



**Economic Geology Research Centre**

# **Advanced Field Training**

**29 June - 6 July 2019 - Face to Face Teaching**

**28 June and 7 July - Travel Days**

College of Science and Engineering  
James Cook University  
Townsville, QLD, Australia  
[jcu.edu.au/egr](http://jcu.edu.au/egr)

## Course Details

<b>Leaders:</b>	<b>Prof. Paul Dirks and Dr Ioan Sanislav</b>
<b>Teaching Dates:</b>	<b>29 June - 06 July 2019</b>
<b>Travel Dates:</b>	<b>28 June and 07 July 2019</b>
<b>Location:</b>	<b>Mount Isa / Cloncurry Region, NW Queensland</b>

## Course Description

This intensive 8-day course is designed to provide geoscientists with an introduction to the geology of the Mt Isa Inlier, a world-class metallogenic province, and develop essential exploration-related field skills applicable in complexly deformed and altered terrains. Detailed 'form surface' mapping of contacts, alteration zones and structures will be integrated with paragenesis, geophysical interpretation and the use of alternate knowledge-based and data-based exploration models, including an introduction to the simple and useful application of semi-quantitative prospectivity tools.

The course will be based in the Eastern Mt Isa Block, which contains world class IOCG and Pb-Zn-Ag deposits, as well as significant U and REE mineralisation. The course is offered as professional development training to professional geoscientists and university students seeking to improve their field geology and mapping capabilities.

The course will include:

- Field visits to major structural and terrain boundaries, with discussions and assessment of the nature, significance and potential of these major structures for mineralisation.
- Visits to selected ore deposits, with discussion about deposit geology and potential exploration models for similar deposits.
- Veins, breccias, shear zones: paragenesis, overprinting, mechanisms, geometry.
- Advanced structural geology and structural controls.
- Developing exploration strategies from field observations.

### Part 1

Soldiers Cap Domain - IOCG deposits, breccias and crustal fluid flow. The Eastern Succession of the Mount Isa inlier is world renowned for its variety of IOCG deposit types. This part will examine field aspects of exploration for IOCG deposits, emphasising characterisation and mapping of breccias and fluid systems in the field. We will map along a major terrain boundary, the Cloncurry Fault, which contains typical IOCG alteration assemblages, and will investigate enigmatic breccia-pipes known to contain anomalous Cu and Au.

### Part 2

General introduction to the geology and deposit types from the Eastern Fold Belt of the Mt Isa Inlier, outcrop descriptions of representative rock types and structures. Visits to the Cu-Au Mt Colin deposit, U-REE Mary Kathleen deposit and the Cu-Au-REE Elaine Dorothy prospect. The geology, alteration and structures of these deposits forms the basis for developing exploration strategies for two prospective mapping areas.

### Part 3

Mary Kathleen Domain – mapping and exploring for mineralisation around the Elaine Dorothy prospect, an area of awesome exposure and outstanding geology. This is an ideal area for those wishing to appreciate alteration recognition in the field, basic structural geology, skarns and intense metasomatic activity, and correlation of geophysical data sets with geology in order to identify drill targets.

<b>Registration Fees</b>	<i>AUD Incl GST</i>
EGRU Member	\$3800
Non-EGRU Member	\$5400

## Register for this course

<https://events.jcu.edu.au/EGRUPD2019>

## Enquiries

Judy Botting  
07 4781 4726

[judith.botting@jcu.edu.au](mailto:judith.botting@jcu.edu.au)

## Included in the Registration Fee

Transport	All ground transport related to the field training course from Saturday 29 June to Saturday 06 July.
Accommodation- 9 nights Friday 28 June (arrive) - Sunday 7 July (depart)	Leichardt Accommodation 3 -5 Camooweal St, Mount Isa <a href="http://www.leichhardtaccommodation.com">www.leichhardtaccommodation.com</a> Single Rooms with en-suite and a study space . All linen supplied. <b>EGRU will book rooms for all participants</b>
Meals	All meals inclusive of Friday 28 June (dinner only )to Saturday 06 July <ul style="list-style-type: none"> <li>• Breakfast/dinner- Leichardt Accommodation</li> <li>• Lunch - packed crib lunch from Leichardt Accommodation</li> </ul> Water will be supplied while in the field but participants are required to bring their own 2 litre bottle for refills.
Course Supplies	All teaching requirements and handouts.

