas

2 ZERO HUNGER



End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

HEALTHY CITIES ILLAWARRA

UOW's partnership with Healthy Cities Illawarra, aims to address the underlying social, economic and environmental causes of health inequity. Healthy Cities Illawarra is a local organisation working to create healthy environments and enable healthy choices for the people of the Illawarra and Shoalhaven. Together, we are committed to taking action to prevent and control diseases such as heart disease, stroke, cancer, diabetes, asthma, dementia, depression and anxiety.



UOWFOODWAYS

Foodways is a group of UOW researchers investigating what, how, and why we eat. The group strives to understand the intersection of food, environment and society, from local through to global perspectives, through aligning with the UN SDGs to promote inclusion and connection through food. Foodways brings novel and diverse approaches to complex issues around food, including community and key stakeholders' perspectives to provide a new lens to disrupt and reform current food systems policies and processes. Foodways' aim is to increase food autonomy, food system sustainability, and overall health and well-being.



FOOD CULTIVATION

The Sunraysia Burundian Garden arose via a collaboration between UOW researcher Natascha Klocker, University of Melbourne, refugees from Burundi (living in Mildura) and Sunraysia Local Food Future. Many refugees come from agricultural backgrounds, but face obstacles to farming once in Australia. This research shows that many former refugees living in Australia have a desire to access land on which to grow culturally important crops, but can't afford to do so due to the cost of farmland. Refugees also struggle to access employment and thus experience protracted unemployment. This research partnership aims to determine how we can come together to match 'landless' refugee farmers with unused farmland.



SUSTAINABLE FOOD SYSTEMS AND FISHERIES

UOW is home to the globally recognised Australian National Centre for Ocean Resources & Security (ANCORS), which is dedicated to delivering specialised research, advisory services, education and training in ocean law and policy, maritime security, and marine resources management. ANCORS' world class multidisciplinary research includes investigating fish in sustainable food systems and fisheries economics management. As fisheries supply over 15 per cent of the animal protein consumed by 4.2 billion people globally and thus are an integral component in reducing hunger and ensuring sustainable fishing practices and capacity building.



FISH, FOOD AND SECURITY

This research supports the development of an integrated approach to address under-nutrition in children and over-nutrition (obesity) in adults by positioning food security as the central drive for sustainably managing coastal fisheries in the Pacific islands. The research informs the development of more effective and integrated interventions to reduce household food insecurity, strengthen fisheries and coastal management, and further prevent non-communicable diseases across the Pacific region which currently account for 60–80% of deaths.



MOST VEGAN-FRIENDLY UNIVERSITY

UOW is committed to providing a broad range of food options and was named Australia's most vegan-friendly university in 2017, by the international group People for the Ethical Treatment of Animals (PETA).



UOW PULSE

UOW Pulse is a not-for-profit organisation where revenue generated is re-invested to support campus life and the student experience. This year, UOW Pulse put together free meal packs to provide much-needed food supplies to our student community during the COVID-19 pandemic, with 1400 meal packs distributed in April. UOW Pulse also offers free breakfast to students. To date, 3600 pantry packs have been donated by staff to students across Wollongong and Sydney. The total donations amount to approximately \$75,000.



HIDDEN HARVEST WOLLONGONG

Hidden Harvest is a volunteer-fuelled, not for profit organisation based in the Illawarra region upskilling communities to tackle food waste and serve up a more sustainable future. Hidden Harvest has partnered with Sofie Kokalevski, the business development lead for the work-integrated learning subject Career-Ready Learning and Practice to provide numerous UOW students with a variety of meaningful internship opportunities. Hidden Harvest was the winner of the ACEN 2020 Local Hero Award. The Local Hero Award is awarded to a partner organisation that is a small-medium enterprise whose engagement with a university in WIL and whose contribution to the WIL experience of students, is above and beyond the expectation of the size of their organisation.



On right: UOW Pulse put together free meal packs to provide much-needed food supplies to our student community during the COVID-19 pandemic

COMMUNITY-BASED MANAGEMENT OF COASTAL FISHERIES

This project investigates sustainable community-based management of coastal fisheries with over 100 local communities in Kiribati, Solomon Islands and Vanuatu. Outreach involves community awareness presentations, facilitation of development of community-based fisheries management plans, and training for community monitors to track catch in select sites with the goal to support adaptive management by communities.



REGENERATIVE AGRICULTURE RESEARCH

Regenerative agriculture is an environmentally sustainable way of farming that takes a holistic approach to land management. It emphasises improving soil quality naturally, increasing biodiversity, and enhancing soil carbon sequestration and soil water retention. A study by researchers Associate Professor Nick Gill and Dr Michelle Voyer from UOW and colleagues from Oregon State University, found that while regenerative agriculture presents farmers with numerous challenges, they stick with it because it is also intensely rewarding and fulfilling. While previous studies have focussed on the economic and technical challenges of such a transition, this study looks at the social and emotional journey of farmers.



3600

pantry packs were donated to students during COVID-19



3 GOOD HEALTH AND WELL-BEING



Ensure healthy lives and promote well-being for all at all ages

MENTAL HEALTH SUPPORT

UOW has a number of support services available to staff and students, including UOW's Employee Assistance Program, LifeWorks which provides 24/7 confidential counselling as well as mental health awareness and intervention training and counselling and wellbeing support for students. UOW's Unilife provides mindful meditation and 'bend and snack' sessions where UOW students are given free access to guided meditation sessions.



SEXUAL HEALTH AND THE HARP UNIT

The Sexual Health and the HIV and Related Programs (HARP) Unit is a collaboration between UOW and Healthy Cities Illawarra. The sexual health and HIV prevention program is committed to creating a safe and respectful environment for all members of our community.



MOLECULAR HORIZONS

Molecular life sciences are at the forefront of scientific discovery, unlocking the innermost secrets of the living cell and developing new ways to detect and attack disease. Molecular Horizons is UOW's largest ever self-funded research infrastructure investment. The Centre is dedicated to illuminating how life works at a molecular level to solve some of the biggest health challenges facing the world including cancer, antimicrobial resistance and Alzheimer's disease.



950
health graduates
in 2019

ADHERE

Aged Dementia Health Education & Research (ADHERE) undertakes interdisciplinary research generating evidence in gerontological studies. ADHERE's purpose is to transform the lives of older people and family carers using our evidence-based resources. UOW collaborates with Illawarra Health and Medical Research Institute and Illawarra Shoalhaven Local Health District to support better health services, leading to healthier community.



CONNECTIONS FOR LIFE WITH DEMENTIA

Connections for Life with Dementia is a collaborative, interdisciplinary research project bringing together expertise from UOW with community and industry partners, including people living with dementia and their care partners. The purpose of this research is to understand, support, and enhance social connections and quality of life for people with dementia in various care and community settings. This research builds on the collaborative work to transform Kiama into Australia's first Dementia Friendly community, which was recognised by the World Health Organization in 2016.



17%
of all UOW
publications
address SDG 3

STRONGER CULTURE KOORI KIDS

The health disparity and social disadvantage between Aboriginal and non-Aboriginal children is a major public health concern. This project offers a unique after-school program that encourages Aboriginal children to connect with their culture and focuses on using culturally relevant activities chosen by the local Aboriginal community to promote healthy lifestyles and educational outcomes.



AHEAD OF THE GAME

A team from UOW led by Dr Stewart Vella was awarded \$2million from Movember Foundation to develop a sport-based mental health program for young men. Following a successful trial, Movember committed to scale the Ahead of the Game program globally with expansion to the United Kingdom, New Zealand, USA and Canada. This partnership has seen the program confirmed as the official program of the Rugby League World Cup 2021 and has reached over 50,000 adolescent men, globally. An emergency online version has been funded and rolled out to meet the needs of the community during COVID-19.



ANTIMICROBIAL RESISTANCE

Researchers at UOW are tackling the challenge of antimicrobial resistance, by developing and testing interventions to stop, or at the very least slow down, rates of resistance. Wollongong Antimicrobial Resistance Research Alliance (WARRA) is a collaboration between UOW and Illawarra Shoalhaven Local Health District, NSW Health Pathology, Southern IML Pathology, Centre for Health Research Illawarra Shoalhaven Population and other universities. The team is building a large longitudinal study across the Illawarra and Shoalhaven region which looks at all of the factors (food, animals, waste, genetics, microbiome etc.) that drive antimicrobial resistance and test interventions.



RECOVERY CAMP

Recovery Camp's mission is for students and people with lived experience of mental illness realise their personal strengths and their contribution to the mental health and recovery of others. The research program combines professional experience placement for health students, with a recovery-oriented experience for those living with a mental illness. The program also provides support for carers of people with a mental illness and continuing professional development opportunities for practicing health professionals. Recovery Camp has provided over 65,000 hours of clinical placement to over 800 health students.



LIVING WELL, LONGER

The UOW Global Challenges Program's Living Well, Longer challenge area is improving the lives of older Australians and people with lived experience of mental illness. The challenge connects experts from a range of fields and disciplines to understand and address ageing and dementia, mental health and therapeutic and personal recovery. The following are some of the projects to improve the health and wellbeing: Recovery Camp, Ahead of the Game, Connections for Life with Dementia, Combating Neurodegenerative Disease, Anxiety in aged care, Driving Change, Dementia Friendly Communities and Mind the Age Gap.



ILLAWARRA HEALTH AND MEDICAL RESEARCH INSTITUTE

The Illawarra Health and Medical Research Institute (IHMRI) is a partnership between UOW and the Illawarra-Shoalhaven Local Health District. IHMRI provides our affiliated researchers with a range of services to help them find new insights into disease and illness, devise prevention strategies, and develop more effective treatments and health care services.



INTELLIGENT POLYMER RESEARCH INSTITUTE

Internationally recognised as a leader in electromaterials research, the Intelligent Polymer Research Institute (IPRI) draws together researchers and external experts from a range of disciplines, including biologists, clinicians, chemists, physicists and engineers. IPRI's competencies lie in the design and synthesis of intelligent materials and is renowned for expertise in the group of multifunctional, stimuli-responsive materials – organic conducting polymers and carbons; used in diverse applications of energy and health.



AUSTRALIAN HEALTH SERVICES RESEARCH INSTITUTE

The Australian Health Services Research Institute (AHSRI) is an internationally-renowned research institute that generates robust evidence through rigorous research and evaluation that informs and supports better management of health and community services across Australia. AHSRI's innovative work facilitates greater equity in resource distribution, fairer access to services, improved continuity within and across health and community care sectors, and evidence-based decision making.



