

SEG 2026 Conference in Salt Lake City, United States

Building Geological Capability: Lessons from 10 Years of the NExUS Program

Richard Lilly

¹Independent Consultant , Adelaide, Australia, ²Adelaide University, Adelaide, Australia

The National Exploration Undercover School (NExUS) was established in 2016 to address a persistent gap between university geoscience education and the applied skills required by the minerals industry. Developed through close collaboration between industry, academia, and government, NExUS delivered immersive, hands-on training designed to prepare students and early-career geoscientists for the realities of the modern mineral and exploration industry.

The program's flagship South Australian Summer School integrated field-based learning, mine site visits, drill core exercises, advanced workshops in ore systems, and hands-on geophysics and geochemistry activities, alongside topics rarely covered in undergraduate curricula, including regolith, sustainability, ESG, cultural heritage, and professional development. Between 2020 and 2025, NExUS expanded its educational reach through professional development workshops delivered online and in person, regional Road Show events, undergraduate enrichment activities, and school outreach initiatives.

Since inception, NExUS has supported 445 alumni through its immersive programs and over 2,100 participants through professional development workshops. Alumni work across the full spectrum of geoscience disciplines including exploration, mining, government, and education roles, with many progressing into technical specialization and leadership positions. A defining feature of NExUS was its emphasis on experiential learning, mentoring, and peer-to-peer knowledge exchange, combined with open discussion of both the opportunities and challenges facing the current and future minerals industry. This approach builds technical competence alongside interpretive confidence, professional identity, and long-term professional networks.

This presentation reflects on lessons learned from a decade of NExUS and considers how these insights can inform the design of scalable, inclusive, industry-led geoscience education programs that strengthen workforce readiness and support the next generation of mining professionals.