## Not Included in the Registration Fees

Flights to/from Mount Isa and, ground transport, meals or accommodation outside the field trip dates and times.
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## General Information

Participant Requirements	<p><b>Full field gear</b> - hat, long pants, long sleeve shirt, sturdy walking shoes water bottle , backpack, sunscreen, light warm jacket</p> <p><b>Mine Visits</b> - steel cap boots, high vis shirt and pants (if available), hard hat, safety glasses (EGRU will have available a supply of high vis vests, safety glasses and hard hats)</p> <p><b>Other Essentials</b> - Laptop - a stereo plotting program on your laptop is useful. GPS (if possible), compass, hand lens, hammer, magnet, scribe, field notebook, coloured pencils, pens, protractor and ruler.</p>	
Weather	Generally 25° max to 10° min.	
Travel	Participants are requested to arrive <b>no later than Friday night 28th June</b> at the Leichardt Accommodation for the course to commence approximately 8am Saturday 29 June. Please advise if you cannot arrive Friday night.	
Co-ordinating Flights	Friday 28 June Brisbane - Mount Isa - QF1780 or QF1782 Townsville - Mount Isa - QF2468 or QF2474	Sunday 07 July Mount Isa - Brisbane - QF1781 or QF1783 Mount Isa - Townsville - QF2475
<p><i>If arriving on an international flight allow approx. 3 hours between connecting flights to transit between international and domestic terminals in Brisbane.</i></p>		

## Cancellation Policy

EGRU reserves the right to cancel the Advanced Field Training Course if minimum numbers are not registered by: **Friday 31st May 2019**, or if unforeseen circumstances require the cancellation of any component of the course. Registration fees will be fully refunded should EGRU cancel a course.

If a delegate cancels a place on the Advanced Field Training course there will be a full refund of the registration fees for cancellations on or before **Friday 31st May 2019**. Fees will not be refunded after this date but registration can be transferred to an alternative delegate.

Cancellations will only be accepted by email to [judith.botting@jcu.edu.au](mailto:judith.botting@jcu.edu.au)

## Course Program\*

28 June	Arrive Mount Isa	Participants to organise own arrangements to travel to Mount Isa and to the Leichardt Accommodation
Daily Teaching		Lectures and field trip will commence from the accommodation at approx. 8 am daily
29 June	Course Commences	Refresher on structural geology and mapping techniques. Introduction to the geology and mineral deposits of the Mt Isa inlier
30 June	Snake Creek Anticline	Introduction to the mapping area. The participants will be introduced to the main rock type, structures and alteration style from the mapping area. Mapping techniques and methods will be discussed in detail. In the evening, we will evaluate the geophysics over the mapping area and discuss the observations made during the day.
01 July		Participants will map along the contact between the Soldiers Cap Group and the Staveley formation. Focus will be on the alteration style along the contact, the nature of the contact and the deformation style. In the evening we will discuss the findings and observation made during the day
02 July		Detailed mapping of the complex relationships between multiple deformed country rocks, breccia and intrusive rocks. Attention will be paid to the timing of events and the alteration styles. In the evening we will discuss possible mechanisms to explain the observations made during mapping
03 July	Mine Visits	Visits to the Mary Kathleen U-REE mine and the Mount Colin Cu-Au mine. In the evening, we will discuss the results from previous days of mapping and will analyse different exploration models for the area
04 July	Mary Kathleen Syncline	Introduction to the mapping area. Participants will be introduced to the main rock type, structures and alteration style from the mapping area. In the evening we will review the regional geology and geophysics over the mapping area.
05 July		Mapping the main structures around the Elaine Dorothy Cu-Au prospect. Attention will be paid on timing relationships, types and nature of structures. In the evening, we will discuss the findings from the mapping and put them into a regional context.
06 July		Mapping of skarn alteration around the Elaine Dorothy Cu-Au prospect. Attention will be paid to the relative timing of skarn formation in relation to deformation. In the evening, we will discuss the findings of the mapping and discuss them in context of Cu-Au exploration for the area
06 July	Course Concludes	
07 July	Depart Mount Isa	Participants to organise their own transport to Mount Isa Airport

\* Course program subject to change without notice eg: due to circumstances out of our control such as weather, mine requirements.

All effort will be made to substitute equivalent quality teaching content and/or mapping areas.



# EGRU

The Economic Geology Research Centre (EGRU) at James Cook University connects researchers, students, industry, and government organisations, and builds productive working relationships by:

- ▶ Promoting collaborative research
- ▶ Providing applied research services
- ▶ Delivering professional development training.

EGRU Members receive discounted registration for EGRU conferences, short courses and workshops. Delegates at EGRU events may earn Professional Development points from their professional bodies. For further information about EGRU activities see the EGRU Research & Services booklet on the web site.

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