



# FUTORES II

Future Understanding of Tectonics, Ores,  
Resources, Environment and Sustainability

**4 - 7 June 2017**

**Townsville, Queensland, Australia**

## FIRST CIRCULAR

### Conference Themes

- David Groves Symposium: New Insights in Mineral Deposit Understanding
- New Technologies and Approaches in Mineral Exploration
- Tectonics and Metallogenesis
- Basins and Energy
- Future Trends in the Minerals Industry

### Confirmed Speakers

Richard Sillitoe

David Groves

Larry Meinert

Noel White

Richard Goldfarb

David Leach

David Cooke

Bruce Gemmill

Cornel de Ronde

Steffen Hagemann

Jeremy Richards

Doug Kirwin

Antonio Arribas

Jingwen Mao

Yasushi Watanabe

Steve Cox

Joel Brugger

Vladimir Lisitsin

Richard Lilly

Jeremy Cook

Simon Richards

Steven Micklethwaite

Carsten Laukamp

Allan Collins

Annette George

Roric Smith

**FUTORES II is supported by:**



## Welcome

FUTORES II (Future Understanding of Tectonics, Ores, Resources, Environment and Sustainability) will be held in tropical Townsville, Queensland, Australia, 4-7 June 2017. The conference will address issues related to new understanding in mineral deposits, tectonics, basins, and metallogenesis, new technologies and approaches in mineral and energy resources exploration, including the challenge of exploration in areas with cover, and future trends in the resources industry. The FUTORES II conference will have a similar format to the inaugural and highly successful FUTORES conference held in 2013. The Economic Geology Research Centre (EGRU) at James Cook University is proud to host this event and we welcome academic colleagues, industry and government geologists, and students to this inspiring and exciting conference.

### Plenary Speaker

**Richard Sillitoe: Exploration in and under lithocaps**

## FUTORES II 2017 Conference Themes

### David Groves Symposium: New Insights in Mineral Deposit Understanding

*Coordinator: Zhaoshan Chang*

With the increasing world population and living standards the demand for mineral and energy resources continues to grow. Further exploration will need to target resources at increasing depths and in areas with cover. Such challenges require improved understanding of mineral systems and better exploration methods. This symposium, in honour of Professor David Groves, will highlight recent developments in the understanding of major types of mineral deposits, and their physical and chemical controls.

David Groves was born in Brighton, England, and migrated to Tasmania where he was educated at Hobart High School and the University of Tasmania, and where he completed a PhD on the giant Mt Bischoff tin deposit under the mentorship of Mike Solomon. After a period with the Geological Survey of Tasmania, where he learned mapping and field skills, David was appointed Lecturer in Economic Geology at the University of Western Australia (UWA) in 1972. In 1987, he was awarded a Personal Chair at UWA and formed the Centre for Strategic Mineral Deposits, which morphed into the Centre for Global Metallogeny, with him as Director, and which became the Centre for Exploration Targeting after his retirement as Emeritus Professor. He had a very successful academic career in terms of highly-cited published papers and book chapters, keynote and invited lectures, and mentorship of many outstanding postgraduates, being awarded 11 medals and prizes, including the SEG Silver and Penrose Gold Medals and the SGA-Newmont Gold Medal, and being inducted into the Australian Academy of Sciences as a Fellow. Since his retirement from UWA, David has continued to write papers and help students at the China University of Geosciences in Beijing, as well as consult to industry, being involved in the discovery of two gold deposits during greenfields exploration in Tanzania and Ethiopia. Having been told that many of his papers were data-free fiction, David decided to write novels in his old age, with two published and others in the pipeline.

### Confirmed Speakers

- |                                   |                             |                     |                                   |
|-----------------------------------|-----------------------------|---------------------|-----------------------------------|
| • Richard Goldfarb (SEG Keynote): | Orogenic Au                 | • Bruce Gemmell:    | VHMS deposits                     |
| • David Leach (SGA Keynote):      | Sediment-hosted base metals | • Jingwen Mao:      | W-Sn deposits                     |
| • David Cook:                     | Porphyry deposits           | • Yasushi Watanabi: | REE and critical element deposits |
| • Larry Meinert:                  | Skarn deposits              | • Steffen Hagemann: | Fe ores                           |
| • Noel White:                     | LS/IS epithermal deposits   | • Steve Cox:        | Fluid pathway modelling           |
| • Roger Skirrow (tentative):      | IOCG deposits               | • Joel Brugger:     | Hydrothermal experiments          |
| • Cornell de Ronde:               | Modern seafloor systems     |                     |                                   |

## New Technologies and Approaches in Mineral Exploration

*Coordinator: Kaylene Camuti*

Technological and conceptual developments in the mid 20th century offered explorers a new framework for exploration. Affordable geochemistry and airborne geophysical techniques, combined with regional geological maps, provided tools for large scale regional surveys and led to major discoveries. Recent decades have seen continuing advances in exploration technology and new concepts applied in exploration programs. Developments in geophysical, geochemical, biogeochemical and drilling-related technologies, along with advances in data management and processing, offer explorers an expanding range of tools. In addition, the challenge of exploring under cover is leading to new ideas for applying technology and geological concepts. This symposium welcomes contributions on new exploration technologies and concepts, and on modern applications of tried and true technologies and geological techniques.

