

2025 AGM Panel Discussion: *Reflections on University Science – Past, Present and Future*

As part of the 30th anniversary celebrations of the Australian Council of Deans of Science (ACDS), a panel discussion was held ahead of the formal 2025 AGM on 28 May. Chaired by ACDS President Professor Melissa Brown, the panel brought together three senior university leaders to reflect on the past, present, and future of university science in Australia. The discussion examined key challenges facing the sector, the evolving role of science, and opportunities for reform and leadership.

The following sections summarise the insights shared by each panellist in response to questions from Professor Brown.

Professor Emma Johnston AO

Professor Johnston, a marine ecologist and Vice-Chancellor of the University of Melbourne, has held senior roles including Dean of Science at UNSW, Deputy Vice-Chancellor (Research) at the University of Sydney, and President of Science & Technology Australia. Asked about the key issues facing Australian universities and science, she highlighted:

Science as a solution to major challenges

Climate change, biodiversity loss, energy transition, productivity decline, ageing, and health system pressures are all areas where science is essential. University research and training provide critical capabilities across sectors.

Opportunities for reform and sustainable funding

Several opportunities for reform are emerging, including through the current Strategic Examination of the R&D System (SERD), the Job Ready Graduates (JRG) package and new negotiations with the Australian Tertiary Education Commission and Department of Education offer pathways to improved financial sustainability. Predictable revenue streams are important elements of sustainability.

STEM pipeline

Scientific and digital literacy are in decline, with schools struggling to prepare students for STEM pathways. Strengthening the pipeline is vital to national capability, workforce needs, and broader education reform.

Trust in universities

Institutional trust has fallen due to issues such as underpayment of staff, student dissatisfaction, and perceptions of 'corporatisation'. Strengthening trust is foundational for grassroots engagement and rebuilding confidence. Interestingly, social trust between individuals remains high. Can we use this?

Emeritus Professor Aidan Byrne – Former Provost, University of Queensland

Professor Byrne held senior leadership roles as Dean of Science at ANU, CEO of the Australian Research Council, and Provost at the University of Queensland (2016–2024). Reflecting on the role of university science leaders and the ACDS, he observed:

Erosion of government trust in universities

Government trust in universities is also declining — with concerns around issues of integrity, the impact of university research, and the alignment of university activities with national priorities. They have also conflated the increase in international students with national challenges with housing shortages and other multifactorial and international challenges. This distrust is bipartisan and growing.

Geopolitics and pressure on science investment

A volatile international environment is shaping Australia's operating context. Geopolitical uncertainty is impacting domestic science policy, underscoring the need for a coherent national research strategy.

Defence and health spending are set to rise significantly, reducing investment opportunities in science and research. Meanwhile, the Job Ready Graduates system underfunds the real costs of science education.

The value of a unified voice

Advocacy for science is far more effective when university science speaks with a united voice. The ACDS plays a pivotal role in providing a credible, collective voice to government—essential for shaping policy and securing support for science.

Professor Liz Johnson – Deakin Distinguished Professor; Founding Director, ACDS Teaching & Learning Centre

Distinguished Professor Liz Johnson has led major teaching and curriculum reforms at Deakin and La Trobe universities and was the founding Director of the ACDS Teaching & Learning Centre. Asked to reflect on teaching and learning in university science, the role of the ACDS, and their future, she highlighted:

The role of universities

The strength of universities is their integration of research and teaching. Science education is enriched by research, and research is strengthened through its connection to learning.

STEM graduates and improving trust

Around 50,000 STEM graduates entered the workforce in 2023, contributing across a wide range of occupations that help to grow Australia's economy. These graduates are also the sector's strongest advocates—showing through their own careers the value of university science to peers, employers, and the broader community.

To sustain their impact and build trust, teaching and learning must evolve to meet the changing needs of students, industry, and society.

As students become more focused on the personal cost of study, universities must demonstrate the practical, professional, and societal value of a science degree. Articulating this clearly is essential to maintaining trust and public confidence in the sector.

ACDS leadership in T&L, and science skills in the age of AI

Professor Johnson described the development of the Threshold Learning Outcomes (TLOs) for science, led by ACDS (Brian Yates and Sue Jones), as a seminal moment in university science education. She emphasised the ACDS's pivotal role—in supporting the project, and in actively driving its dissemination and helping universities embed the outcomes into curriculum design and classroom practice.

She praised the ACDS Teaching & Learning Centre as a national leader with lasting impact, highlighting its sector-shaping contributions, including the TLOs and the more recent Indigenous Science Curriculum Framework.

The enduring relevance of the TLOs was underlined, noting that their core principles—coherent understanding of science, depth and breadth of knowledge, critical thinking, problem-solving, communication, and accountability—remain vital in an AI-enabled world. While AI is transforming how students learn, it reinforces rather than replaces these foundational skills, adding a new imperative: judgement—the ability to evaluate both one's own work and that generated by AI.

Summary

In summary, the panellists underscored science's role in addressing national and global challenges, while calling for sector-wide reform and renewed public trust. A clear theme across all speakers was the need for collective action—supporting one another, speaking with a unified voice, collaboration over competition and the importance of presenting a clear, cohesive case for the value of university science.