FOURTH CIRCULAR and FIELD TRIP GUIDE

34th International Geological Congress (IGC): AUSTRALIA 2012

Unearthing Our Past And Future – Resourcing Tomorrow

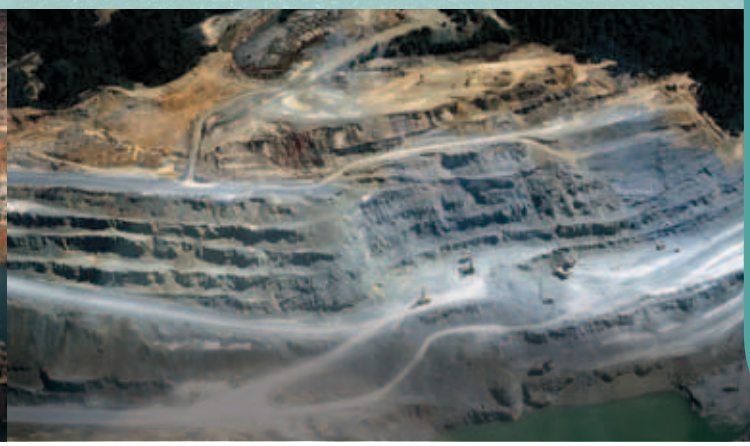
Brisbane Convention and Exhibition Centre (BCEC)
Queensland, Australia

5 - 10 August, 2012 | **www.34igc.org**

34th IGC CIRCULARS

General distribution of this and subsequent Circulars for the 34th IGC is by email. The latest Circular is always available for download at **www.34igc.org**.

The Fifth Circular and Final Program will be released in July 2012.



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Message from the President and Secretary General

As the congress draws ever closer, we are pleased to release more information to assist you in making arrangements for your participation at the 34th IGC in Brisbane. This Fourth Circular includes a full guide to the Field Trips and full itineraries for each of these trips are provided. Updates have also been made to the scientific program.

The response to the Super Early Bird registration offer was excellent. Delegates are now taking advantage of the Early bird registration fees of $550 for students and $995 for members (a member of any national geological organisation worldwide qualifies for the members rate). It is important to note that all 34th IGC registration fees include refreshments and lunch every day of the program, the welcome reception and all congress materials. Every effort has been made to keep the fees to the minimum and it is only because of the support of our sponsors and supporters that these fees have been achievable.

Air fares to Australia have never been better

There are some excellent air fare deals on travel to Australia available right now. We will be including a new space on the congress website **www.34igc.org** to allow delegates to check on special fares, but you may also wish to contact your travel agent to find out the special fares that may be available from your country.

Field trips

Travelling to Australia for the 34th IGC affords delegates an excellent opportunity to experience firsthand the unique and fascinating geology of Australia and the Oceania region and an impressive array of field trips has been designed to assist you to take full advantage of this opportunity. The full itineraries, booking details and prices of all of the field trips are now available. They are detailed in this circular and may also be found at the congress website, **www.34igc.org**. If you are planning to join a field trip please review the options and make your bookings as soon as possible as the booking deadline is 31 March 2012. Please take some time to review the field trip itineraries. We are confident that the tours cover the broad interests of delegates attending the 34th IGC.

Accommodation reservations

There has been a very high take up rate of official hotels and accommodation offerings by Earlybird delegates who have already registered for the IGC and some hotels are already almost fully booked. We urge delegates to register and book their accommodation as soon as possible to ensure that you can obtain the discounted rates now available (refer to the Accommodation section of **www.34igc.org** for full details). We have reserved plenty of rooms in Brisbane for the 34th IGC but any unallocated rooms must be released in May. There is very high demand for accommodation in Brisbane in August and once unallocated rooms have been released to the general market, availability will be very limited and rates are likely to be significantly higher.

Once again, we are very thankful for the support of so many members of the global geoscientific community and we look forward to welcoming you all to Brisbane in August for the 34th IGC.

Neil Williams
PRESIDENT, 34th IGC

Ian Lambert
SECRETARY GENERAL, 34th IGC

34th IGC Organising Committee

President	Neil Williams	University of Wollongong
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	Paulo Vasconcelos	University of Queensland
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	David Denham	ASEG
	Geoff Dickie	Queensland Resources Council
	Maurie Drew	Petroleum Exploration Society of Australia
	Jonathan Gordon	Carillon Conference Management
	Michael Leggo	Australia Geoscience Council
	Alex Malahoff	GNS Science (New Zealand)
	Robert Murdoch	Consultant
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	Colin Simpson	IUGS
	Michael Smith	Australian Geoscience Council
Observers	George Gibson	Geoscience Australia
	Robert Day	Consultant
	Vicki Pow	Geoscience Australia
	Sandra Passario	Events Queensland
	Alf Simpson	Consultant

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Important Dates

17 February 2012	Abstract submissions close
31 March 2012	Field trip bookings close
30 April 2012	Earlybird registrations close (standard rate commences)
	Presenters registration deadline
5 June 2012	Accommodation reservations to be made by this date
July 2012	Fifth Circular – Final Program

Over View Program

Pre Congress 30 July to 4 August 2012	**Sunday 5 August**	**Monday 6 August**	**Tuesday 7 August**	**Wednesday 8 August**	**Thursday 9 August**	**Friday 10 August**	**Post Congress 11 to 17 August 2012**
	34th International Geological Congress						
IGC GeoHost Training Workshops	IUGS-IGC Council Meeting Day 1	Opening Ceremony			IUGS-IGC Council Meeting Day 2		IGC Professional Development Workshops and Courses
IGC Professional Development Workshops and Courses	Last day of Pre Congress IGC GeoHost Training Workshops	Scientific Program: 8.30am to 6.00pm	Scientific Program: 8.30am to 6.00pm	Scientific Program: 8.30am to 6.00pm	Scientific Program: 8.30am to 6.00pm	Scientific Program: 8.30am to 3.45pm	
IGC Field Trips	Afternoon: Delegate Registration						IGC Field Trips
	Evening: Welcome Reception			Evening: Congress Dinner		Evening: Closing Ceremony	

Congress Registration Fees

To register for the 34th IGC, please visit **www.34igc.org** and select the CONGRESS REGISTRATION option. You may register using the online system or download a registration form.

Registration Type	Early Bird Paid by 30 April 2012	Standard Paid after 30 April but before 15 July 2012	Late Paid after 15 July 2012
Full Registration – Members	$995	$1150	$1450
Full Registration – Non Members	$1195	$1350	$1750
Student Delegate (see student definition below)	$550	$ 550	$625
Young Earth Scientists (YES) Delegate (see YES delegate definition below)	$795	$795	$895
Accompanying Persons Registration	$155	$175	$195
Optional Events (at extra cost)			
Welcome Reception Guest Ticket	$55	$55	$55
Congress Dinner	$125	$125	$125

About Registration Fees:

- The fees are shown in Australian Dollars (AUD) and include Goods and Services Tax (10%);
- Full payment of registration fees must accompany your registration. Registrations cannot be acknowledged or processed without full payment;
- The Accompanying Persons registration fee is available only to partners and/or family members of a paid delegate registered to attend the Congress as a Full, YES or Student delegate. The Accompanying Persons program is subject to minimum numbers.

Registration Inclusions:

- Congress materials including handbook and proceedings and access to Congress sessions;
- One ticket to the Congress Welcome Reception on Sunday 5 August 2012. Extra tickets can be purchased at $55 per person for guests;
- Morning and afternoon refreshments and lunch each day as per Congress program;
- The Congress dinner is an optional extra cost function ($125). It is not included in registration fees.
- The Accompanying Persons registration includes name badge, one ticket to the welcome reception, and a city tour on Tuesday 7 August. It does not include access to any Congress sessions.

Definitions:

- 'Member' is defined as any member of any national Geological organisation worldwide;
- 'Student' is a person enrolled in a recognised tertiary course as a full time student and who is not engaged in full time employment. A copy of a current student photo-ID card and a supporting letter from your Head of School or course supervisor confirming course and full time student status must be provided prior to the Congress.
- 'Young Earth Scientist' is a person who is under the age of 35 and is a registered member of the Young Earth Scientists network. YES membership number must be provided with registration.

Accommodation In Brisbane

Discounted accommodation rates have been negotiated for IGC delegates at an extensive range of hotels and accommodation establishments in central Brisbane. The selection of hotels, room types and rates are shown at **www.34igc.org** (select the Accommodation option).

You can book your accommodation when you register for the Congress using the online system or the downloadable registration form.

There is heavy demand for accommodation in Brisbane and delegates are urged to book as soon as possible. Delegates are cautioned against expecting lower rates to be available for late bookings on internet accommodation sites. Due to high demand for accommodation in Brisbane in August, rates on such sites are usually high, particularly for rooms mid-week. Please note that rates and availability are only guaranteed on reservations received up until May 2012.

The official accommodation offerings available at **www.34igc.org** include many serviced apartment options. All of these are located in the centre of Brisbane city and are within easy walking distance of the congress venue, the Brisbane Convention and Exhibition Centre. All of the apartments are in new buildings and the apartments themselves are fully furnished and equipped to high standards. The two bedroom/2 bathroom apartments represent an excellent opportunity for delegates to share high quality accommodation at very favourable rates.


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1. Abbey Apartments
2. Brisbane Marriott Hotel
3. Central Dockside Apartments
4. Central Hillcrest Apartments
5. Central Summit Apartments
6. Diana Plaza Hotel
7. Emporium Hotel Brisbane
8. Hilton Brisbane
9. Holiday Inn Brisbane
10. Hotel George Williams
11. Hotel Grand Chancellor
12. Hotel Ibis Brisbane
13. Hotel Urban Brisbane
14. iStay River City
15. M on Mary
16. MacArthur Chambers
17. Mantra on Queen
18. Marque Hotel Brisbane
19. Mantra South Bank
20. Mater Hill Place Motel
21. Medina Executive
22. Mercure Hotel
23. Metro Hotel Tower Mill
24. Novotel Brisbane
25. Oaks Aurora
26. Oaks Casino Towers
27. Oaks Charlotte Towers
28. Oaks Felix
29. Oaks Festival Towers
30. Oaks Lexicon
31. Oaks 212 Margaret
32. Park Regis North Quay
33. Portal Hotel
34. Quality Hotel The Inchcolm
35. Quay West Suites
36. Quest Bridgewater Apartments
37. Quest on Story Bridge
38. Quest River Park Central
39. Quest Spring Hill
40. Rendezvous Hotel Brisbane
41. Ridge on Leichhardt
42. Riverside Hotel South Bank
43. Rothbury on Ann
44. Royal Albert Hotel
45. Royal on the Park
46. Rydges South Bank
47. Sebel and Citigate King George Square
48. Sebel Suites
49. Sofitel Brisbane Central
50. South Central
51. Stamford Plaza
52. The Chifley at Lennons Hotel
53. The Limes Hotel
54. The Point Brisbane
55. Treasury Heritage Hotel
56. Watermark Hotel Brisbane
57. Site of proposed 5 Star Hotel
BRISBANE AIRPORT (20 mins)
THE VALLEY
SPRING HILL
KANGAROO POINT
CBD
ROMA ST PARKLAND
CITY BOTANIC GARDENS
BRISBANE RIVER
SOUTH BANK PARKLANDS
Brisbane Convention & Exhibition Centre
River Room
Cinema
QPAC
QLD ART GALLERY & MUSEUM
STATE LIBRARY
GoMA
Parliament House
QUT Gardens Point Campus
ROMA STREET STATION
TRANSIT CENTRE
QUEEN STREET MALL
BRUNSWICK ST MALL
DUCAN ST
15min walk
10min walk
GOLD COAST (50 mins)
BROOKES ST.
CHURCH ST.
EAST ST.
BRIDGE ST.
BALLOW ST.
WARNER ST.
CONSTANCE ST
MORGAN ST
JAMES STREET
BRUNSWICK STREET
BAXTER ST
AMELIA ST
GREGORY TERRACE
BOWEN BRIDGE ROAD
WICKHAM STREET
FORTITUDE VALLEY STATION
ALFRED ST
BERWICK ST
McLACHLAN ST
ROBERTSON ST
ARTHUR STREET
HARCOURT
KENT STREET
IVORY ST
MARTIN ST
MALT ST
BARRY PDE
ST PAULS TERRACE
GIPPS ST.
KEMP PL
ANN STREET
BOWEN TCE
STORY BRIDGE
HOLMAN STREET
QUEEN STREET
WATER STREET
PHILLIPS ST
BOUNDARY ST
WHARF STREET
RIVERSIDE
EAGLE ST
EAGLE STREET
EAGLE ST PIER
CREEK STREET
MARKET ST
FELIX ST
EDWARD STREET
ASTOR TCE
UPPER EDWARD ST.
ADELAIDE STREET
ALBERT STREET
CHARLOTTE STREET
ELIZABETH STREET
MARY STREET
MARGARET STREET
ALICE STREET
TURBOT STREET
HERSCHEL STREET
TANK STREET
GEORGE STREET
WILLIAM STREET
NORTH QUAY
QUEENS WHARF
ROMA STREET
MACDONALD STREET
MAIN STREET
BRADFIELD HIGHWAY
FERRY ST
DEAKIN ST
GOODWIN ST
OXLADE DRIVE
SYDNEY STREET
DOCKSIDE
MOWBRAY PARK
THORNTON STREET
SHAFSTON AVENUE
CAPTAIN COOK BRIDGE
SOUTH EAST FREEWAY
GOODWILL BRIDGE
KURILPA BRIDGE
VICTORIA BRIDGE
WILLIAM JOLLY BRIDGE
MONTAGUE ROAD
GO BETWEEN BRIDGE
MELBOURNE ST
GREY STREET
PEEL ST
GLENELG ST
ERNEST ST
TRIBUNE ST
RUSSELL ST
MERIVALE STREET
SOUTH BANK STATION
VULTURE STREET
LITTLE STANLEY ST
STREETS BEACH
Piazza
CONSERVATORIUM
SOUTH BRIS. STN

Accompanying Persons Program

An Accompanying Persons program is available to partners and family members accompanying registered 34th IGC delegates. The accompanying persons registration fee includes entry for one (1) person to the following:

Sunday, 5 August

- Congress welcome reception (from 6.00pm)

Monday, 6 August

- Official opening ceremony
- Accompanying persons morning tea

Tuesday, 7 August

- Walking tour of Brisbane's cultural precinct, including morning tea

Tickets may also be purchased for accompanying persons to attend the Congress Dinner (Wednesday 8 August), at a cost of $125 each. Please note that the welcome reception and congress dinner are intended for adults and tickets will not be available to persons under 18 years of age.

A tour desk will be available at the Brisbane Convention and Exhibition Centre and will offer a range of day and half day tours, tickets for which may be purchased by delegates and accompanying persons.

Credits to Zenstick Photography

Scientific Program

Message from the Scientific Program Chair

Welcome to the Scientific Program of the 34th International Geological Congress. The overall theme of Australia 2012, *Unearthing our Past and Future – Resourcing Tomorrow,* reflects the crucial roles the geosciences play in meeting the needs of societies while sustaining the Earth.

A broad scientific program based on 37 Themes has been developed by the Scientific Program Committee and the Scientific Theme Coordinators, with input from International Union of Geological Sciences (IUGS) affiliated groups and individual scientists.

On behalf of the Scientific Program Committee I hope you find the proposed program both interesting and exciting. We hope that the scientific sessions and the plenary presentations and panels will stimulate discussion and interest in your area of science and beyond, recognising the increasing need for interdisciplinary and multidisciplinary approaches to addressing contemporary issues in the geosciences.

This Circular incorporates minor revisions to the program, the most sigificant being the addition of a new symposium - 36.11 Minerals and related phases - and the names of confirmed keynote speakers. Ongoing updates will be available through the website: **www.34igc.org**.

