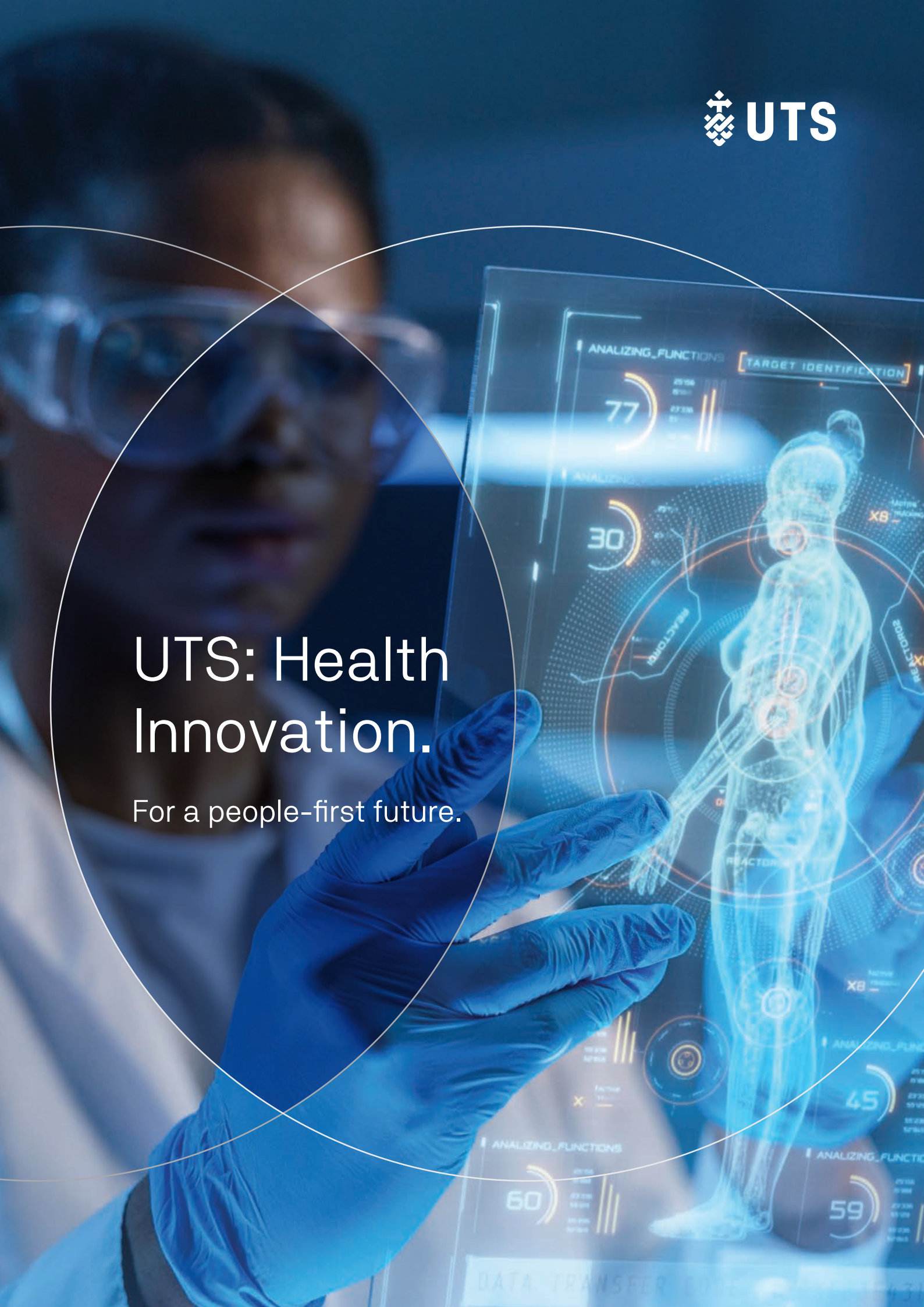


UTS: Health Innovation.

For a people-first future.





