Lighting the way forward

The QUT Centre for Materials Science provides an intellectually stimulating, collaborative environment for curiosity-driven materials research and innovation, underpinning QUT's real-world aspirations and position as a world-leader in the field.

Co-directed by Australian Laureate Fellow Professor Dmitri Golberg and Professor Kathryn Fairfull-Smith, the Centre will focus on four themes:

- Chemistry-oriented fundamental research (soft matter)
- Physics-oriented fundamental research (condensed matter)
- Theory-oriented materials research
- State-of-the-art characterisation/analysis of materials.

Through this alignment, the Centre will fuse cross-disciplinary fundamental research expertise within QUT, enabling an efficient research space for novel material discoveries.

To learn more about QUT's research in materials science, qut.edu.au/research/materials-science

QUT the university for the real world

Centre for Materials Science

Curiosity-driven research

qut.edu.au/research/materials-science

Advanced functional materials are the cornerstone of modern society, impacting every aspect of our lives. At the foundation of every material innovation lies a fundamental research effort pioneering concepts for real-world solutions.

The Centre for Materials Science is QUT's fundamental scientific engine room for materials innovation, providing materials-based solutions to real-world applications.

Our researchers invent, design and optimise diverse new materials, including nanomaterials, polymers and metals, to develop advanced materials with tailored properties and functions towards a specific real-world application.

Key research platforms

- molecular barcoding for plastics product stewardship
- reducing carbon dioxide in the atmosphere
- alternative energy sources
- longer lasting batteries
- high efficiency solar cells

Our fundamental research

Innovation in materials design. Fusing our research strengths in soft-matter materials and hard-condensed matter, we design and develop advanced next-generation materials tailor-made to a specific function.

Matter-made-to-order. We use state-of-the-art computational platforms to direct synthetic themes via electronic structure engineering and machine learning approaches.

Understanding materials through advanced analytics. Combining cutting-edge instrumentation and world-class technical expertise, we develop and deploy advanced technologies to understand the properties of materials at a molecular level.

We are achieving this by:

- delivering purpose-built facilities with state-of-the-art instrumentation
- discovering and developing new advanced materials and implementing them into modern existing and emerging technologies
- transferring new materials-based knowledge to the real-world; balancing economic advancement with the resolution of social problems
- creating local, national and international networks of world-class materials science expertise
- uncovering novel material discoveries in collaboration with our external partners
- promoting QUT and Australia as local and global leaders in materials science.

Our partner engagement

We are a trusted research partner

We partner with organisations on leading-edge, high-impact research and consulting projects.

A hub for materials science network

We have established Materials.Science@QUT, a network of expertise across QUT.

Contact

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