Lynton Jaques

CHAIR, 34TH IGC SCIENTIFIC PROGRAM COMMITTEE

Scientific Program Committee

Lynton Jaques, Committee Chair, Canberra, ACT
Mike Smith, Chair Australian Geoscience Council, Sydney, NSW
Ian Lambert, Secretary General 34th IGC, Canberra, ACT
Mike Archer, University of New South Wales, Sydney, NSW
Mark Berry, Australian Institute of Geoscientists, Brisbane, Queensland
David Denham, Australian Society of Exploration Geophysicists, Canberra, ACT
George Gibson, Geoscience Australia, Canberra, ACT
Andrew Gleadow, University of Melbourne, Melbourne, Victoria
David Lumley, University of Western Australia, Perth, WA
Alex Malahoff, Chief Executive, GNS Science, Lower Hutt, New Zealand
Colin Simpson, Councillor, International Union of Geological Sciences (IUGS), Canberra, ACT
Paulo Vasconcelos, University of Queensland, Brisbane, Queensland
Malcolm Walter, University of New South Wales, Sydney, NSW
Paul Kay, Deputy Secretary General 34th IGC, Canberra, ACT

Draft Program Timetable

The draft Scientific Program for the 34th IGC is outlined in the following table. It will take place over 5 days, commencing with the Opening Session in the morning of Monday 6th August and ending with the Closing Ceremony in the evening Session on Friday 10th August, 2012. Each day will comprise around 35 concurrent Symposia, and a plenary session from 1pm-2pm (1300-1400 hours).

Most business meetings will be held in the evening after 7pm, 6-9 August.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0830-1015	Opening Ceremony	Scientific Program Session 4	Scientific Program Session 8	Scientific Program Session 12	Scientific Program Session 16
1015-1045	Break Posters	Break Posters	Break Posters	Break Posters	Break Posters
1045-1230	Scientific Program Session 1	Scientific Program Session 5	Scientific Program Session 9	Scientific Program Session 13	Scientific Program Session 17
1230-1400	Plenary Session Lunch Posters	Plenary Session Lunch Posters	Plenary Session Lunch Posters	Plenary Session Lunch Posters	Plenary Session Lunch Posters
1400-1545	Scientific Program Session 2	Scientific Program Session 6	Scientific Program Session 10	Scientific Program Session 14	Scientific Program Session 18
1545-1615	Break Posters	Break Posters	Break Posters	Break Posters	Break
1615-1800	Scientific Program Session 3	Scientific Program Session 7	Scientific Program Session 11	Scientific Program Session 19	Closing Ceremony
1800-1900	Poster Session	Poster Session	Poster Session	Poster Session	
1900-Onwards	Evening Program including business meetings	Evening Program including business meetings	Congress Dinner	Evening Program including business meetings	

Oral presentations will be 15 minutes including discussion, but invited keynote addresses may occupy two 15 minute slots.

Poster papers will be accorded a prominent place in the Congress program. Abstracts for all poster papers will be published in the Congress Abstracts and posters will be located in high traffic areas adjacent to rooms used for oral sessions and catering points.

Plenary Program

The 34th IGC Scientific Program will feature a daily Plenary Session from 1-2 pm (1300-1400 hours) in the main auditorium of the Convention Centre in which distinguished speakers will give invited presentations on major contemporary themes in the geosciences. These plenary themes are closely aligned with particular Themes and Symposia in the scientific program and are intended to promote discussion and debate within the symposia.

The Earth and Man: Living with a restless Earth

An increasing proportion of the world's population, especially in developing countries, are potentially at risk from natural hazards. This plenary will examine how man's interaction with the Earth's natural processes has shaped human society and how man has adapted to living in close proximity to natural hazards such as volcanoes, earthquakes, tsunami and floods. The speakers will also review the impact of past major geological disasters on human society and progress in assessing and mitigating the risk of geological hazards, especially in relation to major cities. The plenary will also consider man's impact on the geosphere, biosphere and the landscape, and our potential role in increasing society's vulnerability to natural hazards.

Iain STEWART (UK)

Professor Iain Stewart is a geologist and broadcaster who holds a chair in Geoscience Communication at Plymouth University, UK. After presenting several major BBC television series about the planet (Journeys from the centre of the Earth; Journeys into the Ring of Fire; Earth: The Power of the Planet; Earth: The Climate Wars, How Earth Made Us), his most recent programmes explore his own backyard, with an environmental history of Scotland (Making Scotland's Landscape) and a celebration of the Scottish pioneers of geology (Men of Rock). His latest landmark BBC series examines how plants have helped shape Earth's history.

Renato SOLIDUM Jr (Philippines)

Dr. Renato U. Solidum, Jr. is a geologist and obtained his Ph.D in Earth Science from University of California, San Diego. He is currently the Director of the Philippine Institute of Volcanology and Seismology (PHIVOLCS), the Philippine government organisation mandated to monitor and warn, assess hazards and risk, conduct research and development, and formulate awareness and preparedness plans to events related to volcanoes, earthquakes and tsunami. He leads PHIVOLCS involvement in inter-organisational activities related to disaster risk reduction of the Philippines, including multi-hazards and risk assessment and community preparedness.



What does the geological record tell us about the Earth's past climates in relation to projected climate change?

This plenary will overview the current data and projections relating to global climate change and examine the evidence from the geological record of past climate change. It will consider rates of climate change, sea levels, CO_2 levels and temperatures, geosphere-biosphere feedbacks and climate sensitivities, and explore what this might mean for the Earth's climate in the future.

Tim NAISH (New Zealand)

Professor Tim Naish is Director of the Antarctic Research Centre at Victoria University of Wellington and Principal Scientist at the New Zealand Crown Research Institute, GNS Science. He is a paleoclimatologist focussed on reconstructing past global sea-level changes from continental margin geological records. He has participated in 9 expeditions to Antarctica and helped found ANDRILL, an international Antarctic Geological Drilling Program. He was co-chief scientist of ANDRILL's McMurdo Ice Shelf Project which recovered sediment cores documenting the first direct evidence that the West Antarctic Ice Sheet had collapsed the last time the world was 2-3°C warmer, 3-5 million years ago. He is currently a Lead Author on the Intergovernmental Panel of Climate Change's 5th Assessment Report.

Will STEFFEN (Australia)

Professor Will Steffen is Executive Director of the ANU Climate Change Institute at the Australian National University (ANU), Canberra, and serves on the Multi-Party Climate Change Committee (MPCCC) and as a Climate Commissioner. He is also Co-Director of the Canberra Urban and Regional Futures (CURF) initiative, a joint venture of ANU and the University of Canberra. From 1998 to mid-2004, Steffen served as Executive Director of the International Geosphere-Biosphere Programme, based in Stockholm, Sweden. His research interests span a broad range within the fields of climate change and Earth System science, with an emphasis on incorporation of human processes in Earth System modelling and analysis; and on sustainability and climate change, with a focus on urban systems.

Energy in a carbon-constrained world

The plenary will briefly review the drivers for change to low-carbon energy future and examine the range of energy sources potentially available but with particular focus on the geo-sources of energy (fossil fuels, geothermal, nuclear, hydro). The plenary will consider the resource base, accessibility, extraction and use, technological and other limitations, and the environmental impacts of use of the various energy sources available now and in the medium term.

Lord Ron OXBURGH (UK)

Lord Ron Oxburgh, House of Lords UK Parliament, served as chairman of The Shell Transport and Trading Company until its unification with Royal Dutch Petroleum. He is a member of the House of Lords of the UK Parliament and a graduate of the Universities of Oxford and Princeton. He has taught geology and geophysics at the Universities of Oxford and Cambridge and was a visiting professor at Stanford University, the California Institute of Technology and Cornell University. From 1988 to 1993, Lord Oxburgh was Chief Scientific Adviser to the UK Ministry of Defence and, from 1993 to 2001, Rector of Imperial College, London. He has served as President of the Geological Society of London and of the European Union of Geosciences. He is a member of the Advisory Committee on Science, Technology and Research for Singapore, a Fellow of the Royal Society, an Honorary Fellow of the Royal Academy of Engineering, and a Foreign Member of the Australian Academy of Science. He is currently an advisor on environment and energy to the Government of Singapore, Climate Change Capital and Deutschebank.

Scott TINKER (USA)

Scott Tinker's passion is education. Toward this end, he is actively engaged in building bridges between academia, industry, and government. His latest educational project is a major documentary film on global energy. Dr Tinker has developed a vision for America's energy future and concludes that energy security – available, affordable, reliable, and environmentally sustainable – must drive energy policy and that efficiency and diversity are key elements to long-term energy security. Ultimately, energy security requires a reasoned balance among energy, environment, and the economy. Dr.Tinker is the Director of the Bureau of Economic Geology, Jackson School of Geosciences, the University of Texas at Austin and Director of the Advanced Energy Consortium. He earned his Ph.D. in Geosciences from the University of Colorado.

Sally BENSON (USA)

Professor Sally M. Benson is Director of the Global Climate and Energy Project in the Department of Energy Resources Engineering at Stanford University. She has worked at Lawrence Berkeley National Laboratory in a number of capacities, including Division Director for Earth Sciences, and Deputy Director for Operations. She gained her PhD from the University of California, Berkeley. A ground water hydrologist and reservoir engineer, Prof. Benson investigates the fundamental characteristics of carbon dioxide storage in geologic formations as a means of climate change mitigation and other issues related to energy and the environment, including technologies and energy systems for a low-carbon future. She was a coordinating lead author on the 2005 Intergovernmental Panel on Climate Change (IPCC) Special Report on Carbon Dioxide Capture and Storage and is the author or co-author of over 160 scientific publications.

Resourcing Tomorrow: Meeting the needs of a growing population

This plenary will review the future demand and availability of groundwater and mineral resources. By 2050 the world's population will exceed 9 billion with well over half living in urban areas. This will require more natural resources, especially minerals and energy than used in the past, and present challenges for the discovery of resources and new extraction technologies. Population growth is likely to lead to a shortage of water in many parts of the world: water security is already shaping up as a major challenge for many countries as a consequence of climate change and a decline in groundwater resources though over use. This has profound implications for human health, global food security, and the environment.

Leader of Chinese delegation

Future Resource Demand: A Perspective From China

Marcio Luís Silva GODOY - Global Exploration and Mineral Project Development – Vale (Brazil)

Marcio has a wealth of experience in the mineral industry, having acted in a variety of roles related to mineral exploration, mineral project development, project implementation and operations in several countries, including Brazil, Chile, Zambia, DRC and Suriname. Marcio has joined Vale in 2002 becoming the head of copper operations and copper project development. Since 2010, Marcio holds the title of Head of Global Exploration and Mineral Project Development, being responsible to foster the company growth and mineral and geographical diversification through the development of greenfield mineral projects. In this role, Marcio oversees all of the Company´s greenfield exploration project portfolio, exploration strategy, early stage project development and mineral and exploration technology. Vale develops an aggressive worldwide multi-commodity exploration program, being present in 25 countries.

Marcio holds a BSc and a MSc in Geology from Universidade Estadual Paulista (UNESP), São Paulo, Brazil. He currently serves as a director in several boards of mining companies. He is also a member of the board of Vale Foundation, Vale´s arm responsible for the sustainable development initiatives in areas in which Vale is active in Brazil and overseas.

Steve GORELICK (USA)

Professor Steven Gorelick runs the Global Freshwater Initiative at Stanford University where he is the Cyrus F. Tolman Professor in the Department of Environmental Earth System Science and a Senior Fellow in the Woods Institute for the Environment. One of his major research focus areas is analysis of water-supply sustainability in developing nations, including multi-year projects in Mexico, India, and Cambodia/Vietnam that have evaluated urban-agricultural competition for surface water and groundwater resources. He is an AGU and GSA Fellow, received fellowships from both the Guggenheim and Fulbright Foundations, and produced over 100 publications, three patents, and three books.

Digital Earth - The information explosion

This plenary will overview the digital revolution and explosion of information shaping the future direction and application of the earth sciences. Rapid advances in real time monitoring and measurement, web technologies and in data transfer are making geological and geospatial data increasingly global, accessible and instantaneous, and therefore useful for purposes beyond which they were originally collected. This expanded information base, coupled with increased understanding of global geological processes, is becoming increasingly vital to governments and the global community at large. Topics include remote sensing; 4-D geology, with GPS networks contributing to the fourth dimension; geohazards and environmental monitoring; regional and global scale geophysical datasets; and 3-D geological mapping.

Thomas CUDAHY (Australia)

Dr Tom Cudahy is the Director of the Western Australian Centre of Excellence for 3D Mineral Mapping. He has over 25 years of research experience with CSIRO in Perth in developing optical remote and proximal technologies for mineral resources exploration and development, especially hyperspectral mineral mapping at visible to thermal infrared wavelengths. Tom has led numerous national and international collaborative research projects and been involved with international science teams, including ASTER and Hyperion. His 2020 vision is a public, web-accessible 3D mineral map of Australia (and beyond) based on a new generation of satellite, airborne, field and drill-core logging hyperspectral technologies.

Laura WALLACE (New Zealand)

Dr Laura Wallace is a senior scientist at GNS Science in Lower Hutt, New Zealand. Her primary research interests are in using GPS techniques to understand tectonic processes. In particular, she applies GPS methods to gain new insights into slow slip events at subduction zones, tectonic geohazards, and plate boundary zone deformation. Much of her research also involves integrating observations from GPS with geological and other geophysical data. She conducts this type of work in New Zealand, Japan, Papua New Guinea, and at a number of other western Pacific Plate boundaries.

Kristine ASCH (Germany)

Dr Kristine Asch, a geologist, heads the Geological Information Systems and Maps unit at the Federal Institute for Geosciences and Natural Resources (BGR). She is Chair of the IUGS Commission of Geoscience Information, leads the Europe Subcommission of the Commission of the Geological Map of the World, and coordinates building the Geoscience Information in Africa (GIRAF) network. Kristine authored the 1:5 Million International Geological Map of Europe and Adjacent Areas. Through her roles in the German Geoscience INSPIRE Expert Group and the EU data specifications team and working group on geology and mineral resources, and related publications, Kristine has been closely associated with the development and dissemination of a new web language for geology, which allows nations to share data with each other and the public.

Scientific Symposia

The Scientific Program for the 34th IGC is outlined over the following pages, including confirmed keynote speakers to date. More information is available on the 34th IGC website, **www.34igc.org**, including an outline of the scope of each of the Symposia. This is the basis of the call for abstracts. The program on the website will be updated to include additional keynote speakers as they are confirmed. The content of final program and the time table for the 5 days of scientific sessions will be determined in April 2012 after abstract submission closes.

The broad ranging scientific program for the 34th IGC includes 221 Symposia under the 37 Themes. All Symposia will be open for all IGC registrants to attend.

All Symposia in the Scientific Program are expected to include both oral and poster presentations. Individuals will only be permitted to deliver one oral presentation in the Symposia program, but they may co-author multiple oral presentations and may give multiple poster presentations. Invited keynote and specialist session presenters may deliver a second oral paper in the Symposia program.

The Scientific Program also includes the Young Earth Scientist (YES) Congress which will include a Symposium on overcoming geoscience challenges in the 21st Century and an evening program. Further details will be provided on the YES Network website (**www.networkyes.org**).

The official language of the Congress will be English and translation services will not be provided.

All IGC participants (including theme coordinators, symposium convenors and keynote speakers) must register for the Congress.

Symposia outlines are accessible via live links from the IGC website (**www.34igc.org**). Any questions or requests for further information should be addressed to the Communicating Theme Coordinators or Symposium Convenors, whose email addresses are listed in the program following.

Video-recording of presentations will not be permitted at the 34th IGC.