4 QUALITY EDUCATION



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

COMMUNITY EVENTS

UOW runs a wide range of public events and activities to make research more accessible to the wider community. From TEDxUWollongong, the Big Ideas Festival, Uni in the Brewery to Three Minute Thesis, UOW hosts a variety of research-focused events each year. The Big Ideas Festival attracted over 600 people from the Wollongong community to the University in 2019 and 538 viewed the event via Facebook live stream.



OUTREACH AND SCHOOL PROGRAMS

At UOW, we understand that the journey to 'find your why' can take individuals in many directions. Our outreach and school programs start working with students in high school and on to vocational pathways or university, to ensure their successful journey through higher education. Connection with these students enables their transition and success at university, by providing peer support and coaching, mentoring, academic skill-building, and opportunities to connect with students and staff who have insight into the expectations of the higher education.



FUTURE MAKERS

The Future Makers research team is engaging a community of 'makers' from high school students and primary teachers, to entrepreneurs through to retired steelworkers. The space brings a community of makers together offering an engaging learning experience centred around STEM education, recycling and sustainability. The research project is evaluating whether 'making' activities can enhance STEM education by encouraging interest and improving outcomes. The research team has worked directly with Craig Davis College, local primary and secondary schools and the Department of Education.



SCIENCE SPACE

Established in 1989, Science Space is the only dedicated science experience in NSW and is a place where anyone, young and old, can come and see how science and technology discoveries have become reality. It is a place to be inspired about what the future holds and is founded upon the principles of education, hands-on learning and accessibility. It exists to advocate the value of science and technology and increase general science literacy and houses over 100 interactive exhibits, Science Shows, Workshops and Australia's #1 Planetarium to the Illawarra region.



IACCELERATE EDUCATE 'ACTIVATE' PROGRAM

The iAccelerate educate 'Activate' program encourages start-ups to align their purpose with the Global Goals. The 'Introduction to Sustainable Development Goals' modules led by facilitator Dr Belinda Gibbons, introduces start-ups to UN SDG resources to identify ways in which a start-up's value proposition aligns with the UN SDGs. iAccelerate has had interest from Global Honours Program students and resident philosophy students who are interested particularly in the SDG module of the overall Activate program.



PEER ASSISTED STUDY SESSIONS

Peer Assisted Study Sessions (PASS) provide a learning atmosphere which differs from the traditional tutorial environment. PASS sessions are led by senior students who have excelled at the subject in the past. The focus is on integrating the course content (what to learn) with academic reasoning and study skills (how to learn). The program has received extensive national and international acclaim and has been accredited by the International Centre for Supplemental Instruction. Hundreds of staff from dozens of institutions around the Australasian region have benefited from training and assistance delivered by PASS@UOW. Over 30,000 students have participated in PASS and evidence shows that a student that attends attains higher marks and is less likely to fail or withdraw from a subject.



LEADING THROUGH CULTURE

A collaboration between UOW and the NSW Department of Education, the Leading Through Culture Program is embedded with cultural knowledge and activities, whilst also fostering leadership capabilities through engaging in UOW faculty workshops. Aboriginal and Torres Strait Islander Year 9 students across selected In2Uni high schools are invited to participate in a 2 day on-campus cultural leadership program. Students complete the program by using the concept of design thinking to take part in a collaborative Leadership Action Project within their school community.



KOORI ASPIRATIONS PROGRAM

The aim of the Koori Aspirations Program is to engage with Aboriginal and Torres Strait Islander high school students in the South Western Sydney, Southern Highlands and Wollongong regions to build their awareness of, and aspirations towards higher education and other post school options. By participating in the Koori Aspirations Program, students will be equipped to make improved career and pathway decisions to prepare them for life beyond school.



LEARNING LABS

Learning Labs is designed for motivated and passionate learners who are performing excellently in their area of interest. Learning Labs offers workshops during the school holidays covering a range of interest areas. Workshops are challenging, as well as fun, and are a place where students can meet like-minded peers.



EARLY START

Early Start has been working to overcome disadvantage and impact the lives of children, youth, and families through its world class research. Early Start's Research conducts world class, evidence-based research that drives government policy, and assists industry professionals and the broader public in making informed educational decisions for policy and practice. Early Start works with the Abbott Foundation, the World Health Organization, NSW Health, Goodstart Early Learning, the Australian Government Departments of Health and Education and other organisations collaborating on research into overcoming disadvantage and effecting real social change. The Early Start Discovery Space is a purpose-built children's museum located on UOW campus main campus. All the experiences have been designed to encourage a 'partnership of play', where children, families and educators all benefit as co-learners and creators.



DIGITAL CHILD

UOW researchers are contributing to world-first research to understand the impact of digital technology on children. The results of this research will benefit parents and inform improvements to children's health and education policy. It brings together expertise from six Australian universities, along with 33 academic and industry partner organisations from Australia, Europe, Asia and America.



ACCORDING TO THE 2020 GOOD UNIVERSITIES GUIDE, UOW STUDENTS ARE MORE SATISFIED WITH THE SKILLS THEY DEVELOP DURING THEIR STUDIES, LEARNING RESOURCES AND THEIR ENGAGEMENT IN LEARNING THAN ANY OTHER NSW UNIVERSITY. UOW RANKED ABOVE ALL OTHER NSW UNIVERSITIES IN FIVE KEY BENCHMARKS.

5 GENDER EQUALITY



Achieve gender equality and empower all women and girls

SAGE PILOT OF ATHENA SWAN IN AUSTRALIA

UOW is a proud recipient of the prestigious Athena SWAN Bronze Institution Award from Science in Australia Gender Equity (SAGE), which recognises our commitment to advancing women's careers in the traditionally male-dominated STEM disciplines. The Athena SWAN Bronze Institution Award also recognises UOW's commitment to advancing the careers of women, trans and gender-diverse individuals.



WORKPLACE GENDER EQUALITY AGENCY CITATION

UOW has been recognised as one of the prominent organisations in Australia focused on gender equality in the workplace and providing meaningful support for men and women to achieve their career goals. The Workplace Gender Equality Agency (WGEA) Employer of Choice for Gender Equality (EOCGE) citation is designed to encourage, recognise and promote active commitment to achieving gender equality in Australian workplaces. The citation is a public recognition of an organisation's commitment to gender equality. UOW is among only 119 recipients of the 2019-20 citation compared to 141 the previous year, and only 13 Australian universities now hold the revised citation, compared to 17 universities previously.



IN 2015, UOW WAS AMONG THE FIRST EMPLOYERS IN THE ILLAWARRA REGION TO OFFER SPECIAL LEAVE TO STAFF WHO ARE SURVIVORS OF DOMESTIC VIOLENCE.

HOMeward BOUND

Senior Professor Sharon Robinson is a co-leader of Homeward Bound's Science Stream, a mentoring program supporting women in science from across the globe to strengthen their confidence to lead, build networks with other science leaders and gain support professionally and personally. The goal of the Homeward Bound initiative is to train 1000 women in leadership who have an interest in climate change and the future of the planet. Five UOW staff and postgraduate students have been selected to be part of Homeward Bound since its inception.



STEM HOLIDAY CAMP

STEM Holiday Camp invites young women aged between 15 and 17 held in January every year to participate in a camp focussing on STEM subjects. STEM shapes our world and STEM professionals manage our food and water supplies, promote health and wellbeing, and contribute largely to global productivity and economic growth. The STEM Camp provides young women entering Years 10 and 11 a fun and hands-on STEM experience and an exciting introduction to careers in STEM.

"This camp furthered my understanding of STEM and how it effects the world. This has motivated me to work harder and prove that women can do anything."

Participant



"Not only is gender equality critical to an organisation's success, it is also crucial for society as a whole. Research shows that companies and communities thrive with diverse perspectives and flexibility in thinking, which leads to higher levels of creativity and innovation."

"At UOW, we already have a range of strategies in place to achieve gender equality and we are committed to continual improvement."

Vice-Chancellor Professor Paul Wellings CBE (September 2019)

LUCY MENTORING PROGRAM

Lucy is a leadership program for female students at UOW. The aim of Lucy is to motivate and educate women about the career opportunities in law by establishing relationships between students and mentors who have achieved success in their professional career. Mentors are drawn from the corporate, public and not-for-profit sectors.

"The Lucy program gave me unique access to some incredible and inspiring people in the legal industry. I gained not only a mentor, but a friend and a sounding board to chat about all those burning questions final year law students have about their career options. Lucy empowered me to build lifelong connections, be inquisitive, and value every conversation, and it opened the doors to exciting opportunities I never thought I'd have."

Alex Doust, Bachelor of Journalism/Laws



WOMEN IN MBA

Women in MBA is an initiative aimed at improving the participation of women in Master of Business Administration (MBA) programs. UOW's Sydney Business School provides financial support, guidance and advice and access to events. An MBA has a significant impact on career pathways and is particularly powerful in enabling middle-managers to progress to executive and board room roles.



SUPPORTING WOMEN RESEARCHERS

Established in 2013, the UOW Global Challenges Program aims to cultivate research excellence while improving equality & diversity, and supporting the next generation of research leaders. In 2019, 54 per cent of Project grants were led by women researchers & 50 per cent of Seed projects were led by Early Career Researchers. The Global Challenges model provides non-financial as well as financial support, including media and marketing, support writing award and grant applications, mentoring and relationship building and research development and advice from leaders.



54%

of UOW Global Challenges Project level grants were led by women researchers in 2019

32.9%

of UOW professors were women in 2019 (national average is 30.1)

33%

of authors on UOW publications were women in 2019

6 CLEAN WATER AND SANITATION



Ensure availability and sustainable management of water and sanitation for all

DRINKING WATER

Bottled water creates large amounts of waste, with plastic bottles among the ten most common rubbish items picked up on Cleanup Australia Day. Australia recycles only 36% of PET plastic drink bottles. Around 373 million plastic water bottles end up as waste each year. At UOW campuses, water drinking fountains and/or bottle refill locations are available to all, across buildings and at numerous outdoor locations.



