
Faculty of Science
UTS
Climate Change Cluster
c3.uts.edu.au

Our vision

is to be globally renowned for transforming society through scientific discovery by delivering meaningful innovations to Australia's bioeconomy.

The world is facing unprecedented change. Global challenges, such climate change and urban growth, affect human health and require both collaborative and sustainable solutions.

At the UTS Climate Change Cluster (C3), we provide a deeper understanding of the world's aquatic plant and microbe ecosystems that are critical to the wellbeing of the global communities that rely on them, producing new insights which address the challenges of human and ecological interactions with climate.

Our dynamic and vibrant culture creates meaningful and high-impact research that transforms society through scientific discovery and innovation.

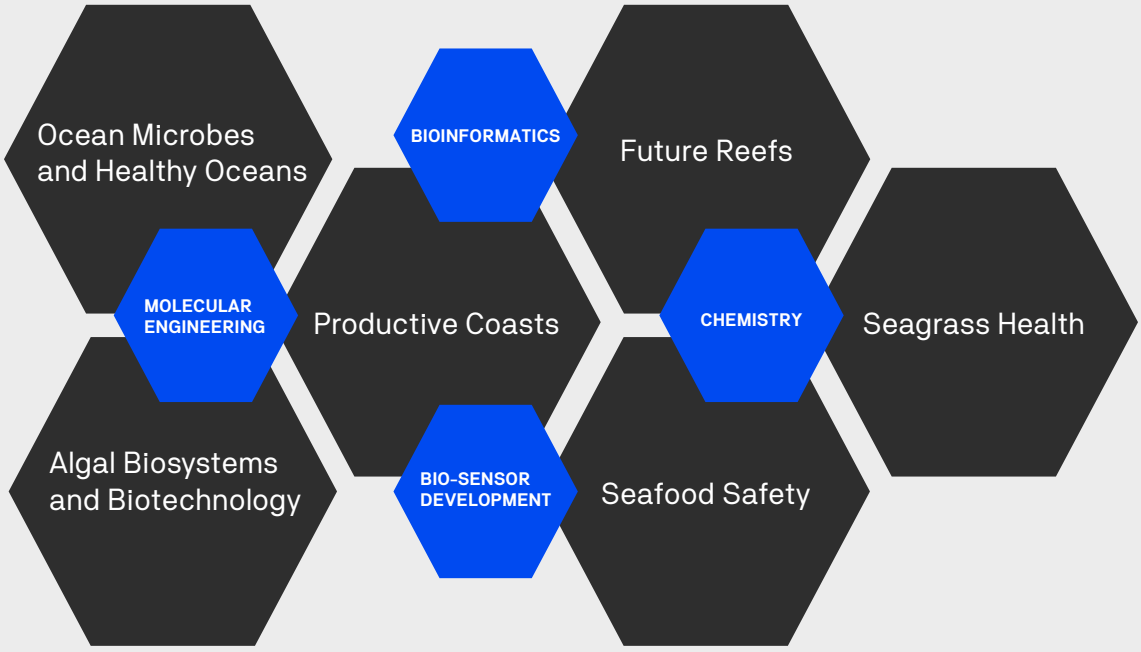
OUR APPROACH

C3 operates within a UTS-wide culture of research excellence and are driven by a readiness to work collegially and collaboratively with others nationally and internationally, ensuring our outputs have global reach and impact.

By transforming traditional thinking and approaches, C3 aims to address some of the biggest environmental and societal issues the world faces in a changing climate, including food and energy security, sustainability and ecological resilience, and global health.

C3 Research Programs benefit from the technical expertise of our integrators. By bringing together in-house experts from different fields, including chemists, physicists, mathematicians and engineers, we tackle issues from all fronts, ensuring our research outputs are informed by a holistic approach.

Research program



Case studies

FACILITATING ENTREPRENEURSHIP AND SME ENGAGEMENT

C3 actively brings researchers, industry partners and entrepreneurs together, in its work to deliver products and services which support Australia's growing bioeconomy.

The New South Wales Deep Green Biotech Hub, supported by the NSW Department of Industry and located at the University of Technology Sydney, brings together researchers, SMEs, industry, start-ups, students and other stakeholders to drive NSW to the forefront of algae-based biotechnology innovation in Australia while championing sustainable practices. Drawing on the strength of the Climate Change Cluster (C3), the DGBH provides programs to support entrepreneurs to launch new businesses, existing companies to adopt algae biotechnologies and enables students to learn about how these biotechnologies can transform industries.

BUILDING SUSTAINABILITY AND PROFITABILITY IN THE NSW OYSTER INDUSTRY

The C3 Seafood Safety research program, led by Associate Professor Shauna Murray, is overseeing a project deploying real time salinity sensors to collect detailed data on salinity and temperature in each estuary of NSW. This is then correlated by researchers with data on microbial communities, phytoplankton and biotoxins from subsequent shellfish meat and water testing.

Models based on this data will be developed to improve the precision of the NSW Food Authority's harvest management plans, reducing the number of closure events and potentially increasing industry revenue by an anticipated $3.03 million per annum across all NSW oyster farms.

ADVANCING ALGAL BIOTECHNOLOGY

C3 and GE Healthcare (GEHC) have been working together for over five years to develop biopharmaceutical applications in algae. After examining trends in the clinical manufacturing sector and the needs associated with algal bioproduct research, C3 chose to work with GEHC because of its range of single-use Goods Manufacturing Practice (GMP) compliant bioprocessing equipment.

As part of this ongoing collaboration, C3 and GEHC share an ARC Linkage grant that aims to deliver a scalable photo-bioreactor for the large scale production of microalgae. We're also working with GEHC to establish a GMP Lite Laboratory at UTS.

This facility will boost C3's research into the use of algal biotechnologies, and will also become Australia's first GMP training facility, providing students with real-life experience in production processes.

UTS Deep Green Biotech Hub

NSW Government Department of Industry

PARTNER WITH US

At C3, our future focus ensures we're continually striving to use our research capability to meet the needs of society, business, governments and industry. We build mutually beneficial relationships to produce real results with quantifiable impact.

We can work with you on short-term projects to solve specific problems or on a long-term basis to develop programs that meet a broader corporate social responsibility objective.

WORK WITH US

Visit us at **c3.uts.edu.au** for PhD and Honours projects and available employment opportunities.

Postgraduate Research

At UTS Science, research is part of our culture. As a research student, you'll be an integral part of a team working at the frontiers of human knowledge.

Our close collaborations with industry and government research organisations means you'll be in high demand from future employers.

How to apply

To find out more about the application process visit **uts.edu.au/research-applications or email: grs@uts.edu.au**

International students should head to **uts.edu.au/international** for further details relevant to you.

Scholarships

UTS offers a range of competitive research scholarships and funding schemes for both domestic and international applicants.

More information at **uts.edu.au/research-and-teaching/research-degrees**

UTS Science Research Strengths and Centres

The Climate Change Cluster
c3.uts.edu.au

ithree institute
ithreeinstitute.uts.edu.au

Institute for Biomedical Materials and Devices
ibmd.uts.edu.au

Centre for Forensic Science
forensics.uts.edu.au

Centre for Clean Energy Technology
cleanenergy.uts.edu.au

Centre for Neuroscience and Regenerative Medicine
science.uts.edu.au

Centre for Health Technologies
cht.uts.edu.au

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