Acknowledgement of Country

UTS acknowledges the Gadigal people of the Eora Nation, the Boorooberongal people of the Dharug Nation, the Bidiagal people and the Gamaygal people, upon whose ancestral lands our university stands. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

The future of health care is a global concern. Now, more than ever, we need solutions that bring together innovative thinking from a range of different areas. We must embrace ideas that transcend traditional boundaries and disciplines. At UTS, this approach is at the heart of what we do, and we invite you to join us in leveraging our university-wide expertise to drive this vision forward.

Our vision is for a more equitable world, where social and health care systems, policies and service models are centered around people; where technology enhances the human experience rather than replacing it. The journey to educating, researching, designing and advocating for this future begins here, at UTS.

From patient care to the design of our future cities, we are committed to training the next generation of professionals to think creatively and holistically about health solutions. We are dedicated to addressing humanity's greatest health challenges and anticipating those yet to come. Our partnerships and networks benefit from our agility and forward-thinking approach, and these benefits extend to our communities both locally and globally.

This is your opportunity to be part of something significant. I look forward to working together to create a meaningful impact and start a larger conversation about the future of healthcare.

Professor Andrew Parfitt
Vice-Chancellor and President





People first. That's the future of health we imagine.

The world is constantly changing. And so are the health challenges we face. From deeply entrenched health inequities through to emerging diseases and the impacts of environmental change, the future requires imagination, innovation and a skilled workforce.

People come first. The global pandemic has taught us that the human experience of health systems and services is just as important as the innovations and treatments themselves. Our vision is a more equitable world, where social and health care systems, policies and service models are person-centred. Merging specialisations and collaborating to find the most impactful solutions allows us to do just that.

UTS is agile, responsive and innovative. We believe in educating for a future that is about people, and that couldn't be more important in health. While technology is central to our very ethos, we use it to enable the people who shape the future of health, not replace them.

UTS is at the forefront of game-changing health innovation across biomedical technology, public health, artificial intelligence, infectious diseases, engineering, population health behaviour, nursing, digital health, mental health research and ageing. We merge disciplines to better understand the intersection of health and the justice system and use our expertise in design to explore how our built environment impacts health.

Our institution-wide collaboration to produce the most effective and creative solutions is something we are enormously proud of.

We're developing and supporting the health workforce of the future, through practical, relevant, and translational research-inspired education. Our commitment to boundary-less care leverages the power of technology, enabling us to provide exceptional care anywhere, anytime – erasing the limits of geography and circumstance.

Our extensive clinical partnerships, including with local area health district teams, and our international alliances and research projects ensure our reach is both local and global, significantly amplifying the impact we can have. Our work in health justice, climate and health, and design of healthy spaces, lift the impact we can have beyond health care to global systems and progress.

Philanthropy and partnerships are critical to our mission. The community we build around us is as important as the work itself, and we hope you'll be part of it.

Our vision is to be a leading public university of technology recognised for our global impact.

UTS is a public university of technology. We are, and always will be, an inclusive university, committed to research, innovation and the dissemination of knowledge of public value. We will be defined by how we support our communities to thrive, economically, socially and culturally. And measured by the success of our partners, staff and students.

Our 2027 strategy focuses on five powerful initiatives that drive the University, and all its faculties:

Lifetime of Learning

As careers evolve and workforces reshape at a rapid pace, record numbers of people are seeking to skill and reskill. We're meeting this ever-changing environment with a lifetime of learning approach in how we deliver education.

Connected Research: enhancing our pathways to impact

Over the next three years, we're focusing on how UTS research translates in the real world for the greatest impact on the economy, environment and society. The direction and translation of our research is particularly important as we work with partners and the community to establish a 'new normal' in the COVID-19 era.

Our Distinctive Identity

We are focused on leveraging the unique qualities of UTS to add even more value for our stakeholders and communities, building on our proud history of excellence in research and education. Weaving through this is technology: how we create it and how we use it responsibly to better society.

Sustainable Partnerships

At UTS, we think that good relationships make the world go round. We see firsthand the advantages of mutually beneficial partnerships, from research collaborations to employment opportunities for graduates and global collaborations that better society.

Working Together

The global pandemic changed how we work and how we learn. This initiative is about how we support UTS staff to thrive in an environment characterised by increasing complexity and changing expectations.





The UTS Difference

UTS is a university for the real world.