WATER AWARENESS ON CAMPUS

Water consumption reduction and reuse initiatives are a focus in UOW water management strategies. Australia suffers from long drought periods that have negative environmental, social and economic impacts. UOW operations include a range of activities that impact on the amount of water consumed including sports field maintenance, provision of food services, research and general campus use. A water education and awareness program is a key strategy in UOW's Environmental Management Plan as the University is subject to dry periods that require awareness of efficient practices. UOW aims to achieve these aspirations by implementing a priority hierarchy that focuses on undertaking structural and behavioural changes to reduce demand for and manage the supply of energy, water and materials, to use renewable resources and recycle and then offset what cannot be reduced or eliminated.



SMART WATER AND ENERGY GROUP

The SMART Water and Energy research group is dedicated to creating innovative and sustainable solutions to protect our environment from contamination, develop waste to energy pathways and secure affordable and reliable zero-carbon electricity supply. Water & Bioresource Technologies research underpins protection of land and water resources from contamination, and fosters sustainable harnessing of bio-resources. Research areas include wastewater treatment, resource recovery from wastewater and the environmental impacts of mining. Energy & Resource Efficiency research investigates technical and economic aspects of electricity infrastructure and aims to devise a holistic framework for renewable energy resources. Research areas range from reliable and efficient electricity supply to hydrogen and syngas supply chains.



OVER THE PAST 50 YEARS THE ILLAWARRA-SHOALHAVEN REGION HAS EXPERIENCED MANY SERIOUS FLOODS. THE SMART WATER MANAGEMENT PROJECT USES SMART TECHNOLOGY SOLUTIONS AND DATA ANALYTICS TO RESPOND TO STORMWATER MANAGEMENT CHALLENGES AFFECTING OUR COMMUNITIES.

LANDSCAPING MINIMISING WATER USAGE

Landscape plantings at UOW are local endemic native plants adapted to climate conditions of the area. Irrigated areas are restricted to sporting facilities and ceremonial lawns. The UOW Environmental Management Plan establishes a target of increased native species planted on the UOW campus with local provenance. Approximately 50,000 trees and shrubs have been planted on campus since 1975. Many local native plants were unable to be purchased in the campuses first years, instead the UOW Landscape team created their own plant nursery. They collected local native plant seeds and began propagating seedlings.



SMART WATER MANAGEMENT

Over the past 50 years the Illawarra-Shoalhaven region has experienced many serious floods. The Illawarra-Shoalhaven Smart Water Management project uses smart technology solutions and data analytics to respond to stormwater management challenges affecting our communities. The project aims to help improve stormwater management, water quality, flood mitigation and information accessibility to ensure community safety in flash flood events. This is a regional collaboration between Federal Government, Wollongong City Council, Kiama Municipal Council, Shoalhaven City Council, Shellharbour City Council, and Lendlease. Currently servicing the Wollongong and Shoalhaven local government areas, this open-source platform provides a 'hacking space' for citizens, entrepreneurs, researchers and students to apply smart technologies in novel applications to resolve real-world challenges.



SMARTER SCHOOLS FOR A SMARTER PLANET

Smarter Schools for a Smarter Planet, aimed at enabling regional high school students studying science, technology, engineering and mathematics to gain skills in the construction and use of smart technologies to monitor water issues relevant to their school environment. Ten regional high schools have participated in the construction project where they also learn about the Internet of Things (IoT) technologies and the water management issues being analysed by these technologies.



BEYOND MAINS WATER

PhD candidate Carrie Wilkinson is investigating the practices and experiences of households that are self-sufficient for water in regional NSW. She is investigating residents' engagements with the materiality of non-mains water sources and infrastructure, namely the rainwater tank and rainwater. By taking seriously the vitality of rainwater and the infrastructure of rainwater tanks in domestic water relations we will better understand the vulnerabilities and adaptive capacities of households that are self-sufficient for water in a changing climate.



WATER SECURITY IN INDIA

Water security is becoming a key issue both in India and Australia and this is being made more serious by climate change. Researchers from UOW are working with local experts in India to investigate coastal reservoirs as a sustainable strategy for water security through the Scheme for Promotion of Academic and Research Collaboration (SPARC). Coastal Reservoirs are a new and growing field of research to help combat the effects of water shortages. They can be used for water supply, flood mitigation, energy storage, even wastewater treatment to protect coastal environments. The scheme aims to improve the research ecosystem of India's Higher Educational Institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world from 25 selected nations.



MICROPLASTICS

Pollution of water by microplastics is a far-reaching problem. For marine life, it can lead to the ingestion by microscopic aquatic life, leading to starvation of parts of ecosystems and the ingestion of particles by seafood species. While human consumption of microplastics has not been thoroughly explored, it is known that many types of microplastics bind and accumulate highly toxic pollutants. The Global Challenges microplastics project seeks to assess the potential for bacteria or fungi to degrade these plastics, to find suitable candidate strains that may be used to reduce microplastic contamination. Through filtration of water and collecting sediment, microplastics will be extracted, quantified and identified, establishing an enriched microplastic-degrading culture.



7 AFFORDABLE AND CLEAN ENERGY



Ensure access to affordable, reliable, sustainable and modern energy for all

ENERGY SYSTEM OVERHAUL

UOW is on track to meet its target to reduce energy consumption by 20 per cent before 2035. The Energy and Carbon Management Action Plan and an Environmental Management Plan addresses planned building refurbishments to be rolled out over a three-year period and completed in 2020. Before the work started, there were solar panels already installed on six buildings. Under this program, solar panels have been installed on 17 additional buildings. Plans are also being developed to install more energy-efficient air-conditioning systems in buildings more than 10 years old.



ENERGY EFFICIENT ART

This interdisciplinary research team has produced artworks that incorporate energy-efficient elements and slow textile methods to communicate the need to adopt effective sustainable energy strategies in gallery and museum contexts. The project is a collaboration between contemporary arts, materials science, and climate science at UOW with the aim to produce artworks that communicate the stories of our climate and ecosystems. By combining traditional textile processes including embroidery, with graphene, hand-made electronics, and climate data, the project produced the exhibition Spinning World at the Museum of Applied Arts and Sciences, which featured an art installation powered by the audience's location and movement. This project involved a sustainable assessment of the materials used including sourcing and production in order to identify ecologically sustainable methods for art production.



SUSTAINABILITY IN STEM

'Active, critical and creative kids through STEM' project is exploring the growing tension between sustainability education and school operations. The overarching aim is to identify opportunities to use energy in schools, particularly air-conditioning and energy efficiency activities, as a learning opportunity. Sustainability education is in danger of becoming ineffective as some teachers feel that they lack the knowledge and skills to convert the organising ideas into meaningful and purposeful teaching and learning opportunities. Furthermore, teachers feel that they are working in organisational cultures that are at odds with the sustainability message. For example, students are being taught about how to care for the environment, while their schools may function in a non-sustainable way in terms of energy use. This project is working alongside the Department of Education, Australian Curriculum, Assessment and Reporting Authority (ACARA) and a local pilot study school based on the potential to integrate the energy use and energy efficiency initiatives of the school as an asset, with sustainability as a cross-curriculum priority.



UOW IS ON TRACK TO MEET ITS TARGET TO REDUCE ENERGY CONSUMPTION BY 20 PER CENT BEFORE 2035

SOLAR DECATHLON AND DESERT ROSE

Team UOW Australia-Dubai was awarded second place in the Solar Decathlon Middle East competition in 2018. The team comprised of more than 40 students from UOW and TAFE NSW, who spent two years designing, prototyping and building. Their design caters for the needs of an ageing population, supporting people living with dementia and other age-related disabilities. Teams from 11 countries competed to create sustainable and accessible homes, with the added challenge of ensuring it functioned in desert temperatures. The house takes its name 'Desert Rose' from the flower that flourishes in challenging environments. Desert Rose is considered one of the world's best examples of sustainability and design innovation.



INSTITUTE FOR SUPERCONDUCTING AND ELECTRONIC MATERIALS

The Institute for Superconducting and Electronic Materials (ISEM) is a world-class collaborative team conducting research in superconducting and electronic materials science and technology. ISEM seeks to stimulate the technological and commercial development to advance technologies including batteries for electric vehicles and energy storage; applied superconductivity for electrical and medical devices; energy conversion and transmission; spintronic and electronic materials for applications; terahertz science; and nano structured materials.



SUSTAINABLE BUILDING RESEARCH CENTRE

The Sustainable Building Research Centre (SBRC) is a haven for research and industry collaborations with the goal to make all buildings sustainable. The SBRC building itself has 6-Star Green Star certification and the building includes 468 solar panels to support net zero energy, an onsite rainwater system to enable net zero water performance, and use of environmentally safe and reused building materials. SBRC has achieved full marks under the Living Building Challenge and has set a new benchmark as arguably the most sustainable building in Australia. SBRC also provides short courses on energy efficiency, community information events, public exhibitions and conferences on improving residential energy efficiency. It hosted the National Forum on Low Carbon Housing for Low Income Households, bringing together representatives from the not-for-profit sector, community housing, government, industry, energy providers, researchers and tenant advocacy groups to unpack barriers to delivering housing that is both affordable and sustainable.



SODIUM-SULFUR BATTERIES

Researchers from the UOW have manufactured a nanomaterial that acts as a superior cathode for room-temperature sodium-sulfur batteries, making them a more attractive option for large-scale energy storage. Room-temperature sodium-sulfur batteries are an attractive proposition for next generation energy storage, which will be required to meet increasing energy demands. A superior room-temperature sodium-sulfur battery with high energy density and long cycling life would provide a low-cost and competitive technology for large-scale stationary storage, thus promoting the shift towards renewable energy.



EVALUATION OF FRINGE OF GRID

Just 10% of Australians live outside urban areas. These Australians suffer from poorer health and welfare outcome, reduced access to education and essential services and less reliable electricity supply. In addition, rural and regional communities are particularly vulnerable to increasing droughts, bushfires and heatwaves being driven by climate change. UOW researchers are working with our regional communities to examine the social, technical and economic possibilities and benefits of deploying alternative electricity supply technologies in fringe of grid applications.



Below: Senior Professor Paul Cooper at the UOW Sustainable Buildings Research Centre (SBRC). Paul served as the founding Director of the SBRC from 2010 until February 2020



8 DECENT WORK AND ECONOMIC GROWTH



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

MAKING IMPACT LOCALLY

Leading Locally, Competing Globally: Economic Impact Report 2020, found the University's direct, indirect and induced economic impact is now worth \$1.4 billion annually on 2018 figures, compared to \$1.3 billion in 2015. In employment terms, the direct, indirect and induced economic impact of the University sustains 7,666 jobs in the Illawarra, 8,331 across NSW and 10,938 nationally. Research activity, funded by grants or partnerships with industry or government, accounted for \$640 million in income over the last decade.



