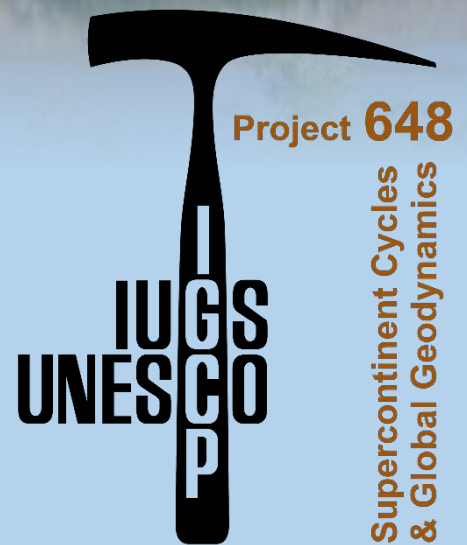


# Rodinia 2017 Conference

## IGCP Project 648

## Supercontinent Cycles & Global Geodynamics



Bringing together a diverse range of geoscience expertise to harness recent breakthroughs to explore the occurrence and evolution and geodynamic processes of supercontinents.

## Second Circular

January 2017

**Key Dates and Location:** Townsville, Queensland, Australia, June 11th-14th 2017

**Post Conference Field trip:** Mount Isa Terrane Transect, June 16th-21st 2017

**Abstracts:** Due 30<sup>th</sup> March 2017



**CCFS**



# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Preamble

Earth's geological evolution records cycles of supercontinent assembly and breakup. Research on supercontinent history has now matured and provides context for ever diversifying research on the processes related to supercontinent assembly and dispersal including the development of geodynamic modelling, imaging and analyzing large-scale geophysical data, global synthesis using large geological, palaeomagnetic, geochronological and geochemical datasets, palaeoclimatic modelling, and linking major mineralisation events to supercontinent cycles.

Rodinia 2017 is part of IGCP Project "Supercontinent Cycles and Global Geodynamics" and builds on previous "Rodinia" meetings, which are held every 4–5 years to bring together global experts from a broad range of geological disciplines. Past meetings include; Rodinia 2005 in Fremantle, Rodinia 2009 (Geological Society of London Fermor Meeting): Supercontinents, Super plumes & Scotland, held at Edinburgh, Scotland and Rodinia 2013: Supercontinental Cycles and Geodynamics Symposium held at Moscow State University.

Rodinia 2017 will bring together geoscience expertise to present and discuss the latest progress in the occurrence and evolution history of supercontinents through geological time, to highlight the latest developments in the geodynamics of supercontinents, and developments in the relationships between supercontinents and other geological phenomena including updates in the global databases of geotectonics, palaeomagnetism, mineral deposits, and the occurrences of past mantle plume events. We will examine the link between supercontinent cycles and the deep mantle. Rodinia 2017 welcomes contributions from all geoscientific fields related to supercontinents from all geological eras. The meeting will be hosted in Townsville, Queensland, Australia and will be followed by a post-conference field trip across the Mount Isa terrane, which is one of the most spectacularly preserved Paleoproterozoic terranes on Earth that holds clues about the configuration and evolution of supercontinents Nuna (Columbia) and Rodinia.

#### Key Dates and Location:

Townsville, Queensland,  
Australia, June 11th-14th 2017

#### Post Conference Field

**trip:** Mount Isa Inlier Transect,  
June 16th-21st 2017

**Abstracts:** Due 30th March  
2017

**Registration:** \$250

**Student Registration:** \$180





## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Conference Location

Rodinia 2017 will be held at “Seagulls” Conference Resort at Rows Bay, along the foreshore of Townsville City in Northern Queensland. Accommodation is also available at Seagulls Conference Resort.

Set among tropical gardens 1 km from the beach, this laid-back resort is 3.7 km from the Reef HQ aquarium. The bright, colourful rooms offer free Wi-Fi and flat-screen TVs, plus mini fridges and tea and coffee making facilities.

The modern Australian restaurant features vibrant decor and outdoor dining. Other amenities include 2 saltwater pools, a pool bar, and BBQs.