#1 Young Uni
Ranked No.1 young
university in Australia



We know that the real world is constantly changing. That's why transforming to a lifetime learning model of education is at the heart of UTS's 2027 strategy.



It's why our evolving campus precinct is interconnected, borderless and beautifully diverse – just like the real world.



It's why we are driven to form partnerships and develop bold new ways of working, so that together we can create solutions to real-world problems.



RESEARCH FOR THE REAL WORLD

And it's the reason we are as passionate about entrepreneurship, research with impact and learning excellence as we are about social justice.

In health, we are committed to increasing **EQUITY | ACCESS | EQUALITY** through cutting-edge digital health advancements.



Patient experience is enhanced through innovative digital health solutions, aligning with our status as a progressive, tech-forward university. Our inclusiveness and fresh perspectives set us apart.

We are a public university for all, regardless of background and circumstance. We exist for the public good, and we are proud of it.

You can be too.

Delivering world-leading innovative solutions to transform well-being and health.

We collaborate across disciplines to change the world.

Complex problems require innovative solutions that blend disciplines and bring together experts from diverse fields. UTS stands at the forefront of health innovation, pioneering work in RNA vaccine technology that offers new hope in disease prevention. In biomedical engineering, our ground-breaking research into miniaturised hearts and organ replication is redefining the possibilities for regenerative medicine. And through our focus on health equity and justice, we're tackling critical issues like the impacts of intersecting disadvantages on health.

Transdisciplinary projects that provide the evidence to design 'breathing walls' of plants, use data to 3D visualise the movements of bacteria, and create a gender equity index for global women's rights – these are the game-changing innovations that revolutionise how the world works. Collaboratively, we can do so much more.

We're with you from conception to end of life.

A UTS-trained health professional is potentially the first person with you at birth, and the person who is with you as you take your last breath. Our disciplines span the full life course. This is why our commitment to creating graduates and investing in researchers who value human experience above all else, is core to what we do.

Through our education, training and research we prioritise the entirety of patient experience and care, addressing the needs of a diverse society, and nurturing a workforce equipped to tackle a global evolving landscape.

We ask the big questions in pursuit of health equity, access and service innovation.

How can we use technology and digital health to increase health equity and access?

How can we improve patient experience and care across the life course?

How do we collaborate across specialisations to pioneer the most effective solutions?

How do we balance academic rigour with a strong commitment to working with communities to improve lives?

How do we create healthy cities and spaces, supported by healthy and equitable health and social systems?

These are the questions we ask across the university through our commitment to public good.

Health in a New Home: improving the health of refugees across generations.

Health in a New Home will be the world's first study to examine multi-generational health and health service use in whole populations. This project will significantly advance knowledge in refugee health by leading the first national longitudinal population-based data linkage study and mixed methods research.

The long-term health and well-being of refugees, their families and subsequent generations is unknown in Australia and globally. We lack an evidence-based plan to address needs.

There is no engagement of refugees in decision-making in the design of health services, and there are significant knowledge gaps of refugee priority health issues, health service needs, and available resources. This hinders the health system to deliver culturally appropriate, cost-effective high-quality care.

UTS's cross disciplinary innovative research will deliver a ground-breaking analysis of refugee health status and service use over 20 years to project future needs. It will also provide an understanding of factors that have contributed to flourishing refugee communities and provide new evidence to plan appropriate cost-effective health services and programs. A roadmap will be designed with refugees to achieve health and evaluate outcomes. This innovative approach will empower refugees, placing them at the centre of their health decision-making and provide an exemplar for other nations.

3D-printed 'mini hearts' may hold COVID clues.

Australian researchers who have been working on 3D-printed 'mini hearts' to repair damage from cardiovascular disease are refocusing their efforts to help address the immediate threat of COVID-19 to patients with underlying heart disease.

A team at UTS led by bioengineer Dr Carmine Gentile has developed a new technology to generate personalised bioinks made of patient's own stem cell-derived heart cells as 'mini hearts'. These are then used to 3D-bioprint cardiac tissues to repair areas of dead tissue in patients with a failing heart.

The scientists now hope these mini hearts will help to understand why COVID-19 patients with heart disease have seven-fold higher mortality compared to other COVID-19 patients. This may provide a platform to test therapies for use in heart disease patients exposed to the potentially deadly coronavirus.