GRADUATE EMPLOYABILITY

According to the Australian Government's Quality Indicators for Learning and Teaching (QILT) Employer Satisfaction Survey, employers are more satisfied with UOW graduates than with graduates of all other NSW public universities. The survey found employers' overall satisfaction level with UOW graduates was at 89.6%, ranking above all other NSW public universities and second among public universities nationally. UOW was the only NSW public university in the top five Australian universities for graduate employer satisfaction. The annual QILT survey asks supervisors to rate their satisfaction with the performance of graduate employees in their workplace across five key skills areas: Foundation skills, Adaptive skills, Collaborative skills, Technical and Employability skills.



ACCELERATE

iAccelerate is a unique business accelerator and incubator program at UOW, where start-ups, scaleups, social enterprises and entrepreneurs thrive. The companies are supported by a robust model of education, mentoring, seed funding and unparalleled access to one of the world's most innovative young research universities. The centre has the most innovative minds, creative ideas and entrepreneurial vibe. 192 companies have been supported, bringing 639 new jobs to region since 2012. In 2019m iAccelerate Companies generated over \$57.6m in revenue.



PAY EQUALITY

UOW's International Women's Day event in 2019, saw the announcement of important gender equality priorities in line with the theme of #BalanceforBetter. Vice-Chancellor Professor Paul Wellings publicly announced changes to the way UOW pays superannuation to women. The University now pledges to make employer superannuation contributions of 9.5% for employees taking unpaid parental leave in the first year of a child's life. In addition, the University has extended the 17% superannuation contribution it pays for permanent, full-time staff to include all permanent, part-time employees who work less than 0.5 FTE. By 2022, all fixed-term staff, regardless of tenure, will be entitled to the 17% superannuation rate.



EQUITY DIVERSITY AND INCLUSION

UOW is a powerhouse of learning and teaching excellence. Our staff reflect the diversity of our community – in gender, sexuality, disability and cultural diversity. We are proud of our culture where people can be their authentic selves and have policies and practices in place to ensure that we provide a fair and equitable campus. We welcome anyone regardless of age, race, disability, colour, gender identity, sexual orientation, gender expression, marital or relationship status, or economic background. UOW has policies and practices in place to ensure that we provide a fair workplace and campus free from unlawful discrimination and harassment. Our inclusive values empower all staff to achieve their full potential and remove barriers to participation.



CAREER EQUITY

The UOW Equity & Diversity Counsellor provides individual career development support to students from Aboriginal or Torres Strait Islander backgrounds; with a disability; from low socio-economic backgrounds or students who have participated in the In2Uni Program. With a key focus on recognising the value of individual differences, assistance is offered in clarifying career direction; accessing workplace learning opportunities and information and resources.



CENTRE FOR CONTEMPORARY AUSTRALASIAN BUSINESS AND ECONOMICS STUDIES

The Centre for Contemporary Australasian Business and Economics Studies (CCABES) fosters the development and promotion of collaborative research in contemporary Australasian business and economics among countries at different stages of economic development. Researchers have strong international profiles and research is innovative, of high quality research and has broad academic, business and policy impact.



WORK INTEGRATED LEARNING

Work Integrated Learning (WIL) provides opportunity for every UOW student to engage in a variety of scaffolded, purposefully-designed and learner-centred work integrated learning (WIL) experiences within their degree. Work Integrated Learning describes activities that integrate work practices with learning in an academic institution. Through WIL, students undertake authentic, experiential learning relevant to their program of study.



On left: Festival of STEM. UOW collaborates with high schools to increase awareness in STEM & Entrepreneurial education programs, particularly in young women. This festival aims to inspire students to pursue a future in STEM and the innovation ecosystem.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

INNOVATION CAMPUS

UOW's Innovation campus is located less than 5 kilometres from the main Wollongong Campus and houses a range of business, governmental entities and research bodies. This community of researchers, teachers, learners and doers, is dedicated to supporting and accelerating achievement by delivering robust academic and industry output. Innovation Campus supports organisations, individuals and our region to connect to an ideas network dedicated to global impacts, and collaborate with government, industry and the community. These bodies form a multidisciplinary network, equipping tenants with actionable insights to drive local and global growth.



SUPPORTING START-UPS

iAccelerate is a unique business accelerator and incubator program at UOW, where start-ups, scaleups, social enterprises and intrapreneurs thrive. Companies are supported by a robust model of education, mentoring, seed funding and unparalleled access to one of the world's most innovative young research universities. iAccelerate teaches local start-ups and companies to think about the impact of their business, supplementing those 'hard' skills in business development with a focus on sustainability, ethics, leadership, collaboration and building a social conscience into business models.



SMART INFRASTRUCTURE FACILITY

SMART brings together experts from fields such as rail, infrastructure systems, transport, water, energy, economics and modelling and simulation, providing 30 state-of-the-art laboratories to facilitate this important research. Having created a strong network of global collaborators developing key international partnerships and collaborations, SMART is addressing some of the big challenges in the infrastructure sector.



UOW MAKERSPACE

The UOW Makerspace is a public creative space providing 'makers', both new and experienced, with access to tools, equipment and training. The team fosters an inclusive, vibrant, supportive and exploratory environment for all in the community who are interested in creating, repairing inventing, tinkering or learning-by-doing. The UOW Makerspace provides access to a wide range of equipment and provides expert training and support. The UOW Makerspace is a pilot space of a joint initiative of the Australian Institute for Innovative Materials, Science Space and the Global Challenges Program. The space runs workshops for groups and individuals including schools, teachers and corporate events.



GENERATOR LAB

The Generator Lab connects SMEs, industry and government enterprises with UOW researchers and other stakeholders to solve their innovation problems by using disruptive technologies and collaborative people power. An example of an ongoing collaborative research project that has evolved from a Generator Lab event saw SMEs and UOW researchers working with an aged-care provider and a wool manufacturer to develop wearable devices in fabric socks to monitor the health of patients. Advantage SME is UOW's in-house industry matchmaker, helping businesses and researchers find their ideal partners and build relationships.

"As a business we have to innovate, and we can do that with the best research available."

Mark Allan MMS (UOW Collaborator)



SMART GARMENTS

The Smart Garments project has been investigating the feasibility of incorporating antenna arrays within garments for the purposes of communication, localisation and tracking, as well as health monitoring for individuals. The researchers have since developed this technology through a research partnership with Australian wool manufacturer Bluey Merino and with support of the NSW Government. The team has developed clothing made with superfine merino wool that customers can scan with their mobile phones to confirm the origin of the wool in their new garment. Bluey Merino's next step is to develop body-sensing capabilities within their garments to monitor the wearer's vitals such as blood pressure and temperature, with applications in fields including athletics, defence, healthcare and aged care.



MOSKIN

MOSkin is the world's most advanced and cost-effective medical radiation sensor technology. This next generation technology is the only real-time radiation sensor that provides an accurate measure of dose to the skin during radiation therapy treatment or diagnostic radiology procedures. Its design allows greater real time control of the amount of radiation delivered, leading to better outcomes for patients. MOSkin was developed by Researchers at UOW Centre for Medical Radiation Physics (CMRP), led by Distinguished Professor Anatoly Rozenfeld and commercialised by med-tech company Electrogenics who received Australian Technology Company of the Year in the Australian Technology Competition 2020 and the Medtech and Pharma Award.



AUSTRALIAN INSTITUTE FOR INNOVATIVE MATERIALS

The Australian Institute for Innovative Materials (AIIM) is a purpose-built facility at UOW's Innovation Campus to help transform multi-functional materials research into commercial reality. The researchers at AIIM are at the cutting edge of developing and applying new and innovative materials. AIIM is the first facility that bridges the gaps between breakthroughs, prototyping and commercialisation. The multidisciplinary focus of the Institute brings together biologists, clinicians, chemists, physicists engineers and materials scientists.



TRICEP

The Translational Research Initiative for Cell Engineering and Printing - TRICEP - works with research institutions and industry to develop innovative technologies using 3D bioprinting. TRICEP's world leading research infrastructure assists companies to bring novel technology from concept stage through to prototyping and manufacturing of hardware, to accelerate product development and rapidly decrease time to market.



MAKING FUTURE INDUSTRIES

The UOW Global Challenges Program is a strategic interdisciplinary research initiative focussing on four key challenges. The Making Future Industries challenge supports research projects addressing the impact of new technologies and encourages the development of new-to-world products that have a positive impact on society. The challenge has a focus on emerging technologies, new product development, STEM education, the role of making and the interaction of these areas to enhance our capacity for innovation.

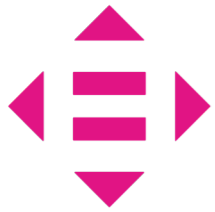


UNIVATIVE

Univariate takes students from the classroom to the boardroom to provide students with consultancy experience, working with organisations from all sectors on addressing real strategic issues and business challenges. Since its launch, Univariate has supported 80+ businesses and has had 1,200+ students complete the program. For businesses, it opens the door to student talent, fresh perspectives, and for students, it provides a means to test their knowledge, build their skills and grow their professional network. Businesses set a challenge that reflects an actual need of the organisation for students to tackle in small interdisciplinary teams.



10 REDUCED INEQUALITIES



Reduce inequality within and among countries

ACCESSIBILITY ACTION PLAN

UOW is committed to establishing and promoting an equitable, accessible and inclusive environment across all that we do. The Accessibility Action Plan provides a coordinated and accountable approach to achieving our vision of an inclusive university for all students, staff and visitors. At UOW, we are working to adopt the principles of Universal Design in our teaching, learning, research and operational activities so that universal access by all individuals of all backgrounds and abilities is the minimum standard. Universal Design, is the “design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design”.



ALLY NETWORK

UOW supports and welcomes sexual and gender diversity and strives to provide an inclusive workplace. We are proud of our vibrant Ally Network, which consists of a dynamic group of over 285 staff and students, offering events and regular sessions throughout the year aimed at building awareness of LGBTQI+ issues and provides a place for the community to come together and share their stories. In 2019, the University received our first Australian Workplace Equality Index Bronze Award. UOW's first Gender Identity and Affirmation Guidelines provide a framework on how to best support those who are transgender and gender diverse, and those going through gender affirmation.