**Key Dates and Location:** Townsville, Queensland, Australia, June 11th-14th 2017

**Post Conference Field trip:** Mount Isa Terrane Transect, June 16th-21st 2017

# Rodinia 2017

#### The Venue:

74 The Esplanade,  
Townsville, Qld, 4810

Ph: +617 [4721 3111](tel:+61747213111)

Fax: +617 [4721 3133](tel:+61747213133)

[www.seagulls.com.au](http://www.seagulls.com.au)

[conferencing@seagulls.com.au](mailto:conferencing@seagulls.com.au)

#### Accommodation costs:

##### *Standard Resort Room*

\$110 per night/room only  
\$125 per night/including hot breakfast – Single occupancy  
\$140 per night/including hot breakfast for 2 adults

##### *Garden Room*

\$125 per night/room only  
\$140 per night/including hot breakfast – Single occupancy  
\$155 per night/including hot breakfast for 2 adults

# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Important Accommodation Information

Seagulls Resort have informed us that they have been booked out on the Friday 9th June and the Saturday 10th June. Seagulls Resort have put aside 50 rooms for delegates of Rodinia 2017 from Sunday 11th June through Wednesday 14th June.

We are recommending that conference delegates book Seagulls from the 11th but if you are arriving before this date you will need to book alternative accommodation. We have provided some suggestions below.

Please book as soon as possible.

Please note the organising committee will not be booking accommodation on behalf of delegates.

#### Alternative accommodation in Townsville

**The Strand:** (This is the waterfront part of Townsville facing the Coral Sea.)

##### **Shoredrive Motel**

Address: 117 The Strand, North Ward, Townsville QLD 4810

Phone: +617 4771 6851

<http://www.shoredrive.com.au/>

##### **Aquarius On The Beach**

Address: 75 The Strand, North Ward, Townsville QLD 4810

Phone: +617 4772 4255

<http://www.aquariusonthebeach.com/>

##### **Waters Edge The Strand**

Address: 63 The Strand, North Ward, Townsville QLD 4810

Phone: +617 4721 1777

<http://www.watersedgethestrand.com/>

**Town Center:** (There is accommodation towards the town centre but it's further away from the venue)

##### **Quest Townsville on Eyre**

Address: 19 Leichhardt St, North Ward Townsville, QLD 4810

Phone: +617 4789 7400

[http://www.questapartments.com.au/Accommodation/474/Australia/Queensland\\_Regional/Quest\\_Townsville\\_On\\_Eyre/Types.aspx](http://www.questapartments.com.au/Accommodation/474/Australia/Queensland_Regional/Quest_Townsville_On_Eyre/Types.aspx)

There are plenty of other options and these can be best found using an accommodation booking site such as Bookings.com and searching for "Townsville + the strand"



# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

## Scientific Themes

Theme	Name	Coordinators
THEME 1	<b>Assembly of Australia in supercontinent cycles</b>	Dr Jacqui Halpin (University of Tasmania). Dr Robin Armit (Monash University). Prof. Peter Betts (Monash University).
THEME 2	<b>New Progress and constraints on Supercontinent reconstructions.</b>	Prof. David Evans (Yale University) Dr Johanna Salminen (University of Helsinki)
THEME 3	<b>How supercontinents assemble.</b>	Prof. Brendon Murphy (St. Francis Xavier University), Prof. Ricardo Trindade (Universidade de São Paulo).
THEME 4	<b>New developments in Paleogeographic reconstructions: Reconstruction software; data mining; and database development.</b>	Prof. Bruce Eglington (University of Saskatchewan).
THEME 5	<b>Supercontinent cycles and Geodynamics.</b>	Prof. Zheng Xiang Li (Curtin University), Prof. Louis Moresi (University of Melbourne) Prof. Shije Zhong (University of Colorado)
THEME 6	<b>Supercontinent cycles and mineral systems.</b>	Dr David Huston (Geosciences Australia) Dr Sally Pehrsson (Natural Resources Canada)
THEME 7	<b>LIPS, Plumes, and supercontinents.</b>	Prof. Richard Ernst (Carleton University) Dr Simon Jowitt (University of Nevada)

# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

## Abstract details

The Abstract template can be downloaded from the IGCP648 Project website

<http://geodynamics.curtin.edu.au/rodinia-2017/>

Alternatively you can [Click Here](#)

Abstracts are restricted to two pages including figures and references.