From local partnerships to global impact.

Collaboration is vital to our vision. We partner with the best across the broadest disciplines for maximum impact.

UTS champions an expansive allied health professional network, fostering interdisciplinary collaboration. Focusing on holistic, human experiences, we believe in going beyond surgeries to treat the whole person, drawing on whichever discipline or industry may have the solutions, not just health.

Both in Australia and internationally where our reach extends, we work together with various public health organisations to ensure that our courses are meeting their needs as employers, to further professional development and improve practice and to conduct clinically relevant research.

Our collaborative research efforts are amplified by joint clinical professorships integrating with esteemed institutions like Prince of Wales Hospital and Sydney Children's Hospital Network, and extending to the Centenary Institute, advancing research in aging and wellbeing. We also work with Central Coast Local Health District, Sydney South-West Area Health Service, Northern Sydney Local Health District, Royal Hospital for Women, The Children's Hospital at Westmead and South-Eastern Sydney and Illawarra Health Area Health Service.

Our WHO Collaborating Centre for Nursing, Midwifery and Health Development is the only one of its kind in Australia recognised by the World Health Organization as Secretariate for Global Network of 44 Collaborating Centres in Nursing and Midwifery for 2021-2024.

Globally, our partnerships with illustrious universities like Johns Hopkins University and King's College London, partners through the World Universities Network and UTS Key Technology Partnerships in Greater China, India, Europe and the Americas, propel our international presence. Our WHO Collaborating Centre for Nursing, Midwifery and Health Development works across 37 countries within the Western Pacific region. Our commitment to health equity is exemplified in our HDR projects across Africa, the Middle East, Asia, Europe, Latin and North America, and Oceania, all dedicated to improving global health in alignment with the Sustainable Development Goals, prioritising First Peoples.



We are designing a future beyond your imagination.

The future we are facing requires solutions that surpass our wildest dreams. At UTS, that ideation begins in the classroom and extends to our various centres and institutes, where ideas are explored until they can become reality.

A snapshot of some of our health innovation focused collaborative centres and institutes:

The Australian Artificial Intelligence Institute (AAIL)

The AAIL is a world leading research institute in artificial intelligence, with a vision to develop theoretical foundations and advanced algorithms for AI, and to drive significant progress in related areas like computational intelligence, business intelligence, computer vision, data science, machine learning, brain computer interface, bioinspired neural networks and information systems.

Centre for Health Technologies

The Centre for Health Technologies is an international leader in the development of medical devices, translational biotherapeutics and transcriptome research. We are committed to the development and commercialisation of new biomedical devices and advanced biotechnology applications for early detection, diagnosis, treatment and rehabilitation of lifestyle diseases such as cardiovascular disease, diabetes mellitus, neurological disorders and cancer.

The expanding global reputation of the CHT has positioned us at the forefront of a new generation of research innovation. CHT's interdisciplinary expertise is unique in Australia. Our team produces solutions-focused research that delivers real and lasting change to the health of the Australian community. As a preferred partner for industry we apply the depth of CHT science and engineering expertise to a vast range of challenges facing today's health care sector.

The National Facility for Human-Robot Interaction Research

This cutting-edge facility improves the way people and technology work together. When it comes to understanding the subtle and unique ways in which people and robots interact, there is more than engineering and robotics: there is psychology and interactive media arts. The National Facility for Human-Robot Interaction (HRI) Research is equipped with more than 200 hidden sensors that stream and record the minutest of movements and sounds, making it possible to study the way people use, behave, and react to technology (not to mention how robots learn) in striking detail. These insights would make it possible to improve the lives of people with disability who rely on robotic technology. It is the only facility in the world capable of delivering such highly detailed information.



INSIGHT: A convening space for transformation.

INSIGHT is a unique pan-university institute focused on driving positive systemic change to address complex and entrenched health challenges, through a whole of life course approach to health.

The Research Institute for Innovative Solutions for Well-being and Health (INSIGHT) will transform health outcomes in our community by improving clinical care and health, driving responsive health policy, informing sustainable models of health care and health systems, and building the health care and health research workforce of the future.

INSIGHT will build on the excellent existing research capacity across UTS and link it across different research areas, to bring together a whole-of-life course approach to health – from understanding how to provide the best start to life from before birth to the best end in terms of healthy ageing as well as better outcomes for those burdened with chronic diseases and managing palliative journeys.

Formally launched at the end of June 2023, it brings together a vast array of experts including from the Centre for Health Economics Research and Evaluation (CHERE) and the Centre for Improving Palliative, Aged and Chronic Care through Clinical Research and Translation (IMPACCT); to address ageing research, climate change and health, digital and virtual health and women's and children's health; while utilising biostatistics, epidemiology and data science and clinical trials.

We will be bold in our reimagining of how we can improve the future delivery of health and health-related services in our rapidly changing digital and physical environments and how person-centred care can be sustained in the face of future uncertainty and unknown future shocks.

Pioneering impact with innovation

Our visionary work across the health landscape is having a significant impact. These are some of our most recent success stories.

World-leading research to demystify chronic pain in children.

UTS'S 'DR KARL' OF PAEDIATRIC PAIN MANAGEMENT IS BRIDGING THE GAP BETWEEN HEALTH AND EDUCATION TO IMPROVE UNDERSTANDING OF KIDS' PAIN EXPERIENCES.

Dr. Joshua Pate's ground-breaking research at UTS has made exceptional strides in demystifying chronic pain in children, setting a new standard in paediatric pain management. His innovative approach, blending health education with school-based interventions, has notably improved understanding and reports of empathy towards children suffering from chronic pain. By educating teachers, parents, and healthcare professionals on the neuroscience of pain, Dr. Pate's work aims to significantly reduce stigma and it has transformed pain management practices. He is now a world authority on this new and specialised area of pain research. In 2021, he was involved in a review team for the WHO Guideline for Chronic Pain in Children, and in December 2023 he was a part of the launch of PICH Down-Under, an Australian-based consortium based on Canada's Pain in Child Health (PICH) research training program. This pioneering research not only highlights the nuanced nature of paediatric pain but also underscores UTS Health's commitment to impactful, multidisciplinary approaches in health and education, establishing us as leaders in paediatric healthcare innovation..

Driving a diet revolution to tackle carbon emissions.

A RESEARCH PARTNERSHIP BETWEEN THE UTS CLIMATE CHANGE CLUSTER AND V2FOOD IS EXPLORING WAYS THAT ALGAE CAN TRANSFORM THE WAY WE EAT - AND PROVIDE SOLUTIONS TO THE CLIMATE CRISIS.

Microalgae have long been known as carbon capturing superheroes – these photosynthetic organisms are 40 times more efficient than trees at removing carbon from the earth's atmosphere. But as the global plant-based food movement has continued to gain traction, algae have also been identified as a super ingredient of the future. One that's not only kind to the planet but also to our bodies.

This concept is driving a novel research partnership between the UTS Climate Change Cluster (C3), a leading research centre working on next-generation climate solutions, and v2food, one of the most recognisable companies in the plant-based meat alternatives space. The partnership draws together C3's considerable expertise in algae biotechnology with v2food's passion for transforming the way we eat.

It was selected by CSIRO as one of 10 Australian deep-tech game changers to have its commercialisation accelerated through the ON Accelerate program in 2023.





“This work is world-leading and one day could lead to new international standards and recommendations for survivorship management. Once we are able to prove the clinical effectiveness on cancer specific outcomes like disease progression and overall survival, it will become standard of care.”

ASSOCIATE PROFESSOR NICOLAS HART, UTS

World first findings: exercise as medicine to defeat cancer.

ASSOCIATE PROFESSOR NICOLAS HART'S WORLD-FIRST FINDINGS SUGGEST THAT EXERCISE CAN SLOW THE GROWTH OF TUMOURS, CHANGE CANCER BIOLOGY, AND PROLONG SURVIVAL.


Associate Professor Nicolas Hart's revolutionary research at UTS has transformed the landscape of cancer treatment, proving that exercise is not only safe for patients with bone metastases but also beneficial in slowing tumour growth and enhancing survival rates.

His pioneering work, providing the first clinical evidence that exercise directly influences tumour biology, has led to its inclusion in international clinical guidelines and the development of a global cancer rehabilitation package by the World Health Organization. Funded by prestigious fellowships, Associate Professor Hart's studies extend across various cancer types, showing a consistent pattern of exercise suppressing tumour growth and improving quality of life. His research underscores the potential of exercise as a complementary cancer therapy, paving the way for new standards in cancer care and survivorship management.

Improving health outcomes for First Nations women and their families.

UTS RESEARCHERS ARE WORKING WITH THE COMMUNITY TO UNCOVER IMPORTANT INSIGHTS INTO VACCINE HESITANCY IN ABORIGINAL WOMEN.

Led by Associate Professor Anne-Marie Eades, a Noongar woman and seasoned researcher, our project at UTS has made significant strides in addressing vaccine hesitancy among Aboriginal women in Western Australia. By focusing on education and engagement, we've worked towards bridging the health disparity gap, particularly in COVID-19 vaccine uptake. Our efforts have not only increased vaccine confidence among Aboriginal women but also laid a foundation for healthier futures for First Nations families, demonstrating UTS's commitment to impactful, community-centred health initiatives.



Our Strategic Initiatives. Your Opportunities for Impact.

Our strategic initiatives reflect the future we want to create. Within each initiative, we have a range of projects seeking partnership, investment and support – these could be your opportunity to make a significant impact for the next generations.

But this is only the beginning – we are working across the life course on hundreds of game-changing projects to fulfil our vision.

Health and the environment

We are committed to addressing the impacts of both natural and built environments on health, designing for optimum outcomes and ensuring communities are best placed to mitigate the risks of environmental change as they develop.

Neurotoxin Monitoring Initiative: Safeguarding Rural Health

With the aim of understanding whether increased exposure to environmental toxins increases the risk of Motor Neurone Disease in rural communities, this initiative seeks to expand neurotoxin monitoring in inland waters, with a focus on rural communities like Griffith, NSW. Utilising a novel bioindicator model developed by UTS researchers, the project will assess the presence of blue-green algal toxins, heavy metals, and pesticides, and identify how we can mitigate the risks to both communities and the environment posed by these neurotoxins.

Prevent the Next Global Pandemic: Precision Virus Detection

This research project aims to develop an innovative rapid antigen test capable of distinguishing viruses at the variant level. If successful, this new antigen test will significantly enhance pandemic preparedness and response, enabling faster, more accurate public health interventions, supporting next generation of infectious disease control.

Patient care across the life-course

Our commitment to life-course patient care means growing with individuals from birth through to death, uniting cutting-edge research and community-focused initiatives to ensure every stage of life is supported by empathetic, informed healthcare practices.

Innovative Treatment for Early Childhood Stuttering

We're developing a ground-breaking treatment focusing on cognitive suitability and early intervention for early childhood stuttering that can be initiated at the onset, offering a proactive approach to speech therapy. The project aims to take this ground-breaking approach global, creating a cost-free treatment website for childhood stuttering, making effective therapy accessible to every child and family in need worldwide.

Breathlessness Intervention: A New Airflow Device to Ease Chronic Symptoms

This innovative and cross sector collaboration aims to prototype the optimal airflow device (similar to a handheld fan) design to provide relief for chronic breathlessness. Bringing together medical researchers, material designers and innovation experts, it will create an affordable handheld fan that would allow people with chronic breathlessness to be more independent and have improved quality of life.

Enhancing Medication Management for Dementia Care

We're crafting a toolkit for clinicians and carers to improve medication management for those with dementia, promoting informed decisions and better health outcomes. This toolkit will enable clinicians and carers to navigate complex treatment plans, making informed decisions that improve health outcomes and quality of life for those affected by dementia.

Revolutionising diagnosis and treatment

We embrace artificial intelligence and technologies to deliver holistic, patient-centred healthcare. By integrating the latest in biomedical technologies with our deep understanding of health ecosystems, we ensure that the power of technology complements the human touch, keeping the person at the centre of the health journey.

Osteoarthritis Therapy Evolution: Stem Cell Bio-products

This project represents a first-of-its-kind approach to osteoarthritis treatment, using stem cells to create a custom bio-product for disease-targeting effects. The customised stem cell bio-products resulting from this project will bring us closer to the first cure for osteoarthritis, with potential to introduce a pioneering therapy in the next five years to help 1 in 8 Australians and reduce the \$3 billion in annual costs to our nation.

Lung Cancer EV Innovation: Diagnosis and Treatment

Lung cancer is the leading cause of cancer-related deaths worldwide, with 1 in 16 males and 1 in 17 females predicted to develop lung cancer in their lifetime. Critically, over half of all patients die within one year of diagnosis. This project aims to enable the creation of cutting-edge technology for early detection and novel treatment delivery in lung cancer. By understanding the cellular components of lung cancer and engineering them to deliver targeted therapies, this project stands at the forefront of a major breakthrough in cancer care.

Empowering Chronic Pain Management with Our Recovery Online Community

Imagine a world where chronic pain management is in the hands of those who live with it. This project is building an empowering online ecosystem for chronic pain sufferers. The web-based platform offers peer support, interactive modules, and access to resources, enabling a community-driven, self-managed approach to chronic pain.

Cardiac Care Revolution: Personalised 3D Bio printed Heart Patches

Every ten minutes an Australian has a heart attack. A quarter of these patients will not receive proper treatment in a timely manner and develop heart failure due to irreversible damage to their heart. For patients with end-stage heart failure, the gold standard treatment is a heart transplant. In Australia, around 100 hearts are transplanted every year, whereas approximately 13,000 patients develop heart failure per year. The technology of 3D bio printed stem cell cardiac patches could overcome the shortage of transplantable hearts and the risk of rejection, as well as reducing long recovery times, saving thousands of lives.



Innovation for all: equity and access in health

Our innovations aim to dismantle barriers and inequities, ensuring that regardless of geography or situation, the most optimum diagnosis, care and quality of life is available to all.

Alzheimer's Vaccine Development: Bioengineering Breakthroughs

This pioneering research aims to bioengineer a vaccine to prevent the onset of Alzheimer's Disease. The development of this vaccine has the potential to offer a safe, affordable, and accessible treatment to reduce the number of people affected by Alzheimer's across the globe.

Preeclampsia Diagnostic Advancement: Point of Care Platform

Preeclampsia is a leading cause of maternal and foetal death and morbidity in pregnancy, with no current cure in sight and limited monitoring strategies. We are developing a state-of-the-art diagnostic tool for early and reliable detection of preeclampsia, aimed at significantly reducing maternal and foetal mortality, especially in remote areas. The proposed technology can provide results in 15 minutes with high sensitivity, promising a revolution in antenatal care globally.

Birthing on Country: Honouring Indigenous Midwifery Practices

We're enriching midwifery education with our 'Birthing on Country' program, intertwining cultural traditions with clinical practice for Indigenous students, nurturing a new generation of culturally aware healthcare professionals while ensuring culturally safe healthcare practice.

Older, Isolated, and Legally Unrepresented: Legal Needs Research

This project will investigate the legal needs and risks for older Australians who experience social isolation. Laws, policies and practices are often premised on assumptions that older people have trusted family members or friends to act as legal decision-makers in health, financial and personal matters. This project will undertake pioneering research to uncover how many older Australians are legally unrepresented and to understand the impacts of this form of isolation on their legal, health and wellbeing outcomes.

These are just a few examples of the potent and powerful work being done collaboratively across UTS to transform the future of health. Share your vision with us today.



With Your Support

Our vision at UTS is to be a world-leading university of technology and we are committed to generating opportunities that ensure this knowledge and learning extends throughout the community, both locally and internationally.

When you partner with UTS, you empower possibility. Philanthropic support plays a critical role in bringing vital solutions to life, solutions that impact all of us. From birth to death, and everything in between, health professionals are a constant, likely to be part of some of the biggest moments in your life.

This is the beginning of a conversation that can change lives and revolutionise the health and social systems that support you and your family, for generations to come.

If you'd like to learn more about how you can make a difference with UTS, please get in touch.

Jo Degney-Hartley
Campaign Director
UTS Advancement
jo.degney@uts.edu.au
Ph: +61 0401 020 015





University of Technology Sydney
PO Box 123
Broadway NSW 2007