30%

of students enrolled at UOW are from regional and remote areas

INDIGENOUS ADMISSIONS PROGRAM

The Indigenous Admission Program (IAP) is an assessment process that offers an alternative pathway for Aboriginal and Torres Strait Islander people over the age of 17, to seek entry into UOW's undergraduate programs. The program supports Aboriginal and Torres Strait Islander people who haven't completed secondary school, are not receiving an Australian Tertiary Admission Rank (ATAR), don't have the required ATAR for their preferred course, and mature aged students.



GREAT SOUTH COAST ECONOMIC MIGRATION PROJECT

The Great South Coast Economic Migration Project is a secondary settlement project that supports the voluntary relocation of migrants from the Great Lakes region of Africa who currently live in Australian cities, to the Southern Grampians and Glenelg Shires in regional Victoria. It is framed by an understanding that some migrants have a desire to live in rural areas, but benefit from various support mechanisms when making that transition. This research project is documenting key learnings from the perspective of the implementing organisations, relocated families and destination communities. Together with the project partners, the aim is to develop an evidence-base to inform academic scholarship and government policy pertaining to rural and regional settlement.



WOOLYUNGAH INDIGENOUS CENTRE

Woolyungah Indigenous Centre (WIC) is committed to increasing the participation and engagement of Aboriginal and Torres Strait Islander people at UOW. The centre provides programs, services and facilities that encourage and support Indigenous Australians from entry to University, through to successful completion. With a focus on fostering a community environment, students have the freedom to embrace their Indigenous culture and the opportunity to achieve academic excellence. WIC guides students through university life and supports professional development with rewarding and empowering opportunities.



TRADITIONAL BARK CANOE AND BOATING SAFETY

UOW has joined with Illawarra Aboriginal Corporation, various Indigenous high school students, NSW Department of Education, and NSW Maritime to build a traditional bark canoe to raise awareness about boating safety issues. Woolyungah Indigenous Centre staff and University students played a lead role in building not only the canoe but the sense of community and learning relationships with the younger Indigenous participants. This activity brought a cultural learning and depth on campus that illuminates UOW's ongoing engagement and relationship with the local Aboriginal community.



NAVABILITY APP

UOW is the first university campus in Australia to have dedicated directional mapping for wheelchair users, making moving around easier and safer for people with a disability. Briometrix, a start-up that specialises in technology for wheelchair users, has launched a project using UOW's Wollongong campus as a pilot study, to translate wheelchair-user-generated data into navigation routes on its Navability App, showing the best routes for wheelchair users. The maps produced by the app are colour-coded by access difficulty. The app is part of the Digital Living Lab, a growing community of projects designed to create smart cities and increase liveability.



AUSTRALIAN INDIGENOUS MENTORING EXPERIENCE

Australian Indigenous Mentoring Experience (AIME) was established at UOW in 2008 to help redress the imbalance in high school completion rates between Indigenous and non-Indigenous students, by improving Year 10 and Year 12 completion rates and university admission rates for all participating students. Each year, the AIME program pairs student mentors with Aboriginal and Torres Strait Islander high school students.



JINDAOLA

Jindaola, an educational development grants program facilitated by a local Traditional Knowledge Holder and established in consultation with local Aboriginal community, engages participants in an Aboriginal way towards Curriculum Reconciliation. Curriculum Reconciliation in a professional learning context is the a process of taking participants on a journey to decolonise thinking and begin to engage in the negotiation of authentic knowledge-based relationships between Aboriginal Knowledges and the relevant disciplinary knowledges.



INDIGENOUS EMPLOYMENT STRATEGY

UOW is committed to providing a workplace where Indigenous people's culture, beliefs and knowledge are embraced and embedded, with opportunities for career development and promotion. UOW's Indigenous Employment Strategy has initiatives in place to increase Indigenous employment and is committed to providing pathways for Aboriginal and Torres Strait Islander staff to optimise career aspirations.



EQUITY FELLOWSHIPS

Equity Fellowships assist staff facing difficulties in completing their PhD program because of equity issues. They are targeted toward academic women and Indigenous Australians, however, a number of fellowships will also be available each year for other equity groups. The establishment of these fellowships is one of the strategies to address the current under representation of these two equity groups, particularly at senior levels.



NGARRUWAN NGADJU

Ngarruwan Ngadju is an Indigenous-led health and wellbeing research centre located within the Australian Health Services Research Institute at UOW. Their work centres the needs and priorities of First Peoples by undertaking research that is high impact, innovative, strengths-based and beneficial to Community. Ngarruwan Ngadju from both the Dharawal and Dhurga languages means 'the sea across long distances' (Ngarruwan) and 'freshwater' (Ngadju). The words bring together the importance of water for sustaining life. They signify the cultural connectedness between Indigenous communities along the coastal regions of Australia, freshwater communities of inland Australia and across the Pacific. The research centre's vision is to provide Indigenous-led health and wellbeing research, sustained by strong and enduring community partnerships.



11 SUSTAINABLE CITIES AND COMMUNITIES



Make cities and human settlements inclusive, safe, resilient and sustainable

CYCLING AT UOW

The Wollongong Campus is a short ride away from Wollongong CBD and many surrounding suburbs. It can be quicker to ride a bike than drive to campus, particularly during peak periods of session. UOW provides CCTV-monitored Bike Bases where riders can lock up their bike and have access to shower facilities, change rooms and toilets. These facilities are free to use for staff and students. Two bike maintenance and repair stations are available on the Wollongong Campus with tools for basic repair and an air pump and a bike share program has been established for student residents.



A CLEAN AIR PLAN FOR SYDNEY

Air pollution is a significant health issue for Sydney that is projected to worsen with climate change and population growth. While Sydney's air pollution levels are better than those of many comparable cities around the world, even low-level exposure to air pollutants can be a threat to people's health. And as the recent summer demonstrated, the city can be subject to extreme air pollution from bushfires, dust storms and heat waves. Professor Clare Murphy, Director of the University of Wollongong's Centre for Atmospheric Chemistry, was lead author of A Clean Air Plan for Sydney. The Plan was published recently in a special edition of the journal Atmosphere on "Air Quality in New South Wales". It provides a summary of the current understanding of air quality in the city, highlights from recent research, and makes evidence-based policy recommendations for reducing air pollution and people's exposure to it.



PUBLIC TRANSPORT

Catching the shuttle bus to Wollongong campuses is free, easy and environmentally friendly. More than 25 per cent of UOW students, staff and visitors choose to catch one of three free shuttle bus services. Free parking is available for people carpooling and end of trip facilities for those using active transport to travel to campus, by cycling, walking and train. A Transport and Access Action Plan has been developed to establish priorities and tasks to be actioned over 2019-2021 specific to transport, parking and access to the Wollongong Campus. The Wollongong Campus Master Plan 2016-2036 sets targets to increase public transport and active transport journeys, and reduce parking demand and traffic congestion. The targets for 2020-2036 are 50% private transport, 32% public transport and 19% active transport.



GREEN SPACES AT UOW

The UOW Campus is open to the public and provides habitat for a diverse range of birds, mammals, reptiles and amphibians and forms a crucial part of the east-west wildlife corridor connecting the escarpment with the sea. The landscape is focused on maintaining the biodiversity values of the campus and creating a built environment that is designed to meet best practice design standards. The original UOW Campus Tree Walk was established in 1995 by the Janet Cosh Herbarium with the support of Campus Environment Management Committee and the Office of Community and Partnerships. There are now two walks developed to highlight the unique species and communities present in the Wollongong, Illawarra and South Coast regions, providing information on their botanical, historical and cultural significance.



On left: Lance Barrie is a PhD candidate in the School of Geography and Sustainable Communities. His research explores the lived experience of road cycling in Wollongong.

SMART CITIES FOR UNDERSTANDING LIVING IN LIVERPOOL, NSW

In 2018, Liverpool in Greater Western Sydney had the worst air quality in the country. The city is surrounded by major arterial roads, sits at the base of the Sydney basin and has a multitude of hard surfaces which can get hot in summer. Researchers from UOW are investigating the nature of public spaces in Liverpool that are used and enjoyed the most, enabling Liverpool City Council to design policies that will protect existing spaces that work well for residents and design new spaces that emulate or improve existing spaces. This will protect the interests of the most vulnerable people in society and help to build a resilient community in Liverpool as it undergoes significant development and population growth in the coming years.



BUILDING RESILIENT COMMUNITIES

Problems of social-injustice, economic disruption, geopolitical instability and environmental extremity amplify existing inequalities, and create additional patterns of vulnerability. Transformational change in thinking, policy, infrastructure and everyday practice will be necessary in order for communities to adapt and flourish. The Building Resilient Communities challenge within the UOW Global Challenges Program is improving inequality, discrimination and vulnerability within communities. This challenge supports research projects enhancing community resilience in an era of growing uncertainty.



AUSTRALIAN CENTRE FOR CULTURE, ENVIRONMENT, SOCIETY AND SPACE

Australian Centre for Culture, Environment, Society and Space (ACCESS) is working to identify and analyse the place-based, multi-dimensional challenges and opportunities that emerge as environments, cities, economies and communities are differentially transformed across space and place. The centre explores how decision-making and action to address these challenges and opportunities can be imagined and enacted at multiple scales and across institutions and communities.



MIND THE AGE GAP

UOW researchers have been studying the public transport habits of older Australians living in Wollongong. The 'Mind the Age Gap' research team have found that seniors in Wollongong are more likely to travel by bus than those under 60. The team plans to identify highly-frequented destinations for seniors in Wollongong such as the hospital, train stations and shops and more broadly, how public transport services affect older people's social activities and wellbeing. The transport data analysis aims to identify unique travel patterns of seniors to determine how travel experiences for public transport users can improve for all users, even in periods of congestion.



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Ensure sustainable consumption and production patterns

RESPONSIBLE PROCUREMENT

The University is committed to ethical procurement practices as outlined in its Purchasing and Procurement Policy. Ethical sourcing is the process of ensuring products being sourced are obtained in a responsible and sustainable way, that the workers involved in making them are safe and treated fairly and that environmental and social impacts are taken into consideration during the sourcing process.



WASTE MANAGEMENT AND THE ENVIRONMENT

UOW's Environment Policy includes a commitment to environmental protection and sustainable practices implemented through the minimisation of energy and water use, responsible management and minimisation of wastes. UOW also has a hazardous waste disposal guideline that details the management of hazardous wastes. The University focusses on the highest environmental standards in newly built infrastructure and in managing the costs of energy and transport provision. The Environmental Management Plan addresses issues such as low carbon food options, single use packaging, waste wise events and recycling infrastructure.



