



FUTORES II

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

4 - 7 June 2017

Rydges Southbank

Townsville, Queensland, Australia

SECOND 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

Plenary Speakers

- Richard Sillitoe
- Dan Wood

Pre-Conference Short Courses

Post-Conference Field Trips



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 Speakers

Richard Sillitoe: Exploration in and under lithocaps

Dan Wood: Growth in resources demand post-WW2 & future exploration implications

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.

Confirmed Speakers

- | | | | |
|-----------------------------------|-----------------------------|---------------------|-----------------------------------|
| ▪ Richard Goldfarb (SEG Keynote): | Orogenic Au | ▪ Cornel de Ronde: | VHMS: Modern seafloor systems |
| ▪ David Leach (SGA Keynote): | Sediment-hosted base metals | ▪ Jingwen Mao: | W-Sn deposits |
| ▪ David Cooke: | 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: | IOCG deposits | ▪ Joel Brugger: | Hydrothermal experiments |

New Technologies and Approaches in Mineral Exploration

Coordinator: Kaylene Camuti

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 will include 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 | ▪ Ravi Anand: | Geochemical sampling through cover |
| ▪ Simon Richards: | Atomic dielectric resonance spectroscopy | ▪ Richard Lilly: | Exploration geochemistry |
| ▪ Carsten Laukamp: | Remote sensing | ▪ Steven Micklethwaite: | Structural analysis techniques |
| ▪ Jeremy Richards: | Magma fertility | ▪ Vladimir Lisitsin: | Prospectivity analysis |

FUTORES II 2017 Conference Themes

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 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.

Confirmed Speakers

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|------------------|---|-----------------|--|
| ▪ David Giles: | Tectonics and crustal architecture | ▪ Jo Whelan: | Evolution of the Arnhem Province, NT |
| ▪ Ross Large: | Cycles of ore deposits and mass extinctions | ▪ Ross Cayley: | Tectonic evolution of the Tasmanides |
| ▪ David Huston: | Pb isotopes in the Tasman element | ▪ John Walshe: | Volato-thermal Au systems in the late Archaean |
| ▪ Simon Johnson: | Metallogeny of the Capricorn Orogen | ▪ Peter Betts : | 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

- | | |
|--------------------|---|
| ▪ Alan Collins: | Tectonic geography and provenance of the Mesoproterozoic petroleum-bearing Roper Group, McArthur Basin |
| ▪ Annette George: | Australian carbonate systems - conventional and unconventional hydrocarbon accumulations |
| ▪ Kasia Sobczak: | Palaeoenvironments of the Drummond Basin |
| ▪ Valeria Bianchi: | High-resolution facies analysis and an unusual paleogeography for the Precipice Sandstone (Surat Basin) |
| ▪ Chris Cuff: | Underground coal gasification |

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 |
|----------------|---|

ABSTRACT Closing Date: 17th February 2017

Abstracts should be submitted online using the Word template provided:
<https://www.jcu.edu.au/futores/abstract-submission>.

Abstracts should be a maximum of 250 words and fit on one page, including figures.

Pre-Conference Short Courses

All course fees in AUD and inclusive of GST. Further details: <https://www.jcu.edu.au/futores/field-trips-and-workshops>
Courses will be cancelled if the minimum number of registrations is not received.

- » **Leapfrog Geo Fundamentals*** 2nd - 4th June
Course Presenter: Clare Baxter, ARANZ Geo (Leapfrog)
This course will provide both new and current users with the fundamental skills to get the most from Leapfrog Geo.
EGRU Members: \$1100.00 Non-EGRU Members: \$1450.00 Students: \$725
 - » **Skarn Deposits** 3rd June
Course Presenters: Zhaoshan Chang (EGRU, JCU), Larry Meinert (USGS Mineral Resources Program)
This one-day workshop is designed to help explorers understand skarn deposits, with common sense exploration concepts and easy to apply mineralogical guides.
 - » **Geology of Australia** 3rd June
Course Presenter: Bob Henderson (JCU)
A one-day workshop designed to give a "big-picture" appreciation of Australia's rich and spectacular geological heritage that extends over some 4.4 billion years.
A copy of the recently published "Geology of Australia, 3rd Edition" is included in the course fee.
 - » **Structural Geology in Epithermal Deposits*** 4th June
Course Presenters: Nick Oliver (HCO), John McLellan (GMEX), Julie Rowland (Univ Auckland)
A one-day course designed to improve skills in combining structural observations, geophysical datasets and structural modelling, with a particular emphasis on epithermal mineralisation.
 - » **Porphyry-Epithermal Cu-Au Deposits: Tectonomagmatic Controls on Magma Fertility and Deposit Localisation*** 4th June
Course Presenter: Jeremy Richards (University of Alberta)
A short course for practising exploration geologists looking for an update on current tectonomagmatic models for porphyry - epithermal ore formation, and for postgraduate students of economic geology.
- All one-day courses: EGRU Members: \$440.00 Non-EGRU Members: \$550.00 Students: \$225.00
- *Postgraduate students are invited to register but places cannot be confirmed until the minimum number of registrations has been received.

