IC3G 2016: Conference themes

To date, deep Earth resources remain poorly understood and entirely under-utilised. There is a growing appreciation of the important role deep Earth will play in future sustainability, particularly in opportunities for new and sustainable large-scale energy alternatives, and extraction of resources through mining and greenhouse mitigation.

This conference is aimed at promoting discussion of strategies to address challenges in developing geo-energy and geo-resources extraction, and greenhouse mitigation measures through deep earth from the perspective of geomechanics and geophysics.

We warmly encourage researchers in the broad geomechanics and geophysics communities to join this event.

The overriding theme of the conference

"Challenge the limits with knowledge. Advances in physical processes in subsurface earth materials – to enhance deep Earth energy and mineral extractions, and greenhouse mitigation."

The sub-themes

1. **Unconventional oil and gas extractions**
    - Coal seam gas extraction
    - Shale gas extraction
    - Tight gas extraction
    - Heavy oil extraction
    - Enhanced oil recovery (EOR)
    - Production enhancing techniques including hydraulic fracturing
    - Constitutive models
    - Coupled process
    - Numerical methods
    - Reservoir geomechanics
    - Wellbore and drilling mechanics
    - Sand management techniques
    - Maintaining heat exchange
    - Cyclic thermal loading
    - Energy balance
    - Power conversion measures
    - Regulation and legislation
    - Case studies
    - Flow in porous and fractured media
    - Investment and finance
2. **CO_2 Sequestrations**
    - CO_2 storage in deep coal seams
    - CO_2 storage in saline aquifers
    - CO_2 storage in shales
    - CO_2 storage in depleted oil and gas reservoirs
    - Soil carbonations
    - Regulation and legislation
    - Cap rock integrity
    - Coupled hydro-chemico-mechanical processes
    - Reservoir geomechanics
    - Wellbore and drilling mechanics
    - Numerical methods
    - Flow in porous and fractured media
3. **Mining**
    - Open-cut mining
    - Underground mining
    - Cave mining
    - Coal preparation
    - Minerals processing
    - Design methods
    - Ground supporting and controlling
    - Case studies
    - Outbursts and other hazards
    - Mining and subsidence Geomechanics
    - TBM in mining
    - Rock breaking methods

4. **Geothermal Energy**
    - Geothermal energy extraction
    - Enhanced Geothermal Systems (EGS)
    - Conventional Geothermal Systems
    - Thermal and mechanical response of geothermal energy piles
    - Ground source heat pumps operations
    - Heat transfer in Rocks

5. **Civil Geotechnical Engineering**
    - Foundations
    - Stability of slopes/pits
    - Tunnellings
    - Dams
    - Rock Mechanics
    - Laboratory and Insitu testings