BULKY KERBSIDE COLLECTIONS

The Bulky Kerbside Collections research seeks to broaden understandings of the collection of 'bulky kerbside materials' and the factors that affect their movement through local council waste-streams. Despite increasing global attention to the economies of reuse and recycling, there has been little consideration of collection systems which support bulky kerbside collections or the conditions under which bulky waste materials enter landfill. This project is a joint collaboration between UOW researchers and the Illawarra Shoalhaven Joint Organization (ISJO). The ISJO coordinates the regional waste strategy of five local councils.



UOW MAKERSPACE

UOW Makerspace runs workshops for the public of all ages using plastic waste. The makerspace team guides attendees through the process of making their own unique and sustainable earrings, decorations and other useful objects from recycled plastics. The makerspace aims to educate workshop participants and wider community to learn about plastics and the recycling process, including how to reduce household waste.



54%
of the University's waste was diverted from landfill in 2019

49%
of the University's waste was recycled in 2019



On right: The UOW Makerspace is a public space at Innovation Campus and is a collaboration between UOW Global Challenges, AIIIM and Science Space. The team is running workshops using plastics that would otherwise end up in landfill.

13 CLIMATE ACTION



Take urgent action to combat climate change and its impacts

COMMITMENT TO OUR CLIMATE

UOW is committed to the principles of environmental sustainability and has developed an Environmental Management Plan (EMP) to deliver improvements in the use of energy, water, waste management and campus biodiversity. Energy consumption represents approximately 98% of the University's greenhouse gas emissions. Research being undertaken at UOW is exploring the causes and impacts of climate change and practical solutions such as sustainable fisheries management, bushfire management and innovations in battery technologies, sustainable buildings and new materials. The University is currently spending approximately \$8M installing solar photovoltaic panels and LED lighting to slash energy consumption at its Wollongong and Innovation Campuses. In addition, the University is investing heavily to provide public transport services, including \$350,000 per annum to support Wollongong's free shuttle bus in addition to its own bus routes.



ONSITE RENEWABLE ENERGY DOUBLED IN 2019 TO 3800 GJ.

GREENHOUSE GAS EMISSIONS IN 2019 WERE 6.8% LOWER THAN THOSE IN 2018.

WHEN DISASTER STRIKES: UNDER-INSURANCE IN AN AGE OF VOLATILITY

There is a growing concern in Australia and internationally of the extensive social and economic costs of disasters, which are increasing due to the impact of climate change. In the ten years leading up to 2016, the total cost of 'natural' disasters in Australia averaged \$18.2 billion per annum. When disasters strike, home and contents insurance provides a safety net but many households are under-insured or not insured at all. The average uninsured loss for each 'natural' disaster in Australia between 2004 and 2011 is estimated at almost \$1 billion. Little is known about the factors that contribute to these rates of inadequate insurance cover. Researchers at UOW are attempting to bridge this knowledge gap by examining perceptions of risk and insurance amongst residents both with and without direct personal experience of bushfires. The research strives to assist the development of insurance policies and implementation strategies that meet the needs of residents.



PETAJAKARTA.ORG

Working with Jakarta's government disaster management agency and social media company Twitter, UOW researchers developed an open source platform, Petajakarta.org, to crowd-source and automate flood reporting. This technology reduced the time and cost of situational awareness, empowered citizens to report flood information through social media, and improved human adaptability to environmental disasters. The tool saved lives by enabling community and first responders to avoid and navigate safely through flood zones. Economic benefits were realised through cost savings from manual reporting and reductions in flood-related injury, property damage and disease. This model for emergency response is now seen as best practice by international agencies and has been further adopted by seven cities in four countries.



BLUE CARBON

With roots that rise from under the mud, mangroves grow in a process called vertical accretion. This feature is important to their ecosystem as it helps to soak up greenhouse gas emissions (carbon sequestration) at densities far greater than other forests, and provides a buffer between the land and sea - helping protect people from flooding on land. UOW researchers have been investigating how mangroves have responded to sea-level rise in the past, providing us with crucial information about how our shorelines will change in the future with climate change. The ecosystem services provided by mangrove forests, such as carbon sequestration and wildlife habitat, are highly valuable and this study provides the information planning for their resilience. The research by the Blue Carbon Horizons team shows the capacity of coastal wetlands to store carbon substantially increases with sea-level rise, providing a counter to global warming. The team received a Eureka Prize for Environmental Research in 2019.



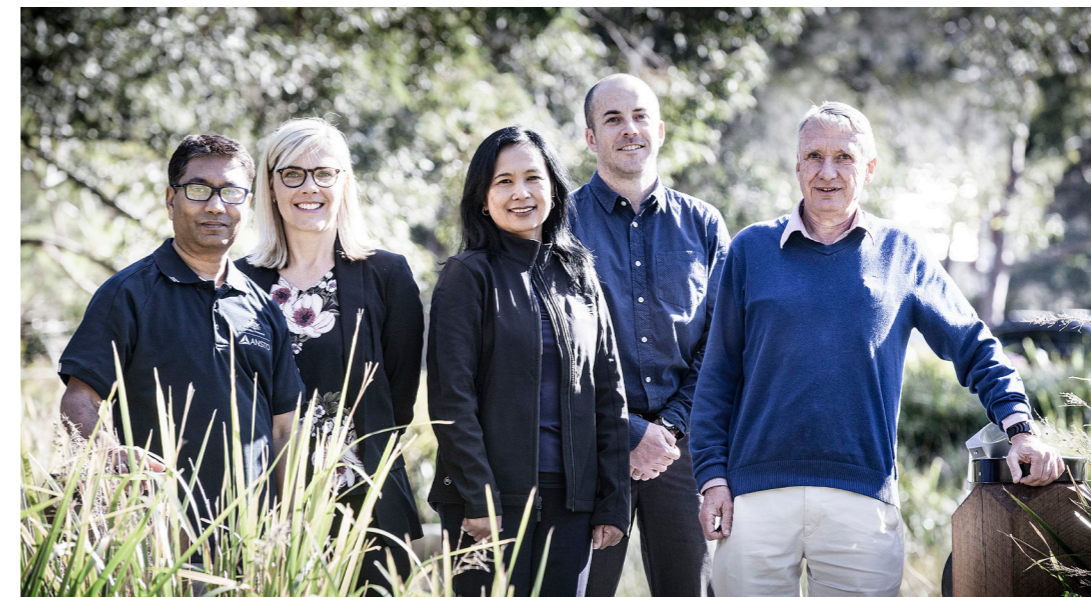
ECO ANTARCTICA

The ECO Antarctica project has established a new trans-Tasman network of Antarctic researchers with a wide range of expertise. These include marine and terrestrial ecologists, data scientists, environmental toxicologists, climate scientists and modellers, and experts in Antarctic and environmental law and policy. In 2019, the team showcased the wonder and science of Antarctica in a public exhibition called Antarctic Footprints. This allowed the public to explore some of the challenges that Antarctica's coastal and near-shore marine systems face. This team has also drafted recommended protocols for uniformly monitoring and comparing terrestrial and marine zones for both climate and health of biodiversity around the coast of Antarctica. Collecting local climate and biodiversity data in a uniform way will contribute to science projects and national programs, resulting in informed conservation and environmental management throughout the Antarctic.



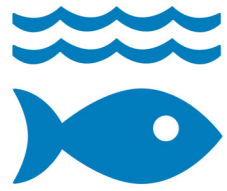
GLOBAL CLIMATE CHANGE WEEK

Global Climate Change Week (GCCW) was established when academics and students at UOW got together to talk about climate change action and solutions. Now, each year, academics, professional staff and local communities around the world come together to save the planet in a global movement. The week involves a range of activities including open lectures, discussion panels, environmental lifestyle workshops and other events at UOW's Wollongong campuses and venues around the city of Wollongong. The events are aimed at capturing the attention of students, policy-makers, and the wider community, demonstrating the need to take action against climate change. In 2019, 20 events took place in Wollongong for GCCW.



On left: The University of Wollongong led research team behind a study that found coastal wetlands capture more carbon as sea levels rise and won the 2019 NSW Environment, Energy and Science (DPIE) Eureka Prize for Environmental Research.

14 LIFE BELOW WATER



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

AUSTRALIAN NATIONAL CENTRE FOR OCEAN RESOURCES & SECURITY

Australian National Centre for Ocean Resources and Security (ANCORS) is the only multidisciplinary university-based centre of its type in the Southern Hemisphere dedicated to delivering specialised research, advisory services, education and training in ocean law and policy, maritime security, and marine resources management. Originally established as the Centre for Maritime Policy in 1994 as a collaborative initiative between UOW and the Royal Australian Navy, ANCORS has developed an unrivalled reputation for capacity building, within Australia and throughout the world, in the law of the sea, ocean policy making and maritime security. ANCORS has forged a strong reputation as a leading source of authoritative policy development advice and other support services to government agencies in Australia, the Indo-Pacific region and beyond, as well as to regional and international organisations and ocean-related industry.



FISHSMARD

ANCORS supported the development and ongoing annual meeting of a Pacific 'community-of-practice' titled FishSMARD (Sustainable Management Approaches and Research Development for Fish). The annual meeting brings together a network of fisheries practitioners in the Pacific who are working to improve community-based sustainable fisheries management. It is an initiative to improve peer-to-peer dialogue, learning exchange and skills development.



SUSTAINABLE, COMMUNITY-BASED FISHERIES

The project 'Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song' has undertaken outreach on sustainable community-based management of coastal fisheries with over 100 local communities in Kiribati, Solomon Islands and Vanuatu. Outreach involves community awareness presentations, facilitation of development of community-based fisheries management plans, and training for community monitors to track fisheries catch in select sites with the goal to support adaptive management by communities.



TROUBLED WATERS

Fish play a big role in the lives of people in Melanesia; coastal fisheries are not just a source of food and income, they are also central to cultural identity. ANCORS, together with Wan SmolBag, have developed a theatre play and associated community workshops with themes around sustainable fishing and caring for the marine environment. The play is touring throughout Vanuatu in 2019-20, and has been effective at informing sustainable management of fisheries resources, particularly in rural areas where many people are illiterate.



