



VIEW FROM THE CHAIR

JUNE 2026

It is both an honour and a privilege to take on the role of National Chair of the Australian Geomechanics Society (AGS). I would like to acknowledge the significant contribution of my predecessor, Tim Thompson, and the Board, whose leadership has positioned the AGS strongly at a time of both opportunity and change.

The past two years have marked a significant transition for the AGS. The move to a company limited by guarantee has established a modern governance framework and strengthened our organisational foundations. Importantly, this transition is not merely administrative; it enables AGS to operate with greater clarity, accountability, and long-term sustainability.

This strengthened foundation comes at an important time for our profession. The broader environment in which geotechnical engineering operates is evolving rapidly. Across Australia, we are seeing the impacts of climate variability emerge more directly in our work through more intense rainfall events, prolonged dry periods, and increasingly complex ground responses. These are no longer abstract risks. They are influencing how we design for long-term performance.

Recent infrastructure projects continue to remind us that, despite advances in investigation and analysis, subsurface uncertainty remains one of the most significant risks facing our profession. The “unknowns” in the ground are still very real, and they continue to test both our assumptions and our designs. At the same time, expectations surrounding net-zero infrastructure are pushing the profession to think differently about material use, ground improvement, and efficiency, not only in terms of cost and performance, but also carbon outcomes.

Alongside these environmental pressures, recent global disruptions, particularly those relating to energy supply and fuel security, have further highlighted how dependent we are on factors extending well beyond the site boundary. For our profession, the lesson extends beyond energy alone; it is fundamentally about resilience and uncertainty. The conditions we design for, whether in the ground or within broader systems, are not fixed. Perhaps most importantly, recent global events have reinforced that uncertainty is not an occasional challenge, but a constant condition. They have also reminded us of a simple but important lesson: we must become better at recognising early warning signs before they develop into major failures.

In geotechnical engineering, this principle is particularly relevant. Whether dealing with slope instability, foundation performance, excavation movements, or embankment behaviour, failures are often preceded by subtle indicators. The challenge is not only collecting data but developing systems capable of converting data into timely decisions. This requires better baseline information, targeted instrumentation, regular monitoring and data collection, clear trigger levels, and, critically, the discipline to act when early signs emerge.

It is against this backdrop that the Australian Geomechanics Society is progressing development of the **2026–2030 Strategic Plan**, a major milestone for AGS. The strategy is being co-designed with input from the Board, Chapters, and previous national chairs, and will help define our purpose, priorities, and measures of success over the coming years. At its core, the strategy reinforces a simple but powerful objective:

To connect, empower, promote, and represent a thriving Australian geomechanics community.

While this objective may sound straightforward, it is intentionally focused. As a learned society, we cannot do everything. Our responsibility is to concentrate effort where AGS can provide the greatest value, whether through technical leadership, knowledge sharing, advocacy, or supporting the next generation of engineers.

The emerging strategic framework is structured around three key pillars: **LEAD, DELIVER, and GROW**. Early priorities include strengthening member value and engagement, advancing technical leadership and knowledge sharing, increasing advocacy and industry influence, and supporting sustainable organisational capability. Importantly, the strategy reinforces that AGS must remain **member-centred, focused, and purposeful**. Ultimately, however, the success of the strategy will depend on people, our volunteers, Board members, and contributors across all Chapters.

A key enabler of this strategy is the AGS’s ongoing digital transformation. Work is currently underway to develop an **AGS App** that will enhance how members engage with events, conferences, and technical content. This initiative is being aligned with broader improvements to our website and digital systems to create a more integrated and accessible member experience.

In parallel, discussions are progressing on a nationalisation of the Queensland Geotechnical Database, an initiative with the potential to improve how geotechnical data is shared and utilised across the industry. While still evolving, the long-term vision is for AGS to play an active role in supporting this national resource in collaboration with government partners.

Together, these initiatives represent an important shift for the AGS from being primarily a knowledge-sharing forum to becoming an enabler of data-driven practice and digital collaboration.

This evolution is particularly important given the rapid integration of artificial intelligence and data-driven methods into geotechnical

practice. Advances in digital monitoring, remote sensing, and machine learning are enabling engineers to move from periodic assessment toward continuous, real-time understanding of ground behaviour. Today, AI and real-time data are revolutionising the way we interpret information, anticipate outcomes, and make decisions. For example, a new AI-powered landslide warning system developed in Hong Kong is expected to deliver real-time predictions of slope failure with accuracy exceeding 90%, using millions of historical data points and continuously learning from new information. Similarly, Auckland Transport has employed AI to map landslide risks across its road network through a GIS-based system analysing more than 30 contributing factors, including data from previous storm events.

These technologies are not replacing engineering judgement; rather, they are enhancing it. They allow us to better quantify uncertainty, detect early warning signs, and make more informed decisions across the lifecycle of infrastructure. Put simply, the greater the uncertainty, the greater the value delivered by data, monitoring, and intelligent analysis.

In many respects, the direction for our profession is clear. As engineering challenges become more complex and less predictable, the value of geotechnical expertise only increases. The role of AGS is not simply to respond to these changes, but to help lead how the profession adapts.

As the challenges facing our profession become increasingly complex and interconnected, collaboration remains central to the role of AGS. Addressing these emerging challenges will require not only technical innovation, but also stronger collaboration across industry, academia, and international partners. A strong example is our ongoing partnership with the New Zealand Geotechnical Society (NZGS) in updating the AGS (2007) Guidelines for Landslide Risk Management. This collaboration includes a formal memorandum of understanding and shared technical contributions across both countries. AGS is proud to support this effort as a project partner, helping to bring the updated guidelines to completion while ensuring its relevance and accessibility for practitioners in Australia. The AGS has also recently confirmed partial financial support for a series of NZGS Slope Stability Design Manuals in development. Importantly, these initiatives reinforce the value of regional and international collaboration. The challenges we face are rarely unique to one country, and there is significant benefit in working together to develop practical, evidence-based guidance. This is precisely where AGS can add meaningful value, not by duplicating effort, but by partnering with others to deliver high-quality outcomes for the profession.

Looking ahead, the AGS has a strong pipeline of initiatives, including continued development of technical guidelines and publications, expansion of education and training programs across regions, ongoing digital transformation initiatives, support for major international conferences and events, and increased focus on outreach, diversity, and inclusion. At the same time, we must remain focused on our core purpose: supporting a thriving geomechanics community. This requires

balancing growth with technical excellence, and innovation with the practical needs of our members.

The strength of the Australian Geomechanics Society has always been its members, their expertise, their willingness to contribute, and their commitment to advancing the profession. As we move into this next phase, I encourage all members to engage actively with the AGS, whether through technical contributions, mentoring, or participation in events and initiatives.

I look forward to working with you all as we continue to build on this strong foundation and help shape the future of geomechanics in Australia.



Amir Shahkolahi

National Chair, Australian Geomechanics Society