### Confirmed Speakers

- |                    |  |                         |   |
|--------------------|--|-------------------------|---|
| • Doug Kirwin:     | Fifty years of looking at rocks          | • Antonio Arribas:      | Fluid inclusions and CL in BLEG surveys |
| • Jeremy Cook:     | Seismic in gold exploration              | • Steven Micklethwaite: | Structural analysis techniques          |
| • Simon Richards:  | Atomic dielectric resonance spectroscopy | • Richard Lilly:        | Exploration geochemistry                |
| • Carsten Laukamp: | Remote sensing                           | • Vladimir Lisitsin:    | Prospectivity analysis                  |
| • Jeremy Richards: | Magma fertility                          |                         |   |

## Tectonics and Metallogenesis

*Coordinators: Paul Dirks and Carl Spandler*

Future delineation and extraction of mineral wealth will rely on a holistic geoscience approach - from deposit to continent scale - that considers lithospheric-scale geological architecture, 4D tectonic evolution and metallogenic processes. The success of future mineral exploration will hinge on our ability to unlock new target areas by exploring under cover or along the ocean floor, and by applying new concepts, many driven by advancements in technology. We invite contributions covering all fields of geology, geophysics and geochemistry with relevance to tectonics and regional metallogenesis.

**Tectonics and Metallogenesis of Queensland session** Convenor: Paul Donchak

Other sessions: TBA

## Basins and Energy

*Coordinators: Eric Roberts and Maree Corkeron*

This symposium will address the relationship between tectonics, basins and energy resources. The symposium will span a range of topics that include coal, conventional and unconventional hydrocarbon accumulations, as well as studies focused on basic sedimentology, stratigraphy, palaeontology and structural geology. Emphasis will be placed on Australasian basins, however case studies from around the globe are welcome. In addition, new applications and techniques for basin analysis involving geochronology, geochemistry and other fields will be highlighted.

### Confirmed Speakers

- |                   |  |
|-------------------|--|
| • Allan Collins:  | Tectonic geography and provenance of the Mesoproterozoic petroleum-bearing Roper Group, McArthur Basin |
| • Annette George: | Australian carbonate systems - conventional and unconventional hydrocarbon accumulations               |

## Future Trends in the Minerals Industry

*Coordinator: Trevor Shaw*

This symposium will include contributions on trends in the minerals industry that will affect the future of exploration, discovery, and the utilisation of resources. Topics could include, but are not limited to: commodities for the future, sovereign risk, education and training, trends in research management and application, and developments in project management.

### Confirmed Speaker

- |                |   |
|----------------|---|
| • Roric Smith: | Exploration strategy and project management |
|----------------|---|

# FUTORES II

## Abstracts

Abstract submissions via the FUTORES web site from 1st September 2016.

Enquiries: [FUTORESabstracts@jcu.edu.au](mailto:FUTORESabstracts@jcu.edu.au)

## Presentations

Oral and Poster

## Registration

Registration opens: January 2017

Early bird registration until: 31st March 2017

## Workshops and Field Trips

The conference committee invites proposals for short courses and workshops.

Enquiries: [FUTORES2@jcu.edu.au](mailto:FUTORES2@jcu.edu.au)

## Sponsors

The conference committee invites companies and organisations to support the meeting.

Enquiries: [egru@jcu.edu.au](mailto:egru@jcu.edu.au)

## Exhibitors

The conference committee invites companies and organisations to take part as exhibitors.

Enquiries: [egru@jcu.edu.au](mailto:egru@jcu.edu.au)

## Conference Host

EGRU (Economic Geology Research Centre)

James Cook University

Townsville QLD 4811 Australia

## Conference Organising Committee

Zhaoshan Chang

Judy Botting

Kaylene Camuti

Arianne Ford

Jan Marten Huizenga

Christa Placzek

Eric Roberts

Trevor Shaw

Carl Spandler

Noel White

## Conference Venue

Rydges Townsville

23 Palmer St, South Townsville

## General Expressions of Interest

[FUTORES2@jcu.edu.au](mailto:FUTORES2@jcu.edu.au)

## Website

[www.jcu.edu.au/futores](http://www.jcu.edu.au/futores)