On right: Blue Economy researchers (left to right) Hugh Forehead, Michelle Voyer, Su Ballard and Lana Kajlich. The blue economy concept recognises the multiple benefits of marine and coastal ecosystems for current and future generations and the need for sustainable use and development of these resources.

TRANSMEDIA NARRATIVES: THE SOUTHERN NSW BLUE ECONOMY

This project explores narratives and visual representations of a Blue Economy. The research aims to use transmedia mapping to draw connections between human engagements with the south coast and the stories, systems, and practices that shape human-ocean relations locally. The research team is investigating the ways cultural expression such as art and writing represent the ocean and create community, define public and private space, and helps shape the rhetoric and decision-making involving the ocean's stewardship.



HEAVY METAL POLLUTION

Heavy metals are a major anthropogenic contaminant of estuarine and coastal ecosystems in Australia. This research uses an integrated approach to minimising the impact of heavy metals on public health and ecosystems, improving quality of life. The project employs a number of advanced scientific and technical tools to understand the mechanisms of the removal of heavy metals, establishing unique links between fundamental and applied research.



OCEAN FRIENDLY ACCREDITATION

UOW Pulse is recognised as a campus leader for implementing sustainable practices across the University's food, beverage and retail outlets. The team received a Green Gown Award in 2018 and the Unibar is the first Australian University bar to receive 'Ocean Friendly Accreditation' in 2018.



SOUTHERN NSW BLUE ECONOMY

This project aims to 'take stock' of the existing state of play in relation to Blue Economy opportunities focusing on five key areas: ocean accounts, spatial mapping, social and cultural values, the governing system and innovation. By exploring the concept of blue economies and creating an optimised example here on the South Coast of NSW the research aims to change the way the world uses its oceans to improve the lives of those dependent on it. On World Oceans Day of 2019 the team launched an interactive online story mapping tool to engage communities and encourage them to have their say on what will make a sustainable and successful Blue Economy.



DARK FISHING FLEETS IN NORTH KOREA

Professor Quentin Hanich, Fisheries Governance Program Leader from ANCORS co-authored 'Illuminating Dark Fishing Fleets in North Korea', a study revealing the largest known case of illegal fishing perpetrated by vessels originating from one country operating in another nation's waters. The report released in 2020, was an international collaboration with scientists from South Korea, Japan, Australia and the United States. It found that more than 900 vessels of Chinese origin in 2017, and 700 in 2018, likely violated UN sanctions by fishing in North Korean waters. The vessels likely caught more than 160,000 metric tons worth over US \$440 million in 2017-2018.



15 LIFE ON LAND



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

CAMPUS ENVIRONMENT

UOW's main campus provides habitat for a diverse range of native animals with approximately 162 native fauna species. It forms a part of the east-west wildlife corridor connecting the escarpment with the sea. The Environmental Policy demonstrates UOW's commitment to environmental protection and sustainable practices and the integration of the campus infrastructure and activities with the natural environment. The Environmental Management Plan under the Policy nominates specific actions to identify and maintain existing biodiversity values, manage habitat and reduce threats.



TEAM QUOLL

Dr Katarina Mikac works on conservation of endangered Quolls and has established Team Quoll, a group of citizen scientists, students and researchers from the UOW on a quest to find and conserve the Spotted-tailed Quoll in the South Coast Region of NSW. Citizen scientists keep the research team informed of quoll sightings and specimens in the Illawarra and South Coast via a community Facebook page. The assistance and collected data has been invaluable to understand the biology, genetics and ecology and assist in the conservation management of quolls in our region.



ANTARCTIC FOOTPRINTS

Antarctica is often thought of as pristine, untouched by human disturbance, however, this is no longer the case. Antarctic Footprints is an exhibition examining the human presence in Antarctica over the last century and engages the wider public to gain a new understanding of Antarctica, its industries, its ecosystems and the impact humans have had on its environment. Hosted by UOW Global Challenges, iAccelerate and Science Space, Antarctic Footprints exhibited photography, video footage, sculpture, tapestry and research outputs from Antarctic researchers and Homeward Bound participants.



BIRDS IN BACKYARDS

Research led by Professor Kris French has resulted in the development of state and federal environmental management programs for both threatened species and invasive weeds. Prof French has established a long-term program with the Australian Museum and Birdlife Australia in Urban Ecology. This has been supported by external funding, and lead directly to the national Birds in Backyards citizen science project which was awarded the 2008 Eureka Prize for Environmental Sustainability Education. The project has an Australia-wide impact and creates links with international programs. The website is widely used and the program connects the public with conservation messages via the media and online.



CENTRE OF EXCELLENCE FOR AUSTRALIAN BIODIVERSITY AND HERITAGE

The UOW-led Australian Research Council Centre of Excellence for Australian Biodiversity and Heritage is uncovering our continent's rich human history, and its ancient climate, landscape and biodiversity. UOW is leading researchers from around the world on a research quest to investigate the history of Australia's unique biodiversity and Indigenous heritage, while inspiring Australian children to engage with science. The centre has brought together 20 institutions and museums worldwide to unlock the history of Australia, Papua New Guinea and eastern Indonesia from 130,000 years ago until the time of European arrival. The first of its kind in the world, the centre is encouraging young scientists through a unique outreach program at schools and museums and focuses on nurturing the careers of Indigenous and female researchers.



CENTRE FOR SUSTAINABLE ECOSYSTEM SOLUTIONS

The Centre for Sustainable Ecosystem Solutions (CSES) is a nationally and internationally significant centre for innovative research into the way that threatening processes affect the structure, function and composition of ecosystems. CSES uses a cross-disciplinary focus to create a collaborative research environment targeted at ecosystem management. With a proven track record of translating research into policy development and ecosystem management, CSES provides innovative solutions to major societal challenges that fall under the National Strategic Research Priorities: Living in a Changing Environment and Managing Our Food & Water Resources.



URBAN FORESTS: ENCOUNTERS, VALUATIONS AND GOVERNANCE

UOW is partnering with University of Melbourne researchers and the City of Melbourne in a case study on urban forests. Urban forests are fundamental to city liveability, resilience, and sustainability. Trees are increasingly recognised as contributing to solutions for multiple contemporary urban challenges such as climate change, urban heating and cooling, air quality, and provide connection with nature. The shift toward evaluating trees as key to sustainable urban futures has been supported by ecosystem services frameworks, which identify and measure the contributions ecosystems make to supporting human lives and wellbeing.



SUN, SAND, SEA AND SUSTAINABILITY (S4)

In partnership with Shoalhaven City Council, researchers at UOW are addressing the challenges of sustainable marine tourism. The aim of this research is to develop a methodology which classifies communities according to a range of characteristics which will constrain or enhance sustainability objectives, such as population size, visitation levels and infrastructure availability. The project is assessing the vulnerability of destinations to pressures which will impact the sustainability of these communities, and their associated tourism growth and is being trialled in the Shoalhaven City Council area. The project will assist council to tailor tourism planning, marketing and service provision to meet the needs of different 'types' of coastal communities.



INVASIVE SPECIES IN RURAL LANDSCAPES

Associate Professor Nicholas Gill from UOW's Australian Centre for Cultural and Environmental Research, is working to prevent the spread of hawkweeds, and, hopefully, eradicate their existence altogether on mainland Australia. Invasive plant management is a major activity by many landholders and important in developing links to, and knowledge of, their land. The work has expanded into weed hygiene practices in national parks and also into a recent foray into invasive animal management, hunting, and self-provisioning.



SOUTHERN CORROBOREE FROG

Over the last five years a UOW group led by Dr Philip Byrne and Dr Aimee Silla, in collaboration with Melbourne Zoo, Taronga Zoo and the Department of Primary Industries has developed IVF for frogs. In Dec 2019, 300 frogs were released into the Snowy Mountain National Park to establish breeding and release of offspring to re-establish a wild population of these endangered frogs. Northern and Southern Corroboree Frogs which are on the ISEN Red list and are Australia's most critically engaged vertebrate species (only 30 in the wild).



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

GOVERNMENT RESPONSE TO VULNERABLE WELFARE RECIPIENTS

UOW researchers are collaborating with the National Social Security Rights Network (NSSRN), which represents community legal centres across Australia, to assess the relationship between family violence and social security compliance and fraud. The project involves the analysis of case files from the Welfare Rights Centre in Sydney. The team is investigating Centrelink's responses to victims of domestic violence and how the response may alleviate or exacerbate the impact of domestic violence. The research is informing strategies to improve how the government responds to extremely vulnerable welfare recipients.



DOMESTIC VIOLENCE INTERVENTION SERVICE

UOW Law researchers Professor Trish Mundy and Professor Nan Seuffert have been engaged by the YWCA NSW to undertake an evaluation of the Domestic Violence Intervention Service (DVIS) based in Nowra. This report documents the first formal evaluation of the YWCA NSW DVIS, a specialist service established in 1992 offering a crisis response to victims of domestic and family violence through support, information, referral and case management services. The evaluation assesses and measures the effectiveness of DVIS in the context of its aims and objectives, with a particular focus on assessing the benefits, challenges and impact of their co-location as a community sector domestic violence service within a police station.



CLIMATE ADVISORY BOARD

Senior Professor Sharon Robinson is a member of the United Nations Environment Programme Environmental Effects Assessment Panel and has highlighted how ozone depletion is impacting ecosystems across the Southern Hemisphere, through its effects on climate. The United Nations Environment Programme is responsible for coordinating the UN's environmental activities and assisting developing countries in implementing environmentally sound policies and practices.



PROJECT ADVOCATE

Dr Michelle Eady from the School of Education is leading Project ADVOCATE, inspired by research of team member Kelly Lewer about students who attend university after periods of domestic violence. The project is aiming to improve the quality of services and support provided to students who have experienced domestic violence by ensuring staff are better prepared to help such students. The project has received funding from the UOW Community Engagement Grants Scheme and will involve a multidisciplinary team of academics from UOW, the University of Newcastle, and the University of NSW, and partners such as Domestic Violence New South Wales and Women's Health New South Wales.