The abstract volume will be part of the Geological Society of Australia Abstract volume series: volume 121.

Abstract submission are due on the 30<sup>th</sup> March 2017.

Abstracts can be submitted to:

[rodinia.2017@curtin.edu.au](mailto:rodinia.2017@curtin.edu.au)

## Registration

To register for Rodinia 2017 you can

[Click Here](#)

or copy and paste the following link:

<https://shop.monash.edu/rodinia-2017-conference-june-11th14th-2017-100867.html>

### Key Dates and Location:

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### Post Conference Field

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**Registration:** \$250

**Student Registration:** \$180



# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Pre-Conference Workshop

IGCP 648 will have a 2-day workshop on global database construction prior to the conference.

The workshop aims for people willing to help with the compilation of the global GIS-based databases, globally consistent in scale, content and style, that will be used for testing the super continental and global geodynamic models, or for resource exploration of climatic modelling. The database will be presented in a series of synthesis papers and special volumes, ranging from those focusing on aspects of a particular continent, to global syntheses.

The GIS database will be user-friendly and Gplates compatible, and will be made freely available to researchers for non-commercial use. Some of these databases already exist but need to be refined and updated.

Content will include basic geology (including large igneous provinces, or LIPs), tectonic interpretations, palaeomagnetism, and mineral deposits. We have placed a slide show at <http://geodynamics.curtin.edu.au/igcp-648/database/> where people can get an idea about the database.

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# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Post Conference Field Trip

The Mount Isa Inlier, located in far NW Queensland, preserves Paleo- to Mesoproterozoic rocks at different crustal levels. The inlier records more than 400 million years of Proterozoic tectonic evolution including intracontinental basin development, plutonism, low-pressure metamorphism, orogenesis, crustal-scale metasomatism and a variety of ore deposits, including sediment-hosted Pb-Zn-Ag and Cu deposits in the western parts of the inlier, and iron oxide Cu-Au deposits of the eastern parts of the inlier.

This period overlaps with the amalgamation of Nuna and therefore the inlier provides an opportunity to resolve and test many aspects of the Nuna Supercontinent assembly and dispersal. The basement rocks were deformed and metamorphosed during the ca 1900-1870 Ma Barramundi Orogeny and intruded by the granitic rocks of the ca 1850 Ma Kalkadoon and Ewen Batholiths and coeval volcanic rocks. These rocks are likely to have evolved at the eastern edge of the North Australian Craton during Nuna accretion in the overriding plate of a westward dipping subduction zone, identified from deep seismic transect, and preserved as the Gidyea Suture Zone along the eastern edge of the inlier. Three stacked and superimposed superbasins formed between ca 1800 and ca 1595 Ma. These basins preserved evidence for elevated heat flow and transient magmatism and marked changes in the regional extensional setting, and several disrupting basin inversion events in a continental setting. These basins are likely to record the distal effects of plate margin processes along the southern and eastern margin of Australia during or immediately after the amalgamation of Nuna.

The basin evolution was terminated by the 1600-1500 Ma Isan Orogeny, which involved an early episode of north-south to northwest-southeast shortening characterised by thin-skinned tectonics and localised basin inversion. Subsequent deformation, between ca 1550-1500 Ma, was thick-skinned and is characterised by upright folding, reverse, and late strike-slip faulting. Voluminous granites were emplaced throughout the Eastern Fold Belt between ca 1550 and 1500 Ma, which may record a segment of a hotspot trail.

#### Field Trip Leaders:

**Dr George Gibson**  
(Australian National University)

**Dr Ian Withnall**

(Geological Survey Queensland).