Theme 1. Geoscience for Society

Coordinator: Hamish CAMPBELL h.campbell@gns.cri.nz (New Zealand)

Symposia

1.1 Geoheritage, geoparks and geotourism

Bernie JOYCE ebj@unimelb.edu.au (Australia), José BRILHA (Portugal), Ian GRAHAM (New Zealand), Patrick MCKEEVER (Ireland), Nickolas ZOUROS (Greece), Changxing LONG (China), Ross DOWLING (Australia) and Angus M ROBINSON (Australia)

Keynote speakers: William WIMBLEDON (UK), Patrick MCKEEVER (Ireland), Nickolas ZOUROS (Greece) and Ross DOWLING (Australia)

1.2 Geoscience education

Jesus MARTINEZ-FRIAS jmfrias@cab.inta-csic.es (Spain), Gary LEWIS (USA), Sarah GAINES (USA), Julian THOMSON (New Zealand) and Bronte NICHOLLS (Australia)

Keynote speakers: Mary MARLINO (USA), Chris KING (UK) and Greg MacNAMARA (Australia)

1.3 Geoscience outreach (public communication, museums and media)

Hamish CAMPBELL h.campbell@gns.cri.nz (New Zealand) and Alex COOK (Australia)

Keynote speaker: Bob CARTER (Australia)

1.4 Forensic geoscience

Rob FITZPATRICK rob.fitzpatrick@csiro.au (Australia), Laurance DONNELLY (UK) and Dallas MILDENHALL (New Zealand)

1.5 Gemstones

Lin SUTHERLAND l.sutherland@uws.edu.au (Australia), Ian T GRAHAM (Australia) and Lee GROAT (Canada)

Keynote speaker: Lee GROAT (Canada)

Theme 2. Geoscience Benefiting Low Income Countries

[Association of Geoscientists for International Development (AGID)]

Coordinators: Mike KATZ mikekatz320@gmail.com (Australia), Shrikant LIMAYE (India), Afia AKHTAR (Bangladesh) and Antony REEDMAN (UK)

Symposia

2.1 Improving rural health and mitigating rural poverty through sustainable ground water development

Shrikant LIMAYE limaye@vsnl.com (India) and Afia AKHTAR (Bangladesh)

Keynote speaker: Shrikant LIMAYE (India)

2.2 Creating social awareness, preparedness and capacity-building for mitigating geohazards

Karen VILLHOLTH kgv@geus.dk (Denmark), Shrikant LIMAYE (India), and Antony REEDMAN (UK)

Keynote speaker: Karen VILLHOLTH (Denmark)

2.3 Developing geoscience education and awareness for the benefit of society

Nurul HASAN mn_hasan@yahoo.com (Bangladesh), Mike KATZ (Australia), Gbenga OKUNLOLA (Nigeria), Antony REEDMAN (UK) and Chris KING (UK)

Keynote speaker: Mike KATZ (Australia)

2.4 Geoplanning for urban development and infrastructure and protecting ecosystems

Afia AKHTAR afia@agni.com (Bangladesh), Mehedi Ahmed ANSARY (Bangladesh), Shrikant LIMAYE (India), Sospeter MUHONGO (Tanzania) and Gbenga OKUNLOLA (Nigeria)

Keynote speaker: Sospeter MUHONGO (Tanzania)

2.5 Geoethics

Vaclav NEMEC lidmila.nemcova@quick.cz (Czech Republic), Jesus MARTINEZ-FRIAS (Spain), Nataliya NIKITINA (Russia), Niichi NISHIWAKI (Japan) and Silvia PEPPOLONI (Italy)

Keynote speakers: Vaclav NEMEC (Czech Republic), Arundeep AHLUWALIA (India), Ochir GEREL (Mongolia), Jesus MARTINEZ-FRIAS (Spain), Lidmila NEMCOVA (Czech Republic), Nataliya NIKITINA (Russia), Niichi NISHIWAKI (Japan), Silvia PEPPOLONI (Italy) and Haiqiao TAN (P.R.China)

2.6 Role of women geoscientists in resource development

Afia AKHTAR afia@agni.com (Bangladesh), Madhumita DAS (India), Ezzoura ERRAMI (Morocco), Mike KATZ (Australia), Sharon LOCKE (USA) and Antony REEDMAN (UK)

Keynote speaker: Afia AKHTAR (Bangladesh)

2.7 Mineral and energy resources, construction and industrial minerals

Mike KATZ mikekatz320@gmail.com (Australia), Afia AKHTAR (Bangladesh), Gbenga OKUNLOLA (Nigeria) and Nehal UDDIN (Bangladesh)

Keynote speaker: Nehal UDDIN (Bangladesh)

2.8 The role of Geological Surveys in the development and management of natural resources, groundwater and disaster risk reduction

Antony REEDMAN antony@areedman.wanadoo.co.uk (UK), Afia AKHTAR (Bangladesh), David DENHAM (Australia), Siyan MALOMOS (Nigeria) and Qincheng HE (Thailand)

Keynote speaker: Antony REEDMAN (UK)

Theme 3. Climate Change: Lessons from the Past; Implications for the Future

Coordinators: Michael BIRD michael.bird@jcu.edu.au (Australia) and Giuseppe Cortese (New Zealand)

Symposia

3.1 Climate change and food security: archaeological and palaeoenvironmental evidence for past interactions between food producers and environment

David TAYLOR taylord@tcd.ie (Ireland) and Yongqiang ZONG (China)

3.2 Geology and Archaeology: submerged landscapes of the continental shelf.

Jan HARFF (Germany) jan.harff@io-warnemuende.de, Geoff BAILEY (United Kingdom) and Friedrich LÜTH (Germany)

Keynote speakers: Nicholas FLEMMING (UK) and Jon ERLANDSON (USA)

3.3 Monsoons, droughts and extreme weather events: deciphering climate variability from the geological record

Jonathan NOTT jonathan.nott@jcu.edu.au (Australia), James SHULMEISTER (Australia) and Mohammed Rafi G. SAYYED (India)

3.4 Climate in a warmer world: Late Quaternary evidence from land, sea and ice records

Lionel CARTER lionel.carter@vuw.ac.nz (New Zealand), Giuseppe CORTESE (New Zealand), Rewi NEWNHAM (New Zealand) and Nancy BERTLER (New Zealand)

Keynote speakers: Marcus VANDERGOES (New Zealand) and Dorthe DAHL-JENSEN (Denmark)

3.5 The silent majority: Cenozoic (Paleocene-Pliocene) records of climatic warmth

David GREENWOOD greenwoodd@brandonu.ca (Canada), Matthew HUBER (USA) and Patrick MOSS (Australia)

Keynote speakers: Gabriel BOWEN (USA), Scott HUCKNELL (Australia) and Matthew HUBER (USA)

3.6 Greenhouse world and rapid climate change during the Mesozoic [IGCP 555, IGCP 507 and ICDP Songliao Project]

Chengshan WANG chshwang@cugb.edu.cn (China), Michael WAGREICH (Austria) and Xiaoqiao WAN (China)

Keynote speakers: Chengshan WANG (China), Michael WAGREICH (Austria),Yong Il LEE (Korea) and Helmut WEISSERT (Switzerland)

3.7 Pre-Mesozoic climates and global change [IGCP 591]

Kathleen HISTON catherine.histon@unimore.it (Italy), Vinod TEWARI (India) and Michael MELCHIN (Canada)

Keynote speakers: David HARPER (Denmark) Alain PREAT (Belgium) and David RAY (UK)

3.8. Climate change and biodiversity patterns in the Mid-Paleozoic (Early Devonian to Early Carboniferous) [IGCP 596]

Peter KÖNIGSHOF peter.koenigshof@senckenberg.de (Germany) and Thomas SUTTNER (Austria).

Keynote speakers: Wolfgang KIESSLING (Germany), Anne-Christine da SILVA (Belgium) and Carlton BRETT (USA)

3.9. Climate variability in the Holocene

Gert J DE LANGE gdelange@geo.uu.nl (Netherlands) and Francis JIMENEZ-ESPEJO (Spain)

Keynote speaker: Edouard BARD (France)

Theme 4. Environmental Geoscience

Coordinators: Colin SIMPSON simpsons@grapevine.com.au (Australia) and Michael LEGGO (Australia)

Symposia

4.1 Environmental aspects of mining

Bernd LOTTERMOSER bernd.lottermoser@utas.edu.au (Australia) and Kirk NORDSTROM (USA)

Keynote speaker: Bernhard DOLD (Chile)

4.2 Global geochemical mapping: Understanding chemical Earth (The 2nd Arthur Darnley Symposium)

David SMITH dsmith@usgs.gov (USA), Xueqiu WANG (China) and Patrice DE CARITAT (Australia)

Keynote Speakers: Christopher JOHNSON (UK) and Xueqiu WANG (China)

4.3 Advances in the evaluation and interpretation of geochemical data at the continental scale

Eric GRUNSKY egrunsky@nrcan.gc.ca (Canada) and Patrice DE CARITAT (Australia)

4.4 Medical geology

Phil WEINSTEIN phil.weinstein@unisa.edu.au (Australia) and Jose CENTENO (USA)

4.5. Man made strata and geopollution

Jonas SATKUNAS jonas.satkunas@lgt.lt (Lithuania) and Hisashi NIREI (Japan)

Theme 5. Geoscience Information

DOWNLOAD FULL SESSION LISTING HERE
http://www.34igc.org/FileLibrary/brochure_igc34_theme5_20jan.pdf

Coordinators: Bruce SIMONS bruce.simons@dpi.vic.gov.au (Australia), Simon COX (Australia), Robert TOMAS (Europe), Richard HUGHES (UK), June HILL (Australia) and Lesley WYBORN (Australia)

Symposia

5.1 Geoscience spatial data infrastructure

Bruce SIMONS bruce.simons@dpi.vic.gov.au (Australia) and Robert TOMAS (Czech Republic)

5.2 Information management - interoperability and standards

Simon COX simon.cox@csiro.au (Australia) and John LAXTON (UK)

5.3 Delivery, dissemination and exploitation of geoscience data and information

Richard HUGHES rah@bgs.ac.uk (UK) and Oliver RAYMOND (Australia)

5.4 Tools – software, hardware, open source

Peter BAUMANN p.baumann@jacobs-university.de (Germany) and Robert WOODCOCK (Australia)

5.5 Model fusion, visualisation, exploration and 3-D & 4-D modelling

Laurent AILLERES laurent.ailleres@monash.edu (Australia), Holger KESSLER (UK) and Mark JESSELL (France)

5.6 Mathematical geosciences [International Association of Mathematical Geologists (IAMG)]

June HILL june.hill@csiro.au (Australia) and Ricardo OLEA (USA)

Keynote speakers: Margaretha SCOTT (Australia), Roussos DIMITRAKOPOULOS (Canada), Katsuaki KOIKE (Japan), Helmut SCHAEBEN (Germany), Juan José EGOZCUE (Spain), Michael GURNIS (USA), Christopher SCOTESE (USA), Donald SINGER (USA), Cedric GRIFFITHS (Australia) and Steve REDDY (Australia)

Theme 6. Energy in a Carbon Constrained World

Coordinators: Peter COOK pjcook@co2crc.com.au (Australia) and David LUMLEY (Australia)

Symposia

6.1 CO2 geosequestration

David LUMLEY david.lumley@uwa.edu.au (Australia), Kevin DODDS (USA) and John KALDI (Australia)

Keynote speakers: Charles JENKINS (Australia), Don WHITE (Canada), Michael KUHN (Germany) and Susan HOVORKA (USA)

6.2 Geothermal resources

Anthony BUDD anthony.budd@ga.gov.au (Australia), T HARINARAYANA (India), Greg BIGNALL (New Zealand) and Klaus REGENAUER-LIEB (Australia)

Keynote Speakers: Doone WYBORN (Australia), Greg BIGNALL (New Zealand) and Klaus REGENAUER-LIEB (Australia)

6.3 Nuclear energy and waste disposal

Charles MCCOMBIE charles.mccombie@arius-world.org (Switzerland), Andrew ORRELL (USA), John WATERHOUSE (Australia), Tomas PACES (Czech Republic) and Peter WIKBERG (Sweden)

6.4 Clean energy: options and limitations

Peter COOK pjcook@co2crc.com.au (Australia), Sally BENSON (USA) and Mike SANDIFORD (Australia)

Theme 7. Mineral Resources and Mining

Coordinators: Graham CARR graham.carr@csiro.au (Australia) and Dale SIMS (Australia)

Symposia

7.1 New age metals: the geology and genesis of ores required for a changing economy and a carbon constrained world [Society for Geology Applied to Mineral Deposits (SGA)]

David HUSTON david.huston@ga.gov.au (Australia) and Bernd LEHMAN (Germany)

Keynote speakers: Roderick EGGERT (USA) and Allen NUTMAN (Australia)

7.2 Future sources of industrial minerals and construction materials

John SIEMON john@siemon.id.au (Australia), Björn SCHOUENBORG (Sweden) and Lola PEREIRA (Spain)

7.3 Resource and reserve reporting, international codes and the valuation of mineral assets

Peter STOKER pstoker@amcconsultants.com.au (Australia) and Charlotte GRIFFITHS (Switzerland)

Keynote speakers: Michael LYNCH-BELL (UK), Deborah McCOMBE(Canada), Harry PARKER (USA), Yuri PODTURKIN (Russia) and Jim ROSS (UK)

7.4 Resource modelling, estimation and visualisation for project and mine development

Scott DUNHAM sd@qgroup.net.au (Australia) and Rodrigo MELLO (Brazil)

7.5 Mining geology, technology, geophysics and geometallurgy

Dale SIMS dalesims@tpg.com.au (Australia) and Simon DOMINY (UK)

7.6 The future mine and geoscience

Jock CUNNINGHAM jock.cunningham@csiro.au (Australia) and Alberto ELFES (USA)

7.7 Qualitative and quantitative methods of assessing undiscovered mineral resources

Subhash JAIRETH subhash.jaireth@ga.gov.au (Australia), Mike CUNNINGHAM (Australia), Susan HALL (USA) and Stephen PETERS (USA)

Theme 8. Mineral Exploration Geoscience

Coordinators: Cam MCCUAIG campbell.mccuaig@uwa.edu.au (Australia) and David GILES (Australia)

Symposia

8.1 Footprints of mineralised systems: new concepts and data for exploration

Roger SKIRROW roger.skirrow@ga.gov.au (Australia), Richard TOSDAL (Canada) and Zengqian HOU (China)

Keynote speakers: David COOKE (Australia) and Rob HOUGH (Australia)

8.2 The science of exploration targeting

Cam MCCUAIG campbell.mccuaig@uwa.edu.au (Australia), Graham BEGG (Australia) and Zengqian HOU (China)

8.3 Probing the Earth from near-surface to the mantle - techniques, modelling software and case histories to aid mineral exploration

Richard LANE richard.lane@ga.gov.au (Australia), Ken WITHERLY (USA), Bob MUSGRAVE (Australia), Asbjorn CHRISTENSEN (Australia), Hans-Juergen GOETZE (Germany) and Ned STOLZ (Australia)

8.4 Advances in geochemical exploration

David COHEN d.cohen@unsw.edu.au (Australia), Ravi ANAND (Australia), Ryan NOBLE (Australia), David LAWIE (Australia), Graham CLOSS (USA), Andrew RATE (Australia) and Mark ARUNDALL (Australia)

8.5 Exploration and discovery: diagnosis, prognosis, are we in need of cure? [Society for Geology Applied to Mineral Deposits (SGA)]

David HUSTON david.huston@ga.gov.au (Australia) and Mike HULEATT (Australia)

Keynote speaker: Richard SCHODDE (Australia)

Theme 9. Mineral Deposits and Ore Forming Processes

Coordinators: Ross LARGE ross.large@utas.edu.au (Australia) and Cornel DE RONDE (New Zealand)

Symposia

9.1 Orogen to district scale structural and tectonic controls on porphyry and epithermal deposits

Dick GLEN dick.glen@dpi.nsw.gov.au (Australia), David COOKE (Australia), Reimar SELTMANN (UK) and Eduardo CAMPOS (Chile)

Keynote speaker: Richard TOSDAL (Canada)

9.2 Volcanic and basin-hosted ores (Fe, Zn-Pb, Cu, U)

Bruce GEMMELL bruce.gemmell@utas.edu.au (Australia), Cornel DE RONDE (New Zealand), Stuart BULL (Australia) and David LEACH (USA)

9.3 Dating of ore deposits

Anthony HARRIS a.harris@utas.edu.au (Australia), Sebastien MEFFRE (Australia) and Alain CHEILLETZ (France)

9.4 Iron Oxide Copper Gold deposits (IOCG); the unhappy family

Gary DAVIDSON garry.davidson@utas.edu.au (Australia), Roberto XAVIER (Brazil) and Murray HITZMAN (USA)

9.5 Sediment and/or greenstone-hosted gold [Society of Economic Geologists]

Ross LARGE ross.large@utas.edu.au (Australia), Steve COX (Australia) and Richard GOLDFARB (USA)

9.6 Global sulfur cycle and impact on metallogenesis

Andy TOMKINS andy.tomkins@monash.edu (Australia), Iain PITCAIRN (Sweden) and Katy EVANS (Australia)

Keynote speaker: David LEACH (USA)

9.7 Mineral deposits: episodes, accumulation of metals and related geodynamic processes in China and adjacent regions [IAGOD]

Jingwen MAO jingwenmao@263.net (China), Franco PIRAJNO (Australia) and Reimar SELTMANN (UK)

Keynote speakers: Richard J. GOLDFARB (USA), Weidong SUN (China) and Reimar SELTMANN (UK)

9.8 Metallogeny of the Tasmanides [Australian Institute of Geoscientists]

Doug YOUNG d.young@findex.net.au (Australia) and Kaylene CAMUTI (Australia)

9.9 Giant and super giant orebodies [Society of Economic Geologists]

David COOKE d.cooke@utas.edu.au (Australia), PEI Rongfu (China) and Richard GOLDFARB (USA)

Keynote speaker: Ross LARGE (Australia)

Theme 10. Coal - a Myriad of Resources

Coordinator: Joan ESTERLE j.esterle@uq.edu.au (Australia)

Symposia

10.1 Finding resources, making reserves

Joan ESTERLE j.esterle@uq.edu.au (Australia)

Keynote speakers: Lawrie JORGENSEN (Australia), Cliff MALLETT (Australia) and Hua GUO (Australia)

10.2 Coal - a record of change

Robert LANGFORD robert.langford@ga.gov.au (Australia)

Keynote speakers: Peter McCABE (Australia), Steve GREB (USA), Lopo VASCONCELOS (Mozambique) and Ian METCALFE (Australia)

10.3 Clean coal - what is the global reality?

Leslie RUPPERT lruppert@usgs.gov (USA)

Theme 11. Petroleum Systems and Exploration

Coordinators: Marita BRADSHAW marita.bradshaw@ga.gov.au (Australia), Chris URUSKI (New Zealand) and Sylvia ANJOS (Brazil)

Symposia

11.1 Petroleum prospectivity of divergent and transform passive margin basins of North and South Atlantic, Arctic, India and Australasia

Marita BRADSHAW marita.bradshaw@ga.gov.au (Australia) and Luciano MAGNAVITA (Brazil)

11.2 Pacific rim petroleum system architecture

Chris URUSKI c.uruski@gns.cri.nz (New Zealand), Hermann LEBIT (USA), Bruce AINSWORTH (Australia), Lawrence MECKEL (Indonesia) and Ian BREWER (USA)

11.3 Petroleum system modelling; geochemistry, basins and source rock

Rob FUNNELL r.funnell@gns.cri.nz (New Zealand)

11.4 Petroleum reservoir modelling, seals and enhanced oil recovery (EOR)

Carlos Henrique BRUHN bruhn@petrobras.com.br (Brazil) and Robert SEGGIE (Australia)

11.5 Petroleum exploration in frontier basins

Irina BORISSOVA irina.borissova@ga.gov.au (Australia), Francois Bache (New Zealand) and Sylvia ANJOS (Brazil)

Keynote speakers: Phil RICHARDS (UK) and Marina RABINEAU (France)

11.6 Putting the geo into geophysics - adding clout through better datasets and joint interpretation [Australian Society of Exploration Geophysicists]

Ron HACKNEY ron.hackney@ga.gov.au (Australia), Jörg EBBING (Norway), Hans-Jürgen GÖTZE (Germany) and Bernd LAHMEYER (Norway)

Keynote speaker: Lucy MacGREGOR (UK)

Theme 12. Unconventional Hydrocarbons – Emerging Fuels

Coordinators: James UNDERSCHULTZ james.underschultz@anlecrd.com.au (Australia) and Ingo PECHER (New Zealand)

Symposia

12.1 Coal Seam Gas

Mohinudeen FAIZ mohinudeen.faiz@originenergy.com.au (Australia) and Romeo FLORES (USA)

Keynote speaker: Rob WILLINK (Australia)

12.2 Shale and Tight Gas

Dan MOOS dmoos@bakerhughes.com (USA) and Scott TINKER (USA)

12.3 Gas hydrates

Reem FREIJ-AYOUB reem.freij-ayoub@csiro.au (Australia) and Ingo PECHER (New Zealand)

12.4 Heavy oil

Rick RICHARDSON richardson@woosh.co.nz (New Zealand) and Darrell COTTERILL (Canada)



Theme 13. Sedimentation and Sedimentary Processes

Coordinators: Chris FIELDING cfielding2@unlnotes.unl.edu (USA) and Peter MCCABE (Australia)

Symposia

13.1 Continental depositional systems

Peter MCCABE peter.mccabe@csiro.au (Australia) and Colin NORTH c.p.north@abdn.ac.uk (UK)

Keynote speakers: Kathryn AMOS (Australia), Chris FIELDING (USA) and Colin NORTH (UK)

13.2 Deposits of coastal and shallow marine systems

Bruce AINSWORTH bainsworth@asp.adelaide.edu.au (Australia) Julien BOURGET (Australia) and Rachel NANSON (Australia)

Keynote speaker: Ron STEEL (Austin) and Craig SLOSS (Australia)

13.3 Deepwater sedimentation

Peter KING p.king@gns.cri.nz (New Zealand) and Greg BROWNE (New Zealand)

Keynote speakers: Dorrik STOW (UK) and Bret DIXON (USA)

13.4 Depositional controls on reservoirs

Simon LANG simon.lang@woodside.com.au (Australia)

Keynote speaker: Shaun SADDLER (Australia)

13.5 Applied ichnology

Kerrie BANN kerriebann@ichnofacies.com (Canada) and James MACEACHERN (Canada)

Keynote speakers: Murray GINGRAS (Canada) and Charles E. SAVRDA (USA)

13.6 Sedimentation in icehouse versus greenhouse epochs

Chris FIELDING cfielding2@unlnotes.unl.edu (USA)

Keynote speakers: Martin KENNEDY (Australia), Daniel LeHERON (UK) and Isabel MONTANEZ (USA)

13.7 Modelling sedimentary systems

Cedric GRIFFITHS cedric.griffiths@csiro.au (Australia)

Keynote speaker: Tristan SALLES-TAING (Australia)

13.8 Global controls on sediment accumulation

Chris FIELDING cfielding2@unlnotes.unl.edu (USA) and Jan HARFF jan.harff@io-warnemuende.de (Germany)

Keynote speakers: Mary KRAUS (USA) and Lee KUMP (USA)

13.9 River-dominated shelf sediments in Asian seas

Peter CLIFT p.clift@abdn.ac.uk (UK), Jan HARFF (Germany) and Qiu YAN (China)

Keynote speakers: Chuck NITTROUER (USA), Till HANEBRUTH (Germany) and Shu GAO (China)

Theme 14. Basin Formation and Continental Margin Processes

Coordinators: George GIBSON george.gibson@ga.gov.au (Australia) and Francois ROURE (France)
[International Lithosphere Program Task Force on sedimentary basins]

Symposia

14.1 Linking multiple scales of deformation for basin modelling

Christian HEINE christian.heine@sydney.edu.au (Australia), Peter JAPSEN (Denmark) and Simon WILLIAMS (Australia)

Keynote speakers: Olivier LACOMBE (France), Malcolm ROSS (USA), Marta PEREZ-GUSSINYE (UK), Cinthia LABAILS (NORWAY), Patrick UNTERNEHR (France) and Mark B. ALLEN (UK)

14.2 Convergent margin sedimentary basins

Francois ROURE francois.roure@ifpen.fr (France) and Kevin HILL (Australia)

Keynote speakers: Jean-Paul CALLOT (France), Ken McCLAY (UK-Chile), Alison ORD (Australia) and Jean-Claude RINGENBACH (France)

14.3 Divergent and transform passive margins: observations, imaging and case studies

Magdaena SCHECK-WENDEROTH leni@gfz-potsdam.de (Germany), Jennie TOTTERDELL (Australia), Christophe BASILE (France) and Jean MASCLE (France)

Keynote speakers: Gianreto MANATSCHAL (France), Ritske HUISMANS (Norway) and Nicky WHITE (UK)

14.4 Passive to hyper-extended continental rift margins in the geological record: their recognition, diagnostic elements and comparison with present-day analogues

George GIBSON george.gibson@ga.gov.au (Australia) and Gianreto MANATSCHAL (France)

Keynote speakers: Geoffroy MOHN (France) and Gwenn PERON-PINVIDIC (Norway)

Theme 15. A Dynamic Earth

DOWNLOAD FULL SESSION LISTING HERE **http://www.34igc.org/FileLibrary/theme15_16jan.pdf**

Coordinators: Dietmar MÜLLER dietmar.muller@sydney.edu.au (Australia)

Symposia

15.1 Plate tectonics, plate-mantle coupling and associated deformation

Maria SETON maria.seton@sydney.edu.au (Australia) and Giampiero IAFFALDANO (Australia)

Keynote speakers: Douwe van HINSBERGEN (Norway), Jean-Pierre BURG (Germany), Franco PIRAJNO (Australia), Tim STERN (New Zealand), Mike SANDIFORD (Australia), Olivia LACOMBE (FRANCE) and Ray RUSSO (USA)

15.2 Large asteroid impacts and crustal evolution

Andrew GLIKSON andrew.glikson@anu.edu.au (Australia), Don LOWE (USA), Vic GOSTIN (Australia) and Peter HAINES (Australia)

Keynote speakers: Don LOWE (USA), John SPRAY (Canada), Jay MELOSH (USA), Kathleen GREY (Australia), Adam GARDE (Denmark) and Jan SMIT (Netherlands)

15.3 Evolution and dynamics of the Indo-Australian Plate

Myra KEEP myra.keep@uwa.edu.au (Australia) and Wouter SCHELLART (Australia)

Keynote speakers: Manuel PUBELLIER (France) and Mark CLOOS (USA)

15.4 Linking deep earth to plate tectonic and surface processes

Dietmar MÜLLER dietmar.muller@sydney.edu.au (Australia), Mike GURNIS (USA) and ZHAO Yue (China)

Keynote speakers: Alessandro FORTE (Canada), Mike GURNIS (USA), Nicky WHITE (UK), Peter BURGESS (UK), Huw DAVIES (UK), Trond TORSVIK (Norway), Paul WESSEL (USA), Hans-Peter BUNGE (Germany), Wim SPAKMAN (Netherlands), Claudio FACCENNA (Italy), Clint CONRAD (USA), John TARDUNO (USA), Jean BRAUN (France), Steve GRAND (USA), Gabi LASKE (USA), Shanan PETERS (USA) and Kenni PETERSEN (Denmark)

15.5 Orogens and orogenesis: accretionary, cordilleran and collisional processes, products

Patrice REY patrice.rey@sydney.edu.au (Australia), Richard GLEN (Australia), Christian TEYSSIER (USA), Donna WHITNEY (USA) and Zengqian HOU (China)

Keynote speakers: Taras GERYA (Switzerland), Louis MORESI (Australia), David STEGMAN (USA), Laurent HUSSON (France), Fabio CAPITANIO (Australia), Brad HACKER (USA), Aral OKAY (Turkey), Olivier VANDERHAEGHE (France), Roberto WEINBERG (Australia), Ian METCALFE (Australia), Nick MORTIMER (New Zealand), Graciano YUMUL (Philippines), Ron HARRIS (USA), Richard GLEN (Australia) and Ian WITHNALL (Australia)

Theme 16. The Deep Earth

Coordinators: Sue O'REILLY sue.oreilly@mq.edu.au (Australia) and Bill GRIFFIN (Australia)

Symposia

16.1 The lithosphere-asthenosphere boundary: nature, formation and evolution from Hadean to now

Craig O'NEILL craig.oneill@mq.edu.au and Manel FERNANDEZ (Spain)

Keynote speaker: David MAINPRICE (France)

16.2 Fluids in the lithospheric mantle

Alan JONES alan@cp.dias.ie (Ireland) and Anne POMMIER (USA)

Keynote speakers: Jörg HERMANN (Australia) and Stéphane RONDENAY (USA)

16.3 The crust-mantle lithosphere system

Bill GRIFFIN bill.griffin@mq.edu.au, (Australia), Ramon CARBONELL (Spain), Adrian LENARDIC (USA) and Norman PEARSON (Australia)

Keynote speaker: Mike BROWN (USA)

16.4 Deep Earth circulation

Shijie ZHONG shijie.zhong@colorado.edu (USA), Julian PEARCE (UK), Leonid DUBROVINSKY (Germany) and Jingsui YANG (China)

Keynote speakers: Michael GURNIS (USA) and Matthew G. JACKSON (USA)

16.5 Lithosphere structure from ambient noise and other seismology

Michael RITZWOLLER michael.ritzwoller@colorado.edu (USA), Ling CHEN (China), Yingjie YANG (Australia) and Juan Carlos AFONSO (Australia)

Keynote speakers: Donald W. FORSYTH (USA) and Brian KENNETT (Australia)

Theme 17. The Early Earth: Hadean and Archean Development of a Habitable Planet

Coordinators: Vickie BENNETT vickie.bennett@anu.edu.au (Australia), Malcolm WALTER (Australia) and Martin VAN KRANENDONK (Australia)

Symposia

17.1 Building planet Earth – the first 500 million years

Vickie BENNETT vickie.bennett@anu.edu.au (Australia) and Tony KEMP (Australia)

Keynote speakers: Craig O'NEILL (Australia), Tsuyoshi IIZUKA (Tokyo) and Oliver NEBEL (Australia)

17.2 Rates and mechanisms of Archean crust formation – the relative contribution of plume versus plate tectonics

Patrice REY p.rey@usyd.edu.au (Australia), Kent CONDIE (USA) and Martin VAN KRANENDONK (Australia)

17.3 The habitats and paleobiology of early life on Earth, and the rise of oxygen

Malcolm WALTER malcolm.walter@unsw.edu.au (Australia), Dave WACEY (Australia) and Ariel ANBAR (USA)

17.4 Early Earth geodynamics and evolution – uncovering links between changing early Earth and biological diversification

Martin Van KRANENDONK martin.vankranendonk@dmp.wa.gov.au (Australia), Ian CAMPBELL (Australia) and Craig O'NEILL (Australia)

17.5 The origin and settings of Archean mineral systems

Nicolas THÉBAUD nicolas.thebaud@uwa.edu.au (Australia), Wolf MAIER (Finland) and Kevin CASSIDY (Australia)

Theme 18. The Proterozoic Earth

Coordinators: Peter BETTS peter.betts@sci.monash.edu.au (Australia) and Martin HAND (Australia)

Symposia

18.1 Building the Australian continent

Richard BLEWETT richard.blewett@ga.gov.au (Australia) and Dorothy CLOSE (Australia)

Keynote speakers: Russell KORSCH (Australia) and David HUSTON (Australia)

18.2 The Neoproterozoic Earth

Martin KENNEDY martin.kennedy@adelaide.edu.au (Australia), Louis DERRY (USA) and Nicholas CHRISTIE-BLICK (USA)

Keynote speakers: Shuhai XIAO (USA) and Nick CHRISTIE-BLICK (USA)

18.3 Proterozoic supercontinents, processes, models, myths, and possibilities

David EVANS dai.evans@yale.edu (USA) and Zheng-Xiang LI (Australia)

Keynote speakers: Shihong ZHANG (China) and Richard ERNST (Canada)

18.4 Proterozoic magmatism: implication for tectonic models

Kent CONDIE kcondie@nmt.edu (USA) and Justin PAYNE (Australia)

Keynote speaker: Wouter BLEEKER (Canada)

18.5 Metallogenic systems of the Proterozoic

Franco PIRAJNO franco.pirajno@dmp.wa.gov.au (Australia) and Tom BLENKINSOP (Australia)

Keynote speakers: Kurt KYSER (Canada), Simon JOHNSON (Australia) and Steffan HAGEMANN (Australia)

Theme 19. Geochronology and Isotope Geology

Coordinators: Paulo VASCONCELOS paulo@earth.uq.edu.au (Australia), Donald DEPAOLO (USA) and Igor VILLA (Switzerland)

Symposia

19.1 Dating earth and planetary evolution - cosmochronology and isotope cosmochemistry

Yuri AMELIN yuri.amelin@anu.edu.au (Australia) and Claudine STIRLING (New Zealand)

19.2 Dating our recent past - analytical methods in Quaternary geochronology and paleoclimatology

Jian-xin ZHAO j.zhao@earth.uq.edu.au (Australia), Chuan-Chou (River) SHEN (Taiwan), and Gangjian WEI (China)

19.3 Dating landscape evolution - low-temperature thermochronology and cosmogenic nuclides

Paulo VASCONCELOS paulo@earth.uq.edu.au (Australia), Ken FARLEY (USA), Paul BIERMAN (USA) and Andrew GLEADOW (Australia)

19.4 Unravelling the complexities of high and low temperature geologic processes: light and heavy stable isotope geochemistry

Sue GOLDING s.golding1@uq.edu.au (Australia), Torsten VENNEMANN (Switzerland) and Allan CHIVAS (Australia)

19.5 Advances in radiogenic isotope geochemistry and geochronology

Kurt KNESEL k.knesel@uq.edu.au (Australia), Márcio PIMENTEL (Brazil) and Robert CREASER (Canada)

19.6 Conventions on decay constants and isotopic compositions

Igor VILLA igor@geo.unibe.ch (Switzerland) and Paul RENNE (USA)

Theme 20. Planetary Sciences

Coordinators: Graziella CAPRARELLI graziella.caprarelli@uts.edu.au (Australia), Monica PONDRELLI (Italy), Charles LINEWEAVER (Australia), James HEAD (USA) and Phil NICHOLSON (USA)

Symposia

20.1 Surface processes on Mars

Angelo PIO ROSSI an.rossi@jacobs-university.de (Germany), Gian Gabriele ORI (Italy) and Monica PONDRELLI (Italy)

20.2 Bio-geomarkers and models in astrobiology

Jesus MARTINEZ-FRIAS jmfrias@cab.inta-csic.es (Spain) and Howell EDWARDS (UK)

20.3 Radar in planetary exploration

Roberto OROSEI roberto.orosei@ifsi-roma.inaf.it (Italy) and Jani RADEBAUGH (USA)

Keynote Speakers: Stephen WALL (USA) and Roberto SEU (Italy)

20.4 Lunar research and exploration in the 21st century

Robert PIDGEON r.pidgeon@curtin.edu.au (Australia) and Jennifer HELDMANN (USA)

Keynote speakers: G. Jeffrey TAYLOR (USA) and David KRING (USA)

20.5 Planets and satellites of the Solar System

Graziella CAPRARELLI graziella.caprarelli@uts.edu.au (Australia)

Theme 21. Magmatism – Settings, Compositions and Processes

Coordinators: Janet HERGT jhergt@unimelb.edu.au (Australia) and Jon BLUNDY (UK)

Symposia

21.1 Felsic magmas: petrogenesis to metallogenesis

Phil BLEVIN phil.blevin@industry.nsw.gov.au (Australia), Bruce CHAPPELL (Australia) and Shunso ISHIHARA (Japan)

Keynote speaker: Bruce Chappell (Australia)

21.2 Granite versus orogenic style

Bill COLLINS bill.collins@newcastle.edu.au (Australia) and Bernard BONIN (France)

21.3 Subduction zone magmatism including a special session on magmatism in the SW Pacific

Richard WYSOCZANSKI r.wysoczanski@niwa.co.nz (New Zealand), Monica HANDLER (New Zealand) and Colin WILSON (New Zealand)

Keynote speakers: Jon BLUNDY (UK) and Richard ARCULUS (Australia) - Special session of magmatism in the SW Pacific

21.4 Magmatism in extensional environments (continental rifts and MORB)

Trevor FALLOON trevor.falloon@utas.edu.au (Australia) and Yaoling NIU (UK)

Keynote speaker: Kenneth RUBIN (USA)

21.5 Intraplate magmatism, including ocean island basalts, continental basalt provinces, kimberlites and lamproites

Ben COHEN b.cohen@uq.edu.au (Australia), Ian MCDOUGALL (Australia) and Godfrey FITTON (UK)

Keynote speakers: Anthony KOPPERS (USA) and Paul WESSEL (USA)

21.6 Large Igneous Provinces and their impact on the lithosphere, atmosphere and biosphere

Scott BRYAN scott.bryan@qut.edu.au (Australia), Steve SELF (UK) and Ingrid UKSTINS-PEATE (USA)

Keynote speakers: Sverre PLANKE (Norway) and Paul WIGNALL (UK)

Theme 22. Metamorphic Rocks and Processes

Coordinators: Jörg HERMANN joerg.hermann@anu.edu.au (Australia), Geoffrey CLARKE (Australia) and Simon HARLEY (UK)

Symposia

22.1 From ocean floor to subduction zone metamorphism

Katy EVANS k.evans@curtin.edu.au (Australia), Phillipe AGARD (France), Carl SPANDLER (Australia), Marco SCAMBELLURI and Jörg HERMANN (Australia)

Keynote speakers: Brad HACKER (USA) and Stefano POLI (Italy)

22.2 Rates of metamorphic processes

Geoff FRASER geoff.fraser@ga.gov.au (Australia), Ethan BAXTER (USA) and Sue BALDWIN (USA)

Keynote speakers: Daniela RUBATTO (Australia) and Mark CADDICK (Switzerland)

22.3 Mechanisms of metamorphic reactions and fluid-rock interaction

Andrew PUTNIS putnis@uni-muenster.de (Germany), Lukas BAUMGARTNER (Switzerland), Bill CARLSON (USA) and Jay AGUE (USA)

Keynote speakers: Håkon AUSTRHEIM (Norway) and David PATTISON (Canada)

22.4 Quantification of extreme metamorphism and implications for tectonics

Chris CLARKE c.clark@curtin.edu.au (Australia), Brad HACKER (USA), Yong Fei ZHENG (China) and Yasu OSANAI (Japan)

Keynote speakers: Tim LITTLE (New Zealand) and David KELSEY (Australia)

22.5 Anatexis

Geoffrey CLARKE geoffrey.clarke@sydney.edu.au (Australia), Michael BROWN (USA), Bernardo CESARE (Italy) and Gary STEVENS (South Africa)

Keynote speakers: Edward SAWYER (Canada), Fawna KORHONEN (Australia), Gary STEVENS (South Africa) and Fernando BEA (Spain)

22.6 Accessory phases and trace elements in metamorphic processes

Daniela RUBATTO daniela.rubatto@anu.edu.au (Australia), Nigel KELLY (USA), Ian BUICK (South Africa), Simon HARLEY (UK) and Thomas ZACK (Germany)

Keynote speakers: Emilie JANOTS (France) and Steve REDDY (Australia)

Theme 23. Evolution of the Biosphere

Coordinators: John LAURIE john.laurie@ga.gov.au (Australia) and Andrew KNOLL (USA)

Symposia

23.1 Martin Glaessner symposium: The Ediacaran and the Cambrian Explosion

John LAURIE john.laurie@ga.gov.au (Australia), Glenn BROCK (Australia) and Guy NARBONNE (Canada)

23.2 John Talent symposium: Paleozoic biofacies, biogeography and bioevents

Ian PERCIVAL ian.percival@industry.nsw.gov.au (Australia), Tony WRIGHT (Australia) and Guang SHI (Australia)

23.3 Evolution of hominins

Colin GROVES colin.groves@anu.edu.au (Australia), Chris STRINGER (Australia) and Darren CURNOE (Australia)

23.4 General palaeontology

Alex COOK alex.cook@qm.qld.gov.au (Australia) and Alexander NUTZEL (Germany)

23.5 Oxygen and evolution

Andrew KNOLL aknoll@oeb.harvard.edu (USA) and Jochen BROCKS (Australia)

23.6 Proterozoic life

Kathleen GREY kath.grey@dmp.wa.gov.au (Australia) and Stanley AWRAMIK (USA)

23.7 Gondwanan Mesozoic vertebrates

Benjamin KEAR benjamin.kear@geo.uu.se (SWEDEN) and Thomas RICH (Australia)

23.8 Mesozoic bioevents

David HAIG david.haig@uwa.edu.au (Australia), Stephen MCLOUGHLIN (Sweden) and Mikael SIVERSSON (Australia)

23.9 Origin and evolution of marsupials

Michael ARCHER m.archer@unsw.edu.au (Australia) and Suzanne HAND (Australia)

23.10 Early vertebrate evolution

Kate TRINAJSTIC k.trinajstic@curtin.edu.au (Australia)

23.11 Cenozoic marine environments

Stephen GALLAGHER sjgall@unimelb.edu.au (Australia) and Bridget WADE (UK)

Keynote speaker: Paul N PEARSON (UK)

Theme 24. Reefs and Carbonates

Coordinators: Gregory E WEBB g.webb@uq.edu.au (Australia) and Noel P JAMES (Canada)

Symposia

24.1 Reefs and climate change

Gilbert CAMOIN gcamoin@cerege.fr (France) and Bradley OPDYKE (Australia)

24.2 Ancient reefs

Wolfgang KIESSLING wolfgang.kiessling@mfn-berlin.de (Germany) and Jody WEBSTER (Australia)

24.3 Understanding microbial carbonates

Robert RIDING riding@cf.ac.uk (USA) and Gregory E WEBB (Australia)

Keynote speaker: Malcolm WALTER (Australia)

24.4 Secular change in carbonate sedimentology/geochemistry

Vinod TEWARI vtewari@wihg.res.in (India) and Annette GEORGE (Australia)

Keynote speaker: Tracy FRANK (USA)

Theme 25. Marine Geoscience and Oceanography

Coordinators: Peter HARRIS peter.harris@ga.gov.au (Australia) and Neville EXON (Australia)

Symposia

25.1 Integrated Ocean Drilling Program (IODP), the results of deep drilling in the oceans

Neville EXON neville.exon@anu.edu.au (Australia) and Mike MOTTL (USA)

Keynote speaker: Mike MOTTL (USA) and Neville EXON (Australia)

25.2 Palaeoceanography and sea-level records

Colin WOODROFFE colin@uow.edu.au (Australia) and Leanne ARMAND (Australia)

Keynote speaker: Eelco J ROHLING (UK)

25.3 Physical processes of coastal and shelf sedimentation

Peter HARRIS peter.harris@ga.gov.au (Australia), James SYVITSKI (USA) and Charitha PATTIARATCHI (Australia)

Keynote speaker: Michael COLLINS (UK)

25.4 Source to sink sediment pathways and the evolution of continental margins

Chuck NITTROUER nittroue@ocean.washington.edu (USA) and Alan ORPIN (New Zealand)

Keynote speakers: John P WALSH (USA) and Peter D CLIFT (UK)

25.5 Geoscience applications for ocean management and also for supporting jurisdictional claims under the United Nations Law of the Sea

Andrew HEAP andrew.heap@ga.gov.au (Australia), Brian TODD (Canada) and Mark ALCOCK (Australia)

Keynote speakers: Gary GREENE (USA) and Phil SYMONDS (Australia)

25.6 Marine minerals in Oceania

David CRONAN d.cronan@imperial.ac.uk (UK), Cornel DE RONDE (New Zealand) and Neville EXON (Australia)

Keynote speakers: Cornel DE RONDE (New Zealand) and James HEIN (USA)

Theme 26. Antarctic and Arctic Geoscience

Coordinators: Phil O'BRIEN phil.obrien.ant@gmail.com (Australia) and Tim NAISH (New Zealand)

Symposia

26.1 The geology of Antarctic life: history and habitats

Phil O'BRIEN phil.obrien.ant@gmail.com (Australia) and Jeff STILWELL (Australia)

26.2 Antarctic marine biogeochemistry

Simon GEORGE simon.george@mq.edu.au (Australia) and Leanne ARMAND (Australia)

Keynote speaker: Simon BRASSELL (USA)

26.3 Arctic tectonics

Loic LABROUSSE loic.labrousse@upmc.fr (France), Oleg PETROV (Russia) and Christopher HARRISON (Canada)

26.4 Rodinia to Gondwana: evolution of the southern supercontinent

Chris CARSON chris.carson@ga.gov.au (Australia) and Mark FANNING (Australia)

26.5 Polar climate archives and their global significance

Tim NAISH timothy.naish@vuw.ac.nz (New Zealand) and Henk BRINKHUIS (The Netherlands)

Theme 27. Biogeoscience

Coordinators: Matthew STOTT m.stott@gns.cri.nz (New Zealand) and Jill BANFIELD (USA)

Symposia

27.1 Biogeochemical cycling

John MOREAU jmoreau@unimelb.edu.au (Australia)

27.2 Understanding biogeological processes using '-omic' technologies

Jill BANFIELD jbanfield@berkeley.edu (USA) and Matthew STOTT (New Zealand)

Keynote speaker: Gene TYSON (Australia)

27.3 Microbes and extreme environments

Lesley WARREN warrenl@mcmaster.ca (Canada) and Don COWAN (South Africa)

27.4 The deep biosphere

Anna KAKSONEN anna.kaksonen@csiro.au (Australia) and Katrina EDWARDS (USA)

27.5 Bioprocessing technologies

Racquel QUATRINI rquatrini@yahoo.com.ar (Chile) and Carol DAVIS-BELMAR (Chile)

Keynote speaker: David S. HOLMES (Chile)

27.6 Austral Portals: Paleobiogeography and paleogeography of Gondwana breakup

Jo WHITTAKER jo.whittaker@sydney.edu.au (Australia), Ross MCPHEE (USA) and Dave BARBEAU (USA)

Theme 28. Groundwater/Hydrogeology

Coordinators: Ken LAWRIE ken.lawrie@ga.gov.au (Australia) and Chris DAUGHNEY (New Zealand)

Symposia

28.1 Groundwater resources and sustainable management

Gil ZEMANSKY g.zemansky@gns.cri.nz (New Zealand) and Ross BRODIE (Australia)

Keynote speaker: Craig SIMMONS (Australia)

28.2 Groundwater processes: interactions, dynamics and response

Chris DAUGHNEY c.daughney@gns.cri.nz (New Zealand), Uwe MORGENSTERN (New Zealand) and Bear MCPHAIL (Australia)

Keynote speaker: Chris Neuzil (USA)

28.3 Geoscientific mapping, characterisation and conceptualisation of hydrogeological systems

Ken LAWRIE ken.lawrie@ga.gov.au (Australia), Jon CLARKE (Australia) and Malcolm COX (Australia)

Keynote speaker: Jared ABRAHAM (USA)

28.4 Groundwater for energy and mining

Ken LAWRIE ken.lawrie@ga.gov.au (Australia) and Steven LEWIS (Australia)

28.5 Hazards and risks to groundwater systems

Ken LAWRIE ken.lawrie@ga.gov.au (Australia), Baskaran SUNDERAM (Australia) and Chris DAUGHNEY (New Zealand)

28.6 Visualisation and modelling of groundwater systems

Malcolm COX m.cox@qut.edu.au (Australia), Mauricio TAULIS (Australia) and Bruce GILL (Australia)

Keynote speaker: Clifford VOSS (USA)

Theme 29. Surficial Processes and Landscape Evolution

Coordinators: Allan CHIVAS toschi@uow.edu.au (Australia) and Brad PILLANS (Australia)

Symposia

29.1 Landscape response to climate change: quantifying present and ancient rates of earth surface processes

Anthony DOSSETO tonyd@uow.edu.au (Australia) and Arjun HEIMSATH (USA)

Keynote speaker: Paul BIERMAN (USA)

29.2 Karst: processes, environment and palaeoenvironmental records

Jianhua CAO jhcao@karst.edu.cn (China) and Yaoru LU (China)

Keynote speaker: Zaihua LIU (China)

29.3 History of aridity: evidence from the continents and the oceans

Paul HESSE paul.hesse@mq.edu.au (Australia) and Matt TELFER (UK)

29.4 Deep weathering through deep time: regolith processes and ore deposits

Ravi ANAND ravi.anand@csiro.au (Australia) and Allan CHIVAS (Australia)

Keynote speaker: Bill VERBOOM (Australia)

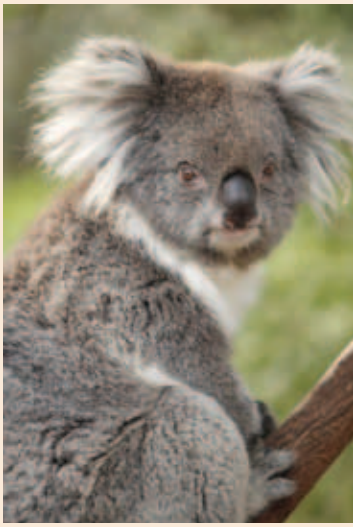
29.5 Gondwana landscapes: tectonics and denudation

Brad PILLANS brad.pillans@anu.edu.au (Australia) and Paul BISHOP (UK)

29.6 Clays and clay minerals: geology, properties and uses

Chun-Hui ZHOU chunhui09clay@yahoo.cn (China) and John KEELING (Australia)





Theme 30. Geohazards

Coordinators: Phil CUMMINS phil.cummins@anu.edu.au (Australia), Terry WEBB (New Zealand) and Kelvin BERRYMAN (New Zealand)

Symposia

30.1 Subaerial and submarine landslide hazards [IGCP585]

Jason CHAYTOR jchaytor@usgs.gov (USA), Peter BOBROWSKY (Canada), Ashvin WICKRAMASOORIYA (Sri Lanka) and Diana ZAKHIDOVA (Romania)

Keynote speaker: Geoffroy LAMARCHE (New Zealand)

30.2 Natural hazards and climate change

Bob CECHET bob.cechet@ga.gov.au (Australia), Graeme SMART (New Zealand) and Martyn HAZELWOOD (Australia)

Keynote speaker: Andrew ASH (Australia)

30.3 Improving the interaction between natural/physical and social sciences to increase the effectiveness of natural disaster risk reduction

Irina RAFLIANA irina_rafliana@hotmail.com (Indonesia), Dale DOMINEY-HOWES (Australia) and Michelle DALY (New Zealand)

30.4 Geohazards in subduction zones

Laura WALLACE l.wallace@gns.cri.nz (New Zealand), Phil CUMMINS (Australia) and Danny NATAWIDJAJA (Indonesia)

Keynote speakers: Yuki SAWAI (Japan) and Gill JOLLY (New Zealand)

30.5 Geohazard risk analysis: The state of the art

Jane SEXTON jane.sexton@ga.gov.au (Australia)

Keynote speaker: John Schneider (Australia)

30.6 Earth monitoring for improved forecasting of natural hazards

Phil CUMMINS phil.cummins@anu.edu.au (Australia) and Ken GLEDHILL (New Zealand)

Keynote speaker: Ken GLEDHILL (New Zealand)

Theme 31. Engineering Geology and Geomechanics

Coordinators: Mark EGGERS mark.eggers@psmconsult.com.au (Australia) and Francisco DE JORGE (Brazil)

Symposia

31.1 Engineering geological challenges for our ever growing cities
Martin CULSHAW martin.culshaw2@ntlworld.com (UK)

Keynote speaker: Simon PRICE (UK)

31.2 Engineering geology in major infrastructure developments
Francisco DE JORGE francisco.dejorge@engeocons.com.br (Brazil)

31.3 Engineering geology in mining
Mark EGGERS mark.eggers@psmconsult.com.au (Australia)

31.4 Engineering geology in managing risk from geohazards and impacts of climate change
Anders SOLHEIM anders.solheim@ngi.no (Norway)

31.5 Improving the development of geological models for engineering studies
Steve PARRY sparry@georisksolutions.com (Hong Kong)

31.6 Interaction of engineering geology and geomechanics
Phil PAIGE-GREEN ppaigegr@csir.co.za (South Africa)

Theme 32. Geoscience Information from Proximal and Remote Sensing Technologies

Coordinators: Tom CUDAHY thomas.cudahy@csiro.au (Australia), Adam LEWIS (Australia), and Carlos DE SOUZA FILHO (Brazil) [UNESCO- IUGS Geological Applications of Remote Sensing (GARS) program]

Symposia

32.1 Mineral exploration
Fred KRUSE fakruse@nps.edu (USA)

Keynote speaker: Sandra PERRY (USA)

32.2 Mining and geometallurgy
Kai YANG kai.yang@csiro.au (Australia)

Keynote speakers: Erick RAMANAIDOU (Australia)

32.3 Energy: hydrocarbons, uranium and geothermal
Carlos DE SOUZA FILHO beto@ige.unicamp.br (Brazil)

Keynote speaker: Benoit RIVARD (Canada)

32.4 Environmental monitoring in resource development
Tom CUDAHY thomas.cudahy@csiro.au (Australia) and Cindy ONG (Australia)

Keynote speaker: Eyal BEN-DOR (Israel)

32.5 Earth's environment: geology, landforms, soils, water and biomass
Sabine CHABRILLAT chabri@gfz-potsdam.de (Germany) and Alvaro P. CRÓSTA (Brazil)

Keynote speakers: Robert GREEN (USA), Stuart MARSH (UK & GARS)

32.6 Disaster management
Mike ABRAMS michael.j.abrams@jpl.nasa.gov (USA)

Keynote speaker: Robert WRIGHT (USA)

32.7 Second National Virtual Core Library (NVCL) Symposium
Jon HUNTINGTON jon.huntington@csiro.au (Australia)

Theme 33. History of the Geosciences

Coordinators: Barry COOPER barry.cooper@unisa.edu.au (Australia) and S F de M FIGUEIRÔA (Brazil)
[37th Conference of the International Commission on the History of Geological Sciences - INHIGEO]

Symposia

33.1 Biographical studies of eminent geologists: A symposium in honour of David Branagan

David OLDROYD doldroyd@bigpond.com (Australia)

Keynote speaker: Léo F LAPORTE (USA)

33.2 The early history of continental drift: A centenary tribute to Alfred Wegener (1912)

Allan KRILL allan.krill@ntnu.no (Norway) and Homer LE GRAND (Australia)

Keynote speaker: Allan KRILL (Norway)

33.3 Major achievements in 20th century geology

Carol BACON cbacon@mrt.tas.gov.au (Australia)

Keynote speaker: Ian McDOUGALL (Australia)

33.4 Geology in tropical regions

Bernie JOYCE ebj@unimelb.edu.au (Australia)

33.5 Geologists, resource exploration and development: an historical perspective

Ken MCQUEEN ken.mcqueen@canberra.edu.au (Australia)

Keynote speaker: Tony HOPE (Australia)

33.6 General contributions on the history of geology

Barry COOPER barry.cooper@unisa.edu.au (Australia)

Theme 34. Major Geoscience Initiatives, Geosurveys and Maps

Coordinators: Ian LAMBERT ian.lambert@ga.gov.au (Australia) and Ian WITHNALL (Australia)

Symposia

34.1 Geological processes of the construction of Asia

Manuel PUBELLIER manupub.pubellier@gmail.com (France), Jishun REN (China) and Xiaochi JIN (China)

34.2 Geological and metallogenic responses to deep processes in Eastern Asia and continental margins

Dong SHUWEN dic@cags.ac.cn (China) and Oleg PETROV (Russia)

Keynote speakers: DONG Shuwen (China), Oleg PETROV (Russia), Tomurtogoo O. (Mongolia) and Sung Won KIM (Republic of Korea)

34.3 SinoProbe—deep exploration in China

Dong SHUWEN dic@cags.ac.cn (China), Tingdong LI (China), Larry BROWN (USA) and Mian LIU (USA)

34.4 Seismotectonic map of Africa: Revisiting spatial distribution of earthquakes, active faulting, crustal deformation and volcanic eruptions in the continent

Mustapha MEGHRAOUI m.meghraoui@unistra.fr (France), Vunganai MIDZI (South Africa) and Atalay AYELE (Ethiopia)

Theme 35. Geostandards

Coordinators: Colin SIMPSON simpsons@grapevine.com.au (Australia) and William CAVAZZA (Italy)

Note – The Geostandards sessions are organised by groups associated with the IUGS. Presentations may be by invitation of the convenors.

Symposia

35.1 GSSPs (Global boundary-stratotype section and point) as global geostandards

Stan FINNEY scfinney@csulb.edu (USA), Marco BALINI (Italy) and Jim OGG (USA)

35.2 International Subcommission on Precambrian stratigraphy: a chronostratigraphic division of the Precambrian: possibilities and challenges

Martin VAN KRANENDONK martin.vankranendonk@dmp.wa.gov.au (Australia)

35.3 International Subcommission on Neoproterozoic stratigraphy: Neoproterozoic chronostratigraphy and the evolution and diversification of metazoa and evolution of the Earth system

James GEHLING jim.gehling@samuseum.sa.gov.au (Australia)

35.4 International Subcommission on Cambrian stratigraphy: Cambrian chronostratigraphy and evolution and diversification of early Cambrian life

Shanchi PENG pengshanchi@hotmail.com (China) and Loren BABCOCK (USA)

Keynote speakers: James B. JAGO (Australia), Michael STEINER (Germany), Xingliang ZHANG (China) and Maoyan ZHU (China)

35.5 International Subcommission on Ordovician stratigraphy: Ordovician intercontinental correlations: developing global and regional chronostratigraphy

David HARPER dharper@snm.ku.dk (Denmark) and Ian PERCIVAL (Australia)

35.6 International Subcommission on Devonian stratigraphy: the Devonian of Asia and Australia

Thomas BECKER rbecker@uni-muenster.de (Germany)

35.7 The Devonian-Carboniferous-Permian Correlation Chart

Manfred MENNING menne@gfz-potsdam.de (Germany)

Keynote speakers: Manfred MENNING (Germany), Charles HENDERSON (Canada) and Markus ARETZ (France)

35.8 International Subcommission on Quaternary stratigraphy: short-time divisions in the Quaternary; and onshore-offshore correlation during the Quaternary

Phil GIBBARD plg1@hermes.cam.ac.uk (UK)

35.9 Other geostandards

Colin SIMPSON simpsons@grapevine.com.au (Australia)

Theme 36. Regional, Thematic and Specialist Symposia

Coordinator: Ian LAMBERT ian.lambert@ga.gov.au (Australia)

These sessions are organised by groups associated with the IUGS and other international and national associations. Oral presentations may be by invitation of the convenors.

Symposia

36.1 From the Caspian Sea to the Mediterranean Corridor: Paleoenvironmental change and human response from the Last Glacial Maximum into the future [International Union for Quaternary Research (INQUA) 0501 and IGCP 521]

Valentina YANKO-HOMBACH valyan@avalon-institute.org (Canada), Olena SMYNTYNA (Ukraine) and Tamara YANINA (Russia)

36.2 Dust from geological sources: impacts on the economy, environment and society [IUGS – Commission on Geoscience for Environmental Management (GEM) Working Group on Dust]

Brian MARKER brian@amarker.freeserve.co.uk (UK) and Jose CENTENO (USA)

Keynote speaker: John H LEYS (Australia)

36.3 Natural hazards and ancient societies [IGCP 567]

Patrick NUNN pnunn3@une.edu.au (Australia), Bruce MCFADGEN (New Zealand), Iain STEWART (UK) and Manuel SINTUBIN (Belgium)

36.4 Environmental change and sustainability in karst systems: relations to climate change and anthropogenic activities (2011-2016) [IGCP/SIDA Project 598]

Cheng ZHANG chzhang@karst.ac.cn (China), Chris GROVES (USA) and Augusto AULER (Brazil)

36.5 International perspectives on teaching geological mapping [GSA International Section]

Joann STOCK jstock@gps.caltech.edu (USA) and Anke FRIEDRICH (Germany)

36.6 Greater Altai – a unique rare-metal-gold-polymetallic province in Central Asia [National Committee of Kazakhstan Geologists]

Bulat UZHKENOV bekzhanov@nursat.kz (Kazakhstan), Alexey VARLAMOV (Russia) and Grigory ABRAMSON (Australia).

36.7 Overcoming geoscience challenges in the 21st century by developing and improving the skills of early-career geoscientists [YES Network]

Joanne VENUS eejhv@leeds.ac.uk (UK), Gabriela PERLINGEIRO (Australia) and Michelle COOPER (Australia)

36.8 Inclusions in minerals [International Mineralogical Association Working Group on Inclusions in Minerals]

Pei NI peini@nju.edu.cn (China), Ronald BAKKER (Austria) and Fanus VILJOEN (South Africa)

Keynote speakers: Vadim KAMENETSKY (Australia) and Guoxiang CHI (Canada)

36.9 Uranium resources, supply and demand [IAEA-OECD/NEA Uranium Group]

Ian LAMBERT ian.lambert@ga.gov.au (Australia)

36.10 Strengthening communication between fundamental and applied geosciences and between geoscientists and public [European Federation of Geologists]

Isabel FERNÁNDEZ FUENTES isabel.fernandez@eurogeologists.eu and Ruth ALLINGTON (UK)

36.11 Minerals and related phases

Andrew CHRISTY andrew.christy@anu.edu.au (Australia)

Theme 37. Alternative Concepts

These sessions will be arranged by the convenors listed and presentations may be by invitation.

Symposia

37.1 Expanding Earth (Sam Carey Memorial)

Giancarlo SCALERA giancarlo.scalera@ingv.it (Italy), James MAXLOW (Australia), Cliff OLLIER (Australia) and Stefan CWOJDZINSKI (Poland)

37.2 Pursuit of a new global geodynamic paradigm

Dong CHOI raax@ozemail.com.au (Australia), Ismail BHAT (India) and Karsten STORETVEDT (Norway)

Keynote speakers: Ismail BHAT (India), Karsten STORETVEDT (Norway), Dong R CHOI (Australia), Takao YANO (Japan), Boris I. VASILIEV (Russia) and Louis HISSINK (Australia)

Other Major Forums

F.1 Young Earth Scientists (YES) Congress – evening program

Gabriela PERLINGEIRO gabrielaperlingeiro@yahoo.com (Australia), Joanne VENUS (UK) and Michelle COOPER (Australia)

F.2 International GeoSurveys' Forum: Applying geoscience to address the world's major challenges

Chris PIGRAM (Australia) chris.pigram@ga.gov.au and Alex MALAHOFF (New Zealand)

F.3 Global Geoscience Initiative

Edmund NICKLESS edmund.nickless@geolsoc.org.uk (UK), John LUDDEN (UK), Pat LEAHY (USA) and Jack HESS (USA)

F.4 Earth Science Matters – successor to the International Year of Planet Earth (IYPE)

Ed DE MULDER e.demulder@planet.nl (Netherlands), Wolfgang EDER (Germany), Sierd CLOETINGH (Netherlands), and Sospeter MUHONGO (Tanzania)

Publications

The 34th IGC will publish standard abstracts electronically at the time of the event, but will not publish papers presented. Symposium convenors and groups wishing to publish papers presented at the 34th IGC are free to enter independently into agreements with publishing houses.

The scientific sponsor of the Congress, the IUGS, has an arrangement with **The Geological Society of London (GSL)** Publishing House for the publication of books arising from its programs and other activities, including International Geological Congresses. GSL will approach selected IGC Symposia and Specialist Session Convenors to encourage them to consider producing a *Geological Society Special Publication* from their session - *Special Publications* are published online and as hardback books which will be included in ISI Web of Science and Scopus.

The *Special Publications* do not have to be comprehensive treatments, but they do need to be balanced and have a strong subject focus. Ideally they comprise 18-25 papers, although there have been longer and shorter ones. More information can be found at **www.geolsoc.org.uk/sp.**

Alternatively, Convenors are free to negotiate publication of their Symposia/Specialist Sessions with other publishing houses, or to elect not to publish full papers.

Professional Development Workshops and Short Courses

A series of professional development workshops and short courses will be held in Brisbane at the Congress venue (Brisbane Convention and Exhibition Centre) and other venues throughout Brisbane before, during and after the 34th IGC.

A list of the workshops appears below. The workshops are being managed by various providors and these providors have determined workshop fees.

It will be necessary to register in advance for all workshops and fees apply in some cases. You can now register for the PD Workshops through the online registration form. If you have already registered, please email **register@34igc.org** to receive a personalised link.

Enquiries concerning workshops should be directed to the contact persons provided for each workshop in the table below.

Pre-Congress

WORKSHOP 29

DATE	31st July (Icebreaker), 1st – 4th August (Workshop)
TITLE	6TH INTERNATIONAL SHRIMP WORKSHOP
LOCATION	O'Reilly's Rainforest Retreat, Lamington National Park, QLD
ORGANISERS	Geoscience Australia Geochronology Laboratory
PRESENTERS	Delegate presentations
SUMMARY	The 6th International Sensitive High Resolution Ion MicroProbe (SHRIMP) Workshop will be held on 1-4 August 2012 at the O'Reilly's Rainforest Retreat immediately before the 34th IGC. The meeting is being organised by the Geoscience Australia Geochronology Laboratory and will discuss all matters SHRIMP including the latest on technique development, reports from an inter-laboratory calibration exercise and plans for future method development. For more details on the workshop and to download the current circular, please go to the SHRIMP Workshop website (**http://www.ga.gov.au/minerals/projects/current-projects/geochronology-laboratory/geochronology-workshop.html**).
CONTACT	Keith Sircombe at SHRIMP2012@ga.gov.au; or phone +61 2 6249 9543 or +61 2 6249 9044.
ATTENDANCE FEE	After registering your interest in attending this workshop on this IGC website, please contact the organiser direct regarding details relating to the payment for the accommodation and other costs relating to this workshop. There are no fees payable to the IGC to attend this workshop.

WORKSHOP 1

DATE	Thursday 2nd & Friday 3rd August 2012
TITLE	INTEGRATING ICHNOLOGY and SEDIMENTOLOGY
LOCATION	VENUE TO BE CONFIRMED
ORGANISERS	UNIVERSITY OF NEBRASKA-LINCOLN
PRESENTERS	Dr James MacEachern (Simon Fraser University) Dr Kerrie Bann (Ichnofacies Pty Ltd) Dr Christopher Fielding (University of Nebraska- Lincoln)
SUMMARY	The course follows a combined lecture presentation and core workshop format that provides a detailed overview of Ichnology and Sedimentology (i.e. biogenic and physical sedimentary structures) and their integration to generate refined ichnological-sedimentological models for the interpretation of shallow-marine depositional environments. The focus is primarily on the recognition of physical and biogenic structures, and the characterization of shoreface, delta and estuarine depositional settings. These models are discussed within a sequence stratigraphic framework.
CONTACT	CHRIS FIELDING
EMAIL:	Cfielding2@unl.edu
TOTAL FEE Including GST:	$594 (Includes Catering and GST)

WORKSHOP 2

DATE	Thursday 2nd & Friday 3rd August 2012
TITLE	3D GEOLOGICAL MODELLING AND INTERACTIVE TARGETING FOR MINERAL EXPLORATION
LOCATION	MIRA GEOSCIENCE OFFICE TOOWONG BRISBANE
ORGANISERS	MIRA GEOSCIENCE
PRESENTERS	Glenn Pears, James Alderman, Tim Chalke and Peter Fullagar – Mira Geoscience
SUMMARY	This course is designed for geoscientists who want to learn how to properly integrate several streams of exploration data into a consistent numerical 3D earth model that can be used to generate high quality drill-hole targets for mineral exploration. Case studies will be explored using GOCAD/SKUA for rapid 3D geological modelling. The geological model will be populated by physical rock properties through geologically constrained inversion techniques. A review of petrophysical analysis and classifications to generate lithology from physical rock properties will be included. Integrated models are then analysed using exploratory data analysis methods to highlight spatial and quantitative correlations between model components that will ultimately be used as input criteria for 3D Mineral Potential Mapping aimed at defining drillhole targets.
CONTACT	TIM CHALKE
EMAIL	timc@mirageoscience.com
TOTAL FEE Including GST	$1144 (Includes Catering and GST)

WORKSHOP 3

DATE	Friday 3rd August 2012
TITLE	EXTRA HEAVY OIL and OIL SANDS: CHALLENGES and OPPORTUNITIES
LOCATION	HOTEL GEORGE WILLIAMS 325 George St Brisbane
ORGANISERS	STATOIL CANADA LTD
PRESENTERS	Rudy Strobl (Statoil Canada, Heavy Oil Technology Centre) Milovan Fustic (Nexen Inc- Canadian Oil and Gas Division) Daryl Wightman (Rock Doc Consulting Ltd)
SUMMARY	This seminar integrates geology, geophysics, organic geochemistry and reservoir characterization to evaluate extra heavy oil and oil sands assets. Understanding the impact of reservoir heterogeneity is essential in assessing optimal recovery strategies. Oil sands and heavy oil analogues from Western Canada, represent open estuarine, tidally influenced point bar, stacked channel (f1) and marine shoreface successions. Primary recovery includes cold heavy oil production with sand (CHOPS). Thermal methods used include cyclic steam stimulation (CSS) and steam assisted gravity drainage (SAGD). Emerging technologies include solvent assist, electromagnetic heating and in-situ combustion. This course is recommended for petroleum professionals, geologists, geophysicists and engineers who are considering working in heavy oil or oil sands.
CONTACT	RUDY STROBL
EMAIL	rudstr@statoil.com
TOTAL FEE Including GST	$1100 (Includes Catering and GST)

WORKSHOP 4

DATE	Saturday 4th August 2012
TITLE	GEOCHEMISTRY IN MINERAL EXPLORATION
LOCATION	HOTEL GEORGE WILLIAMS 325 George St Brisbane
ORGANISERS	Members of Association of Applied Geochemists
PRESENTERS	Association of Applied Geochemists, co-ordinated by David Cohen
SUMMARY	Geochemistry is a critical component in the discovery and operations of many mineral deposits, from grass roots exploration to mine site remediation. This short course will cover some of the critical areas in applied geochemistry in mineral exploration; from the factors that control the behaviour of elements in different surface environments to the design of exploration programs and interpretation of data.
CONTACT	DAVID COHEN
EMAIL	d.cohen@unsw.edu.au
TOTAL FEE Including GST	$286 (Includes Catering and GST)

WORKSHOP 5

DATE	Saturday 4th & Sunday 5th August 2012
TITLE	MAGMATIC Ni-Cu and PGE DEPOSITS: GEOLOGY, GEOCHEMISTRY and GENESIS
LOCATION	GEORGE WILLIAMS HOTEL 325 George St Brisbane
ORGANISERS	Society of Economic Geologists
PRESENTERS	Chusi Li and Ed Ripley ; University of Indiana plus others to be advised
SUMMARY	This 2-day short course will focus on our current understanding of the genesis of and exploration for several types of magmatic Ni-Cu-PGE deposits.Topics will include the following: (1) fundamental controls on the generation of magmatic sulfide deposits, (2) komatiite-hosted Ni deposits, (3) Ni-Cu-(PGE) deposits hosted in small mafic-ultramafic intrusions, and (4) PGE deposits in large layered intrusions. The short course will be helpful not only to those who are interested in the geology and exploration of world-class magmatic sulfide deposits but also to those who may utilize sulfide- bearing magmatic systems as aids in the study of secular variations of mafic-ultramafic magmatism in both continental and oceanic settings. A new SEG volume of Reviews in Economic Geology (2011), entitled, Magmatic Ni-Cu-PGE Deposits: Geology, Geochemistry and Exploration, which includes chapters authored by more than 20 of the world's experts, will be used as the textbook.
CONTACT	ED RIPLEY
EMAIL	ripley@indiana.edu
TOTAL FEE Including GST	$ 1045 (includes Catering and GST)

WORKSHOP 6

DATE	Sunday 5th August 2012
TITLE	GEOCHEMISTRY, MINERALOGY and MICROBIOLOGY of ARSENIC in the ENVIRONMENT
LOCATION	CONGRESS VENUE
ORGANISERS	MINERALOGICAL SOCIETY OF AMERICA
PRESENTERS	Rob Bowell SRK Consulting UK Dave Polya University of Manchester UK Dave Craw University of Otago NZ Jack Ng University of Queensland Petr Drahota Charles University Czech Republic
SUMMARY	The purpose of the workshop would be to provide a comprehensive understanding of arsenic geochemistry in the near surface environment. This would follow on from recent arsenic conferences such as Aquatrain series, the most recent being July 2010 in Manchester and the EPA conference on arsenic in Denver in 2001. The workshop would cover the mineralogy and geochemistry of arsenic and its implications in assessing arsenic geochemistry in natural groundwaters, mine associated impacts and the interaction of arsenic with biological cycles and consequences. A final chapter would deal with the management and mitigation of arsenic related impacts in the environment.
CONTACT	ROB BOWELL
EMAIL	rbowell@srk.co.uk
TOTAL FEE Including GST	$600 (Includes Catering and GST)

WORKSHOP 7

DATE	Sunday 5th August 2012
TITLE	USING GEOMETALLURGY FROM EXPLORATION TO FEASIBILITY - THE EARLIER THE BETTER
LOCATION	CONGRESS VENUE
ORGANISERS	JK TECH
PRESENTERS	Mr John Jackson (Geologist) and Ms Diana Drinkwater (Metallurgist)
SUMMARY	This course is offered to IGC delegates who wish to improve their understanding of the way inherent geological variability impacts on metallurgical performance, and how the geometallurgical approach can be used to deliver robust spatial models that can minimise project risk. Delegates will be provided with an overview of the activities, processes, equipment and decision-making steps that are critical to understanding the challenges of mining and metallurgical process design. Advanced concepts relating to geometallurgy are introduced and strategies are provided for implementing and managing geometallurgical programs. This course is aimed at exploration and mine geologists, geophysicists, geostatisticians and anyone involved in the geometallurgical process chain. **Session 1** Introduction and overview of key issues • Geomet framework and background, systems • Environmental geomet • Why GeoMet? Mining and metallurgy for geologists • Process flowsheet overview • Liberation, recovery and grade **Session 2** Mining and Metallurgy for Geologists (continued) • Blasting dilution control • Energy and size reduction in comminution • Physical separation methods:-flotation, gravity concentration, magnetic separation • Chemical separation methods:-Leaching in heaps and tanks, SX-EW, CIP, smelting **Session 3** Ore variability from a processing perspective • Logging for geomet • GeoMet testing procedures • Geotechnical, mine-to-mill • Advanced geochemistry, multivariate analysis Implementation of geometallurgical programs **Session 4** Value of geomet • Framework - processes • Economics - NPV, RO • Sustainable development • Tools - Curve, SEE, Qisk
CONTACT	MR BRUCE BARRIE
EMAIL	b.barrie@jktech.com.au
TOTAL FEE Including GST	$1300 (Including GST)

WORKSHOP 8

DATE	Sunday 5th August 2012
TITLE	CONTOURITES and THEIR SIGNIFICANCE: OCEANOGRAPHIC PROCESSES and SEDIMENTARY PRODUCTS ASSOCIATED with DEEP - WATER CIRCULATION
LOCATION	CONGRESS VENUE
ORGANISERS	UNIVERSIDAD DE VIGO SPAIN
PRESENTERS	Professor Dorrik Stow (Heriot -Watt University Edinburgh) Dr Javier Hernandez – Molina (University of Vigo, Spain Professor Dr David Van Rooij (Ghent University Belgium)
SUMMARY	This is intended as a state-of-the-art theoretical and practical short course on the oceanographic processes and sedimentary products associated with deep-water circulation. The course will be presented by three of the forefront contourite researchers in the world and includes: (1) an introduction and explanation of the nature of bottom currents and contourites in the context of deep-water sedimentary systems; (2) discussion the recognition of contourite facies and drifts in sediment core/outcrop and in seismic profiles; and (3) consideration of the paleoceanographic significance and economic importance of contourite systems. It will be brief (8 h) but intense, with both theoretical (4 h) and practical (4 h) components based on geophysical and sediment/core data.
CONTACT	Dr F JAVIER HERNANDEZ - MOLINA
EMAIL	fjhernan@uvigo.es
TOTAL FEE Including GST	Delegates $400 Students $250 (Including GST) (No catering included)

WORKSHOP 9

DATE	Sunday 5th August 2012
TITLE	THE PRACTICAL GEOLOGY OF THE SOLWARA 1 SEAFLOOR MASSIVE SULPHIDE DEPOSIT, PNG
LOCATION	CONGRESS VENUE
ORGANISERS	NAUTILUS MINERALS
PRESENTERS	Dr Peter Crowhurst and others to be advised.
SUMMARY	Introduction and Background –history of Solwara 1 discovery and drilling programs. This workshop will deal with the drilling techniques and challenges involved and the drill core handling procedures, logging procedures; QA/QC and data presentation. Detailed description of the lithological classification/ logging units. Hands on core observation; type examples for each unit with instruction from several geologists from the exploration team. Solwara 1 cross sections derived from the logging. 3D model and discuss genesis of the formation of the deposit. Resource estimation/modelling and possibly mine plan.
CONTACT	SANDRA LEE GRAHAM
EMAIL	slg@nautilusminerals.com
TOTAL FEE Including GST	$1650 (Includes Catering and GST)

WORKSHOP 10

DATE	Sunday 5th August 2012
TITLE	STRATIGRAPHIC FORWARD MODELLING;
LOCATION	UNIVERSITY OF QUEENSLAND
ORGANISERS	CSIRO
PRESENTERS	Dr Cedric Griffith, Dr Chris Dyt and Dr Tristan Salles (CSIRO)
SUMMARY	The goal of the class is to teach the use of stratigraphic forward modelling on realistic geological problems at a variety of scales. The treatment of theory will be limited. Instead, there is a strong emphasis on understanding and using this approach in real-world settings such that their capabilities and limitations are well understood. Copies of the latest demonstration version of Sedsim and documentation will be provided and exercises will assume that participants, either individually or in groups of two or three have access to a laptop in the room.
CONTACT	CEDRIC GRIFFITHS
EMAIL	cedric.griffiths@csiro.au
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop

WORKSHOP 11

DATE	Sunday 5th August 2012
TITLE	TECHNIQUES AND APPLICATIONS OF PETROLEUM INCLUSION ANALYSIS
LOCATION	SCHOOL of EARTH SCEINCES, UNIVERSITY OF QUEENSLAND
ORGANISERS	CSIRO
PRESENTERS	Herbert Volk; Richard Kempton and Julien Bourdet (CSIRO)
SUMMARY	This one-day course is for geoscientists who are interested in using detailed information from applications of fluid inclusion techniques to augment well-site evidence for hydrocarbons in reservoirs. It will also touch on more academic topics such as tracking the evolution of life using molecular fossils preserved in petroleum inclusions. The course is designed to teach geoscientists the principles, concepts and methods of specialist fluid inclusion technologies to evaluate exploration and appraisal wells to reveal detailed information about the stepwise fill history of petroleum reservoirs, and highlight novel analytical approaches designed to refine our understanding of earth history.
CONTACT	HERBERT VOLK
EMAIL	Herbert.Volk@csiro.au
TOTAL FEE Including GST	$154 Delegates (Includes Catering and GST) Students free.

WORKSHOP 12

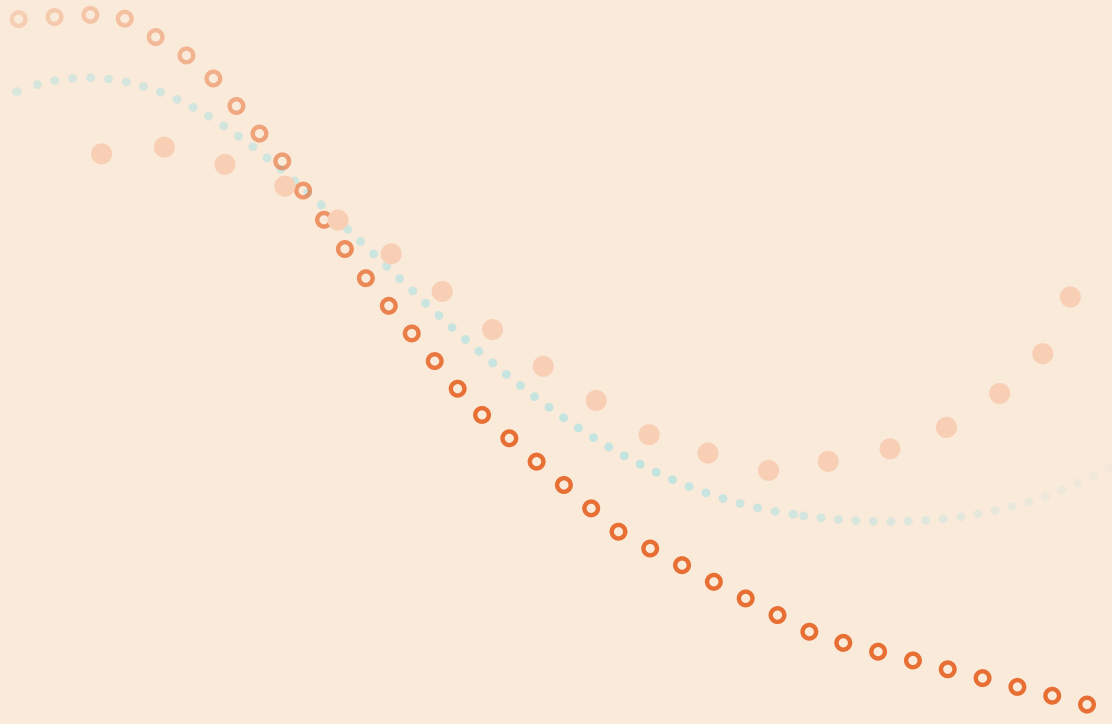
DATE	Sunday 5th August 2012
TITLE	APPLICATION OF ASD and HYLOGGING SPECTRAL DATA to EXPLORATION and MINING: GETTING IT RIGHT and MAKING IT WORK FOR YOUR PROJECT AREA.
LOCATION	CONGRESS VENUE
ORGANISERS	AusSpec International
PRESENTERS	Dr Sasha Pontual AusSpec International
SUMMARY	The workshop will provide participants with a coordinated and consistent way of using ASD and Hylogging spectral data effectively in exploration and mining. The workshop addresses four core topics: 1. The Principles – Getting all the information out of spectral data. Common errors in spectral processing. How to interpret mixed spectra correctly. 2. Measurement Issues – The importance of good quality spectra. How to collect the best spectra, including QA/QC and sample requirements. 3. Data Interpretation– How to waste time interpreting spectra. Interpreting spectra effectively and efficiently. What are the processing options? Is there an easy way? 4. Data Handling – Single spectra to 3D models. Context is everything. Discussion of case studies and examples to demonstrate the down hole, section, surface and 3D applications of the output data.
CONTACT	PAUL GAMSON
EMAIL	paul.gamson@ausspec.com
TOTAL FEE Including GST	$850 (Includes Catering and GST)

WORKSHOP 13

DATE	Sunday 5th August 2012, perhaps continuing Monday 6th August (evening)
TITLE	IMPORTANCE OF GEOETHICS
LOCATION	CONGRESS VENUE
ORGANISERS	AGID
PRESENTERS	Dr Vaclav Nemec (Czech Republic). VP of Association of Geoscientists for International Development & Head of AGID working group for geoethics.) Professor Ochir Gerel (Mongolia) Vice_President of the IUGS. Professor Jesus Martinez-Frias (Spain) –Chair of the IUGS/COGE. Dr Satoshi Murao (Japan) Geo-risk Research Group. National Institute of Advanced Industrial Science and Technology. Professor Lidmila Nemcova (Czech Republic) President Czech Society for Ethics in Economics. Professor Niichi Nishiwaki (Japan) – President Japanese Society of Geoinformatics. Professor Haiqiao Tan (PR of China) - Geographical Society of China.
SUMMARY	Geoethics as a discipline at the intersection of geosciences and ethics can serve as a universal means of achieving progress towards a more sustainable world. It involves a new way of thinking in relation to understanding unavoidable Earth and planetary processes (such as the devastating earthquakes and tsunamis), global sustainability and future trends. The short course and workshop will cover the importance of education at all levels, sound legislative processes and governance, appropriate measures for minimizing losses and damages, effective monitoring systems, responsible production of natural resources, corporate social responsibility, international solidarity, etc. Participants will be invited to discuss their own experiences and make suggestions.
CONTACT	DR VACLAV NEMEC
EMAIL	lidmila.nemcova@quick.cz
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

WORKSHOP 28

DATE	Sunday 5 August 2012
TITLE	SECURITY IN MINING USING SPACE BORNE SENSORS: PROTECTING LIVES & INVESTMENT
LOCATION	Congress Venue
ORGANISERS	University "Politehnica" Bucharest, Sky Gate Consulting
PRESENTERS	Eng. Anca Popescu, PhD; Eng. Carmen Patrascu, MSc.
SUMMARY	Remote Sensing techniques and Synthetic Aperture Radar in particular offer cost efficient and reliable possibilities to perform very high precision measurements of ground deformations, either produced by earthquakes, subsidence, or by extensive mining, deforestation and other anthropically induced land-slides, and the deformation of other critical elements of infrastructure. SAR data analysis is an alternative solution to the direct measurements using geodetic instruments which can be extremely localized and expensive and moreover require permanent access to the site. This course discusses the advantages introduced by modern remote sensing data analysis and processing methods, including SAR Interferometry and SAR Differential Interferometry, with direct applications to mining industries, where the possibilities to measure deformations with vertical and horizontal accuracies in the order of millimetres can be a valuable asset. You will learn: - Introduction into SAR Image formation and Interpretation - Basic SAR Interferometry concepts - Modelling slow deformation processes - Integration of Data processing into the Management Process: costs, data planning and acquisition, time & risk management, data types and usage
CONTACT	ancaandreeapopescu@gmail.com, cami.patrascu@gmail.com
TOTLE FEE Including GST	$ 770 (No catering is provided)



During Congress

WORKSHOP 14

DATE	Monday 6th August 2012 (evening)
TITLE	GPLATES: FREE SOFTWARE FOR TECTONIC RECONSTRUCTION AND SPATIO-TEMPORAL DATA ANALYSIS
LOCATION	CONGRESS VENUE
ORGANISERS	The University of Sydney
PRESENTERS	Dietmar Muller ; Simon Williams; Christian Heine; Maria Seton; Joanne Whittaker & Thomas Landgrebe.
SUMMARY	GPlates (www.gplates.org) is an open-source and platform-independent software enabling the interactive manipulation and visualization of plate-tectonic reconstructions. The course is designed as an introduction to core GPlates functionality, based on tutorials freely available on the internet. Users will learn how to build and alter plate models, import GIS data and digitise features, the loading, "cookie-cutting" and age-coding of raster files, as well as the exporting of data for animations or for publication-quality figure generation. Advanced topics such as linking of plate reconstructions to geodynamic models, plate deformation and spatio-temporal data mining will be touched upon.
CONTACT	DIETMAR MULLER
EMAIL	dietmar.muller@Sydney.edu.au
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

WORKSHOP 15

DATE	Monday 6 August 2012 (evening)
TITLE	3D GEOLOGICAL MAPPING AND THE APPLICATION IN GEOLOGICAL MINERAL EXPLORATION
LOCATION	CONGRESS VENUE
ORGANISERS	CHINESE ACADEMY OF GEOLOGICAL SCIENCES
PRESENTERS	Keyan Xiao; Jianping Chen: Qiuming Cheng
SUMMARY	1. Moving traditional 2D mapping processes to 3D mapping processes with few drillholes 2. The applications with the 3D map modelling in the field of mineral exploration. 3. Successful case studies by applying 3D map.
CONTACT	KEYAN XIAO
EMAIL	wrong.kyanxiao@sohu.com
TOTAL FEE Including GST	$100 (Includes GST) There is no catering at this workshop.

WORKSHOP 16

DATE	Monday August 6th 2012
TITLE	COMPILATION AND INTERPRETATION OF LARGE MAGNETIC ANOMALY DATA SETS
LOCATION	CONGRESS VENUE
ORGANISERS	Geological Survey of Finland
PRESENTERS	Dr. Colin Reeves, Earthworks, The Netherlands Prof. Dhananjay Ravat, University of Kentucky, USA Dr. Peter Milligan, Geoscience Australia, Australia Mr. Juha Korhonen, GTK, Finland Dr Clive Foss, CSIRO Australia
SUMMARY	The purpose is to provide information useful for magnetic and related scientists to make use of World Digital Magnetic Anomaly Map (WDMAM), and take part in compilation of its future editions. Principles and techniques are reviewed and analyzed to reliably compile major magnetic data sets, varying age, land and sea. Examples and techniques of interpretation of geological sources of magnetic anomalies are displayed. Presentations are based on published WDMAM, its source data and experience in the course of its global compilation.
CONTACT	JUHA KORHONEN
EMAIL	juha.korhonen@gtk.fi
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

WORKSHOP 17

DATE	Monday 6th & Tuesday 7th August 2012
TITLE	FROM THE SOLAR PROTUBERANCE THAT CREATED THE EARTH TO THE VOLCANIC AND SEISMIC ACTIVITY OF OUR PLANET
LOCATION	CONGRESS VENUE
ORGANISERS	Pencho Binev – member of the Union of Chemists in Bulgaria
PRESENTERS	Professor Emil Manev (University of Sofia, Bulgaria) Pencho Binev (Union of Chemists in Bulgaria)
SUMMARY	This is a short course in three parts: 1. Origin of the Earth and formation of its primary composition as a solid body with a fluid envelope. Genesis of the primary hydrocarbons and the primary metamorphous substances. 2. Formation of the volcanic activity and the mountain genesis 3. Transform faults and earthquakes
CONTACT	EMIL MANEV
EMAIL	fhem@chem.uni-sofia.bg
TOTAL FEE Including GST	$247.50 (Includes Catering & GST)

WORKSHOP 18

DATE	Monday 6th, Tuesday 7TH & Thursday 9th August 2012 (evening)
TITLE	PRINCIPLES OF GEOLOGICAL HETEROGENEITY WITH APPLICATIONS
LOCATION	CONGRESS VENUE
ORGANISERS	ARAMCO
PRESENTERS	Dr JA Vargas – Guzman (Saudi Aramco)
SUMMARY	This one-of-a-kind course discusses basic-principles and cutting-edge concepts of geological heterogeneity. The motivation is that mineral and petroleum reservoirs typically yield only a fraction of the resource-in-place because heterogeneity causes incomplete production. Reserve computations are revisited with simple up-scaling operations leading to higher-order parameters. Such parameters also arise in the study of stratigraphical successions and proportions of rock-bodies. Therefore, the course provides a discussion on modern characterization and modeling of complex spatial patterns of rock bodies in the subsurface. After covering basic stochastic principles, the kappa model and heavy-tailed distributions are presented with applications. This course is also paramount to non-linear geo-modelling.
CONTACT	Dr J A VARGAS – GUZMAN
EMAIL	anton_varguz @hotmail.com
TOTAL FEE Including GST	$429 (Includes Catering and GST)

WORKSHOP 19

DATE	Tuesday 7th August 2012 (evening)
TITLE	STANDARDS FOR EDUCATION AND EMPLOYMENT IN THE GEOSCIENCES – GLOBAL ISSUES IN PROGRAM ACCEDIATION AND PROFESSIONAL LICENSURE
LOCATION	CONGRESS VENUE
ORGANISERS	American Geological Institute & American Institute of Professional Geologists
PRESENTERS	Wayne Pennington (Michigan Technological University) Christopher Keane (American Geological Institute) William Siok (American Institute of Professional Geologists)
SUMMARY	This is an interactive workshop on the issue of accreditation or classification of geosciences programs and licensure and certification of professional geoscientists. Educational and professional certification or classification are distinctly independent, but the underlying driving issues are similar. Nations approach the educational and professional issues with similar models, but with sufficient variability as to create some obstacles to interjurisdictional mobility. Join us to explore exemplar accreditation and classification and licensure programs from around the world for a broad discussion on the issue on next steps that the global geoscience community can engage.
CONTACT	CHRISTOPHER KEANE
EMAIL	keane@agiweb.org
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

WORKSHOP 20

DATE	Thursday 9th August 2012 (evening)
TITLE	ICDP PRIMER: AN INTRODUCTION TO THE INTERNATIONAL CONTINENTAL SCIENTIFIC DRILLING PROGRAM
LOCATION	CONGRESS VENUE
ORGANISERS	International continental scientific drilling Program ICDP
PRESENTERS	Dr Ulrich Harms and Dr Thomas Wiersberg (ICDP)
SUMMARY	The International Continental Scientific Drilling Program, ICDP grants partial funding and operational support to international science teams with a proven need for continental scientific drilling. Scientific-technical help will be provided by the ICDP Operational Support Group, OSG and comprises drilling equipment, drilling-related tools and instruments, data information and management systems, as well as training and specific workshops. The aim of this primer is to provide information on the ICDP scientific rationale and mission, organizational structure, support and funding strategies and how to initiate an ICDP project. Scientist and engineers with a need for continental scientific drilling are cordially invited to attend this short course.
CONTACT	THOMAS WIERSBERG
EMAIL	Icdp-outreach@gfz-potsdam.de
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

Post-Congress

WORKSHOP 21

DATE	Saturday 11th August 2012
TITLE	PRACTICAL STRATIGRAPHIC FORWARD MODELLING
LOCATION	UNIVERSITY OF QUEENSLAND
ORGANISERS	CSIRO
PRESENTERS	Dr Cedric Griffiths; Dr Chris Dyt and Dr Tristan Salles
SUMMARY	Attendees will understand how to access the data needed to run a stratigraphic forward model, look at case studies from around the world, look at the various processes (marine, aeolian, carbonate, fluvial, vegetation etc.) and how the processes and results can be constrained. They will generate Petrel/RMS/Eclipse input files from the simulations as part of the course. Sedsim stratigraphic forward modelling software (installed on their laptop) will be used, and a take-home working demonstration copy of the software is provided. An overview of the future of stratigraphic modelling will also be discussed.
CONTACT	CEDRIC GRIFFITHS
EMAIL	cedric.griffiths@csiro.au
TOTAL FEE Including GST	There is no charge for delegates to the IGC to attend this workshop.

WORKSHOP 22

DATE	Saturday 11th August 2012
TITLE	3D MINERAL MAPPING FROM DRILL CORE TO SPACE
LOCATION	GEORGE PATTERSON HOTEL 325 George St BRISBANE
ORGANISERS	CSIRO
PRESENTERS	Carsten Laukamp, Tom Cudahy and Maarten Haest (Centre of Excellence in 3D Mineral Mapping – CSIRO)
SUMMARY	Mineral maps derived from multi- and hyperspectral remote and proximal sensing data, such as the Australian ASTER mineral map, provide information about mineral abundances and compositional changes of minerals, ideal for integration with geological maps and geophysical data to enhance understanding of mineral systems. They are valuable tools for characterising regolith and for mapping viable fluid sources and pathways, depositional sites and outflow zones. Calibration procedures as well as solutions to information extraction and product generation will be presented during the workshop. Two case studies will be presented, including hands-on pracs, to demonstrate the software and workflows applied to multi- and hyperspectral data.
CONTACT	DR CARSTEN LAUKAMP
EMAIL	carsten.Laukamp@csiro.au
TOTAL FEE Including GST	$1000 Delegates $105 Students (Includes Catering and GST)

WORKSHOP 23

DATE	Saturday 11th August 2012.
TITLE	GEOETHICAL DECISION- MAKING
LOCATION	GEORGE PATERSON HOTEL 325 George St Brisbane
ORGANISERS	AGID – Working group for geoethics.
PRESENTERS	Dr Vaclav Nemec (VP of Association of Geoscientists for International Development & Head of AGID working group for geoethics.) Professor Lidmila Nemcova (President Czech Society for Ethics in Economics)
SUMMARY	Geoethics as a discipline at the intersection of geosciences and ethics can serve as a universal means of achieving progress towards a more sustainable world. It involves a new way of thinking in relation to understanding unavoidable Earth and planetary processes (such as the devastating earthquakes and tsunamis), global sustainability and future trends. The short course and workshop will cover special problems for leaders in mineral industry, top representatives of public authorities and administration, insurance companies etc., needed for their appropriate geoethical decision making and fruitful contacts with geoscientists.
CONTACT	DR VACLAV NEMEC
EMAIL	lidmila.nemcova@quick.cz
TOTAL FEE Including GST	$545 (Includes Catering and GST)

WORKSHOP 27

DATE	Saturday 11th August 2012
TITLE	THE HUMAN S.P.A.C.E. PROGRAM - STRATEGIC PARADIGMS FOR ACCELERATED CHANGE & EVOLUTION
LOCATION	GEORGE PATTERSON HOTEL 325 George St Brisbane
ORGANISERS	LIGHTMAN CONSULTING;
PRESENTERS	Dragos Bratasanu & Alina Constantin (Lightman Consulting)
SUMMARY	The Human S.P.A.C.E. Program - Strategic Paradigms for Accelerated Change and Evolution - is a training program exclusively developed for corporations who aim at enhancing their performance in the business environment and accelerate the achievement of targeted results. The program was successfully implemented and tested to validate its capability to optimize the performance of corporation managers, business people, PhDs, scientists, researchers and university students. The workshop is presented by an internationally renowned award winning space scientist and a psychotherapist licensed in the European Union. Lightman Consulting experts have researched the mental patterns and cognitive processes of world's highest achievers, such as astronauts, award winning scientists, university professors, executives, famous inventors and top classical musicians and reveal in this workshop the underlying active psychological model that drives the success behind every individual. The Human S.P.A.C.E. program is divided into 3 modules, each of them relying on state-of-the-art knowledge and discoveries in the fields of cognitive sciences, neurosciences, positive psychotherapy, transactional analysis, heart-brain technology and emotional psychology. The Human S.P.A.C.E. program shows people how to apply the active mind models that drove the timeless achievements of world's greatest geniuses, like Albert Einstein, Leonardo da Vinci, Walt Disney and teaches them how to implement them into their business models to create a secure, meaningful, balanced and sustainable progress. The workshop concludes with a session on heart intelligence. The information is efficient and easy to understand. The three modules follow up the standard procedures of any successful engineering project: the science, design and engineering. The workshop is presented by an internationally renowned award winning space scientist and a psychotherapist licences in the European Union
CONTACT	Dragos Bratasanu
EMAIL	dragos@lightman-consulting.com
TOTAL FEE Including GST	$ 1650 (including catering and GST)

WORKSHOP 24

DATE	Friday Evening 10th (icebreaker) Saturday 11th & Sunday 12th August 2012
TITLE	ASIAN CURRENT RESEARCH ON FLUID INCLUSIONS IV (ACROFI)
LOCATION	QUEENSLAND UNIVERSITY OF TECHNOLOGY – GARDENS POINT CAