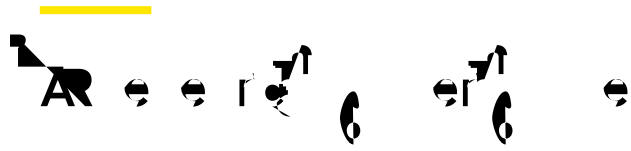


Welcome to the School of Minerals
and Energy Resources Engineering.
The School has been a provider of
innovative world class engineering



Research Strengths

Geoenergy focuses on fundamental and applied research related to minerals, energy extraction and storage. Of particular interest are technologies that improve recovery and provide new insights into the production of transition fuels and critical minerals.

Traditional knowledge and expertise in petroleum and mining engineering will drive new technologies related to the geological storage of CO2 and hydrogen, recovery of critical minerals, production of transition fuels, and extraction of geothermal energy.

Multiscale Reservoir Engineering
Integrated Storage and Recovery Systems
Critical Minerals for Future Energy Systems

This research area focuses on fundamental and applied geomechanics related to mining and geotechnics including well integrity. Our interests are oriented towards improving safety performance related to current and emerging technologies.

Our experts closely collaborate with industry partners to find innovative ways to ensure environmentally safe and sustainable practices are incorporated in all aspects of design and operation.

Underground Mining and Safety
Coupled Geotechnical Systems
Exploration and Production Systems

Our Transforma^q in r
paren m s"



Each year our academics and research centres work with businesses, government and community organisations on specific projects, transferring our research into practice. We are making an impact that matters with the following research:

Future “Smart” Mining Integration of advanced technology

To assist in sustaining the Australian mining industry's comparative advantage of cost competitive, safe and environmentally responsible operations. Our research aims to be a catalyst for transforming mining systems through integration of advanced technology and mining operational excellence. Our objective is to create smart mining outcomes which generate expanded research capability and knowledge, to improve productivity with greater safety while creating new jobs and to reduce mining's environmental footprint. This will help sustain and grow the mining industry in Australia in response to global megatrends.

We are focused on four key technical themes supported by our industry partners:

- Technology Integration
- Machine Learning & Robotics
- Mine Internet of Things (MIoT)
- Automation



Clean Energy Technology Research Laboratory

Our facility is unique as it enables researchers and industry to measure and characterise complex material structure and properties in 3D at high resolution under reservoir pressure conditions.

Understanding heterogeneity is important, as it can lead to uncertainties in reservoir performance parameters. This is imperative to understand as a single well can cost up to \$270 million.

The technique has other significant advantages, including:

- it is faster, reducing analysis to weeks instead of months
- it enables researchers to carry out numerical experiments where standard laboratory experiments are impossible



Programs

Bachelor of Engineering (Honours) in Mining Engineering

Bachelor of Engineering (Honours) in Petroleum Engineering

Bachelor of Engineering (Honours)/Bachelor of Engineering Science – with Mining and/or Petroleum and other Engineering disciplines

Plus a range of other dual degrees in Arts, Science, Commerce and Law.

Master of Mining Engineering

Graduate Diploma of Mining Engineering

Graduate Certificate of Mining Engineering

Master of Mine Geotechnical Engineering

Graduate Diploma of Mine Ventilation

Statutory Coal Mine Ventilation Officers Course

Master of Engineering Science (Petroleum Engineering)

Master of Engineering Science (Petroleum Engineering Open Learning)

Master of Engineering Science (Geothermal Engineering)

Graduate Diploma of Engineering Science (Petroleum Engineering)

Graduate Diploma of Engineering Science (Petroleum Engineering Open Learning)

Graduate Certificate of Petroleum Engineering

Customised Professional Development Programs

Our Alumni

“UNSW Engineering is really big, so there’s a corresponding amount of opportunities – societies, projects, volunteering, travel; there really is something for everyone. We get a lot of industry big names and opportunities to work with them.”

— Q

Current Industry Partners

Anglo American
BHP
BP
Centennial
CCTEG
DSI Underground
Glencore
Jennmar Australia
Maptek
Mitsubishi Development
Corporation
New Hope Group

Newcrest
Peabody Energy
Roobuck
Santos
Saudi Aramco
Schlumberger
Shell
Sino Pec
South 32
Total Energies
Wintershall Dea
Woodside

Current Senior Roles

These senior positions are held by our academics who have a strong research reputation in their area of expertise:

Professor Ismet Canbulat

Professor Serkan Saydam



Industry Partnership & Collaborations Enquiries

+61 2 9385 5006
mere.admin@unsw.edu.au

Enquiries

Ask a question unsw.edu.au/ask
Call 1300 UNI NSW (1300 864 679)
Visit engineering.unsw.edu.au