**Post Conference Field trip:** Mount Isa Inlier  
Transect, June 16th-21st  
2017

**Cost:** Estimated cost of field trip is \$1800 (this includes all meals, transport and accommodation; does not include airfares to Mount Isa)

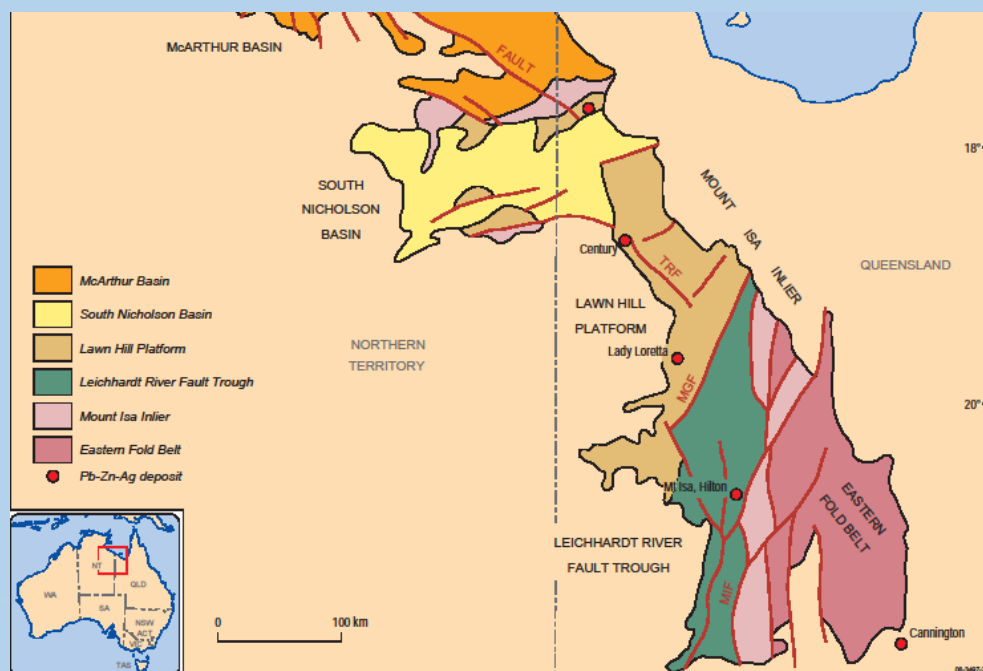


## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

#### Aims of the Post Conference Field Trip

1. Introduction to late Paleoproterozoic-early Mesoproterozoic sedimentary and magmatic rocks of the Mount Isa region, basin stacking patterns, and their correlation at local and regional basin scales
2. Basin architecture and geometry of the structures that controlled basin formation and evolution, and served as fluid and magmatic conduits during initial crustal extension and subsequent basin inversion
3. Summary of the geochronological constraints on basin formation and evolution, and the manner in which these geochronological data have been used to improve regional sequence correlations, timing of fluid migration, and development of a chronostratigraphic framework for the Mount Isa region
4. Synthesis and geodynamic evolution of the Mount Isa region, including the role played by magmatism and detachment faulting at different crustal levels
5. Examination of key outcrops and geological sections, and through mine visits better understand how field observations combined with theoretical considerations have been used to derive a predictive model for Pb-Zn mineralisation in the Mount Isa region
6. Derivation of a tectonic model for basin formation and evolution in the Mount Isa region that serves as a basis for comparison with equally well-endowed basinal sequences elsewhere in the world but more particularly in western North America (Laurentia).



**Figure 1.** Principal tectonic elements within the Mount Isa terrain and the Pb-Zn mineral deposits hosted by these different elements. TRF = Termite Range Fault; MGF = Mount Gordon Fault Zone.

#### Field Trip Leaders:

**Dr George Gibson**  
(Australian National University)

**Dr Ian Withnall**  
(Geological Survey Queensland).

**Post Conference Field trip:** Mount Isa Inlier Transect, June 16th-21st 2017



# Rodinia 2017



## IGCP Project 648

### Supercontinent Cycles & Global Geodynamics

### Post Conference Field Trip

**Venue:** Mount Gordon (Gunpowder) mine and environs: Mount Isa & Cloncurry

**Dates:** Friday June 16 - Wednesday 21, 2017 (6 days)

The excursion will depart Mount Isa airport at 1:00pm on Friday June 16. Upon arrival at the airport, participants should congregate outside the terminal where the excursion leaders and vehicles for the excursion will be waiting.

#### ***Accommodation & Logistics***

Participants remain at Mount Gordon for two nights (June 16-17) until the morning of day 3 (Sunday June 18).

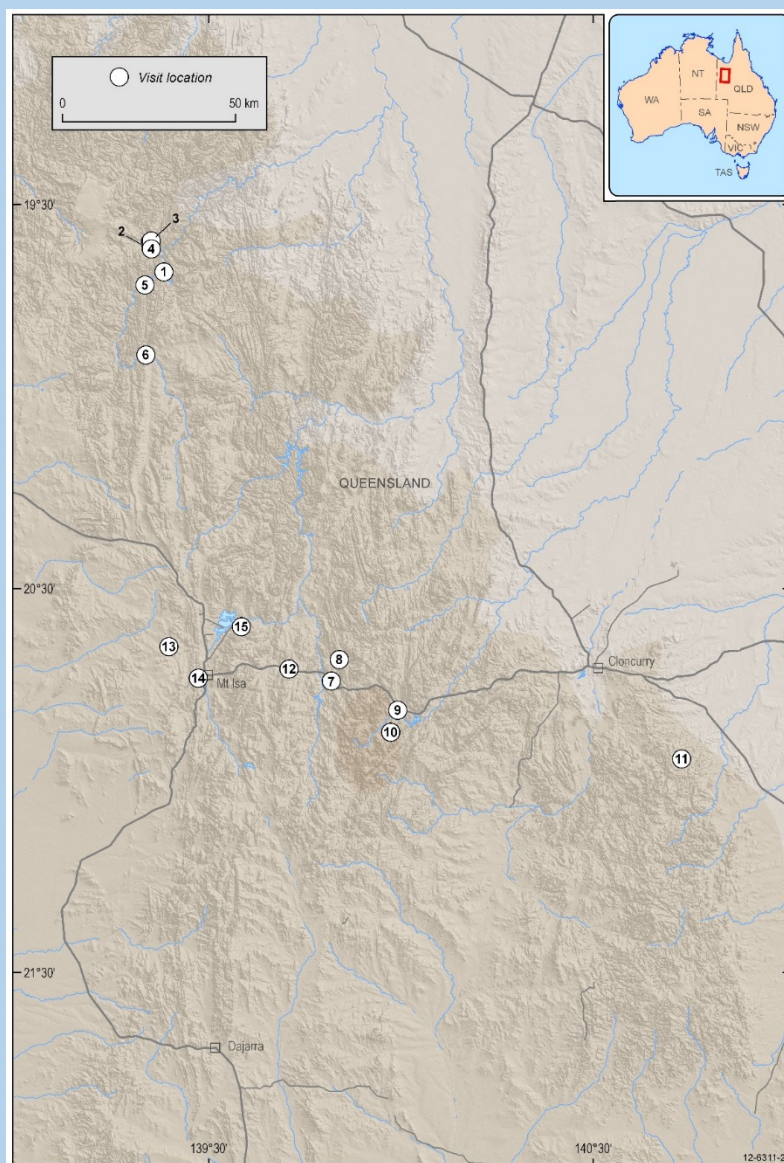
The party stays at Cloncurry for two nights in motel accommodation (Sunday June 18 & Monday June 19).

Tuesday June 20 - Wednesday June 21 are spent in single room but shared facilities-style accommodation in Mount Isa.

The excursion officially ends on the evening of Wednesday June 21 (day 6).

#### ***Departure from Mount Isa***

For those departing on the mid-day flight on Thursday June 22, taxis can be hired through the motel reception for the trip to the airport.



**Figure 2. Digital elevation image showing major roads and tracks, and localities to be visited.**



# Rodinia 2017

## Sponsors



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Core to Crust Fluid Systems

**MONASH University**  
School of Earth, Atmosphere and Environment  
Faculty of Science



**Curtin University**

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Geological Society  
of Australia