Post-Conference Field Trips

- » **Mt Carlton - Ravenswood - Pajingo** 8th - 10th June
This field trip will visit epithermal and porphyry type deposits with distinctive characteristics, occurring in a region where > 20 Moz of gold have been identified.
Field Trip Leaders: Paul Dirks, Zhaoshan Chang (EGRU, JCU)
Registration: \$990.00 Students: \$495.00 (Maximum: 11 including one student place)
- » **Mt Garnet - Wolfram Camp - Chillagoe** 8th - 11th June
The field trip will visit base metal skarns, Cu-Au porphyry type deposits, and W deposits associated with Permo-Carboniferous intrusive activity.
Field Trip Leaders: Ian Morrison (Lantana Exploration), Yanbo Cheng (EGRU, JCU)
Registration: \$1300.00 Students: \$650.00 (Maximum: 11 including one student place)
- » **Fiji: Vatukoula/Emperor - Vuvatu - Namosi** 12th - 18th June
JCU SEG Student Chapter field trip. Further information available on the FUTORES web site.

Conference Venue

Rydges Southbank Townsville
23 Palmer Street
South Townsville



Rydges Southbank

Registration

Rydges Southbank Townsville
3.00 pm to 6.00 pm Sunday 4th June
8.00 am to 4.00 pm Monday 5th - Wednesday 7th June

Social Program

Icebreaker, Sunday 4th June

5.30 pm to 7.30 pm
Rydges Southbank Townsville

Conference Dinner, Monday 5th June

7.00 pm to 11.00 pm
The Banquet Centre - upstairs in The Brewery.
252 Flinders Street, Townsville
The Brewery is housed in the former Townsville Post Office, a landmark historic building in the centre of Townsville. It is located around 0.5 km from the conference venue, across Ross Creek.

JCU Alumni Event

Details will be emailed to alumni closer to the commencement of the conference.

Registration Fees

Register online at the FUTORES web site.
All fees in Australian Dollars and inclusive of 10% GST

Conference Registration

(includes technical program, teas and lunches 5th-7th June, icebreaker function)

Early Bird (closes 31st March 2017)

EGRU Member	\$660.00
Non EGRU Member	\$825.00
Student	\$440.00
One Day	\$385.00
Accompanying Person	\$250.00

General Registration (from 1st April 2017)

EGRU Member	\$715.00
Non EGRU Member	\$935.00
Student	\$490.00
One Day	\$385.00
Accompanying Person	\$250.00

Icebreaker, 4th June

Accompanying Persons \$ 50.00 per person

Conference Dinner, 5th June

Delegates & Accompanying Persons \$125.00 per person
(includes beverage package)



The Brewery

FUTORES II

Townsville

The coastal city of Townsville is located in tropical north eastern Australia. It has a mild winter climate with daily temperatures ranging from 15 - 25°C.

The Townsville region offers many and varied attractions to visitors. Regional attractions include The Great Barrier Reef, world-heritage rainforests, famous lava tubes, and historic mining districts. Local beauty spots include the beaches and walking trails of Magnetic Island - just a 20 minute ferry ride away.

Accommodation

The conference venue is centrally located in Palmer Street, the premier location for accommodation and dining in Townsville. There are many accommodation choices located within a five minute walk of the the venue.

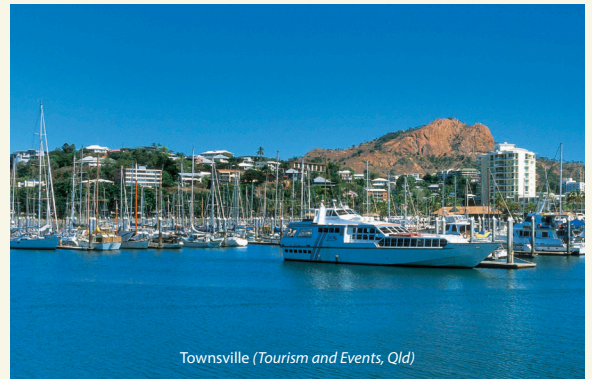
Rydges Townsville Hotel is located next door to the conference venue and accommodation bookings can be made on the venue website or by contacting the hotel directly. A conference room rate will be available to delegates (the booking code is available on the FUTORES web site).

Delegates are responsible for their own accommodation bookings.

Travel

Flight connections to Townsville are available via Sydney, Brisbane and Cairns.

Visa information is available from the Australian Government Department of Immigration and Border Protection.



Townsville (Tourism and Events, Qld)

Conference Host

EGRU (Economic Geology Research Centre)
James Cook University
Townsville QLD 4811
Australia

Conference Organising Committee

Zhaoshan Chang, Chair	Judy Botting
Kaylene Camuti	Arianne Ford
Jan Marten Huizenga	Christa Placzek
Eric Roberts	Trevor Shaw
Carl Spandler	Noel White

Conference Venue

Rydges Southbank Townsville
23 Palmer St
South Townsville

Enquiries

FUTORES2@jcu.edu.au

Website

www.jcu.edu.au/futures