BUSHFIRE MANAGEMENT HUBS

While elevated temperatures and drying trends may elevate fire activity in our local ecosystems there are many challenges remaining to understand how fire will change in the future and how we may best deal with increased risk. The Centre for Environmental Risk Management of Bushfires (CERMB) was established as a joint venture between UOW and the NSW Government to conduct, transfer and apply research on bushfire risk into policy and operational management. The Centre facilitates research translation via educational, reporting and discussion activities along with formal involvement in policy development through various committees and fora. CERMB also leads the NSW Bushfire Risk Management Research Hub, bringing together researchers, fire agencies and public land managers in a collaborative research effort to develop new knowledge that will underpin cost-effective strategies to reduce the risk fire poses to people, property and the environment. This strategy will guide the effective communication and dissemination of that knowledge to the people who need it most: from the policy makers, operational planners, and on-the-ground fire services crews that work to mitigate fire risk, to the growing number of people living on the fringes of Australia's cities.



DRAGGING THE CHAIN

Researchers at UOW are examining the effect of deep-water anchors on the seabed of Australia's east coast, bringing together industry, government, and environmental agencies. Deep-water vessels are essential to the nation's trade links; more than 11,000 vessels visit Australian ports annually, supporting an industry worth \$200 billion every year. This project aims to consider how these ships, which can have anchor chains up to a 100 metres in length, impact upon the ocean floor at popular ports. The project is mapping the sea floor along the strip where the deep-water ships anchor at Port Kembla, approximately three nautical miles off shore, to investigate the impact on the environment and marine life. Using swath mapping, underwater video and 3D imagery, the findings are then disseminated to coastal zone managers.



SEA LEVEL RISE

Professor Colin Woodroffe and his team's research on coastal vulnerability has been instrumental in establishing a national sediment compartment approach, enabling better forecasts of Australian coastline response to sea-level rise. It has been adopted nationally by stakeholders using the CoastAdapt tool, incorporated in NSW state legislation and used to undertake probabilistic shoreline risk assessments at local government level. The sediment compartment approach provides a framework on which to base state-wide mapping, monitoring and modelling programs along the NSW coastline.



On right: Late 2019 and early 2020 saw UOW Campuses and their communities experience terrible bushfire and flood. Our regional communities still need support to recover and we continue to work alongside those with lived experience to conduct research and advocate for better climate and disaster policy & planning.

DEMENTIA FRIENDLY COMMUNITIES

Coping with the increased prevalence of dementia demands a shift in both the social and the physical environments in which we live. The Dementia Friendly Kiama project is a partnership between UOW Global Challenges Program, the Kiama Municipal Council, the Kiama community and Dementia Australia. The project utilises a Community-based Participatory Action Research framework to inform the development, implementation and evaluation of a dementia-friendly community intervention. Initial research in Kiama included interviews and mapping exercises with people with dementia and their careers, community and business surveys, piloting a Dementia-friendly business toolkit and the development of an environmental assessment tool for use in the auditing of public buildings. The research also guided the Action Plan of a local Dementia Alliance and Dementia Advisory Group.



SOCIAL JUSTICE AT THE HEART OF PROMOTING HEALTH AND WELLBEING

The University's Health and Wellbeing Strategy has led to the University partnering with local communities to tackle high youth suicide rates, expand nursing training for our ageing population, train GPs and specialists in regional and remote communities, and establish a preventative, and allied health and research facility. The strategy is equipping the University and its researchers to confront some of the world's biggest health challenges with Molecular Horizons – UOW's largest ever self-funded research infrastructure investment. Professor Alison Jones is the Deputy Vice-Chancellor (Health and Communities) and Executive Dean of the Faculty of Science, Medicine and Health at the University of Wollongong. Beyond her work on the clinical frontline as a toxicologist and general physician, one of her key roles is to oversee the Health and Wellbeing Strategy, and she serves on a wide variety of expert advisory groups providing advice to State and Commonwealth government departments.



17 PARTNERSHIPS FOR THE GOALS



Strengthen the means of implementation and revitalise the global partnership for sustainable development

COMMITMENT TO THE GOALS

Professor Paul Wellings signed a university-wide commitment to meet and address the United Nation's Sustainable Development Goals on 25 September 2019. This marked the fourth anniversary of the 193 supporting member countries signing the Sustainable Development Goals. While UOW had already been working toward the SDGs through its research priorities and operations, the signing reaffirmed UOW's commitment to support, advocate for and continue to work toward this important global agenda.



GLOBAL CHALLENGES PROGRAM

UOW's Global Challenges Program is a strategic research initiative designed to harness the diverse expertise of researchers to address real-world problems. The program has supported over 130 research projects actively working toward the SDGs. The program is driven by our values of adventure, collegiality, inclusivity and support, and aims to cultivate research excellence while improving equality & diversity to support the next generation of research leaders. Global Challenges research teams address problems beyond the scope of a single discipline, in collaboration with industry, government and wider community. Over half of its research teams in 2020 are led by women and 41% are led by Early Career Researchers, supporting the next generation of research leaders.

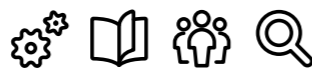


UNITED NATIONS SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK

UOW is a member of the United Nations Sustainable Development Solutions Network (SDSN), a global initiative to implement the UN's Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change through education, research, policy analysis, and global cooperation. Membership of the SDSN aligns with UOW's longstanding commitment to research that tackles the world's most pressing challenges, both locally and globally.

"When diverse organisations work together collaboratively with a common goal, we can tackle and overcome large and complex social, environmental and economic problems. The SDSN offers the opportunity to work with like-minded partners to create greater levels of innovation and deliver positive impact, locally, nationally and globally."

Professor Jennifer L. Martin AC FAA,
Deputy Vice-Chancellor (Research & Innovation)



ALLIANCES AND NETWORKS

The University Global Partnerships Network (UGPN) is a network of universities aiming to develop sustainable, world-class research, education and knowledge transfer through collaboration. UGPN sets out to create a foundation for international collaboration enabling academics and students from some of the world's top universities to work together on issues of global importance. UOW is hosting the next UGPN conference, focusing on the SDGs. University of Newcastle and University of NSW officially formed the NUW Alliance in July 2017. It was established as the vehicle for driving the three universities' ambitious agenda to do more to address global challenges that impact NSW.



INTEGRATING THE UN SDGS GLOBALLY

Dr Belinda Gibbons is building greater awareness of the SDGs in industry and business education. Dr Gibbons is the sole academic representative for Australia and New Zealand on the United Nations Principles of Responsible Management Education Advisory Committee. She represents business higher education institutions in Southern Asia and the Pacific, and collaborates with other country committee members to direct responsible management education internationally. The Advisory Committee's strategy for integrating the UN's principles for responsible and sustainable business practices has been rolled out in more than 650 business education institutions across 85 countries.



GLOBAL GOALS, LOCAL LEVEL

'Global Goals, Local Level', is a case study of cross-sectoral engagement involving multi-stakeholder partnerships. The project has presented SDG partnership framework findings at the CR3+ Conference for corporate responsibility, titled 'Using dialogue to build partnerships for sustainability'. Dr Belinda Gibbons also works closely with local councils and Healthy Cities Illawarra on mapping the SDGs to local council frameworks. Her current research involves the design and development of a mapping process that would enable the understanding of how effectively the SDGs targets and indicators could be mapped at a local level. Connecting participants from various sectors has provided a rich opportunity to learn, engage with the community, and align specific organisation's initiatives to the SDGs.



33%
of all UOW publications
addressed an SDG between
2009 and 2019

4400
organisations currently
collaborating with UOW
from community, university,
government and industry

NETWORKING AND ADVOCACY

- UOW ran the panel on Multi-Stakeholder Partnerships for Sustainability and organised the conference stream on 'Partnerships for Sustainable Development'
- Unpacking the Sustainable Development Goals', a forum held at the Novotel Wollongong in and convened by Healthy Cities Illawarra, La Trobe University and UOW.
- UOW academics have participated in 'We're all in this together: Pursuing the SDGs in Wollongong and Shellharbour' with Healthy Cities Illawarra
- UOW Centre for Critical Human Rights Research held a national workshop on the United Nations SDG in the Asia-Pacific Region.
- UOW in 2018 and 2019 partnered with the SDG Action Network to hold a #ACT4SDG event celebrating the 4th anniversary of the SDGs.
- Hosted 'National workshop on the United Nations SDG in the Asia-Pacific Region' hosted by UOW Centre for Critical Human Rights Research



SUSTAINABLE EDUCATION

UOW provides interdisciplinary subjects that are built upon the theoretical foundation of the UN Global Compact and map Principles for Responsible Management Education and SDG education research across disciplines. The United Nations Association of Australia Sustainable Development Goals Scholarship is available for undergraduates who are actively working on or promoting the UN SDGs. The SDG Subject Portfolio committee is ensuring that UOW has a portfolio of undergraduate subjects that will develop knowledge and skills relevant to the UN SDGs. The initiative will ensure subjects will develop interdisciplinary approaches where students are working on real world, project-based coursework.

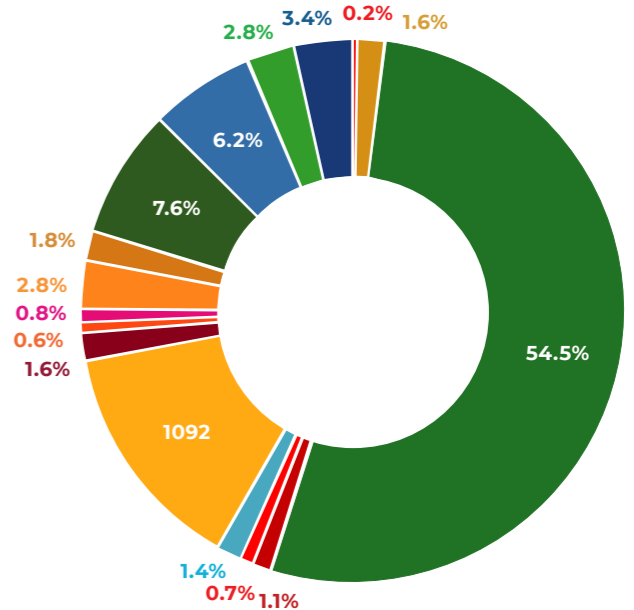


Figure: UOW published 8010 journal articles on the SDGs in the last decade (2009-2019). Colour = SDG 1-16

Cover image: Children from community in Vanuatu. ANCORS, together with Wan SmolBag, a theatre company in Vanuatu, have developed a theatre play and associated community workshops with themes around sustainable fishing and caring for the marine environment.

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CONTACT

uow.edu.au

facebook.com/UOW

twitter.com/UOW

instagram.com/UOW

+61 2 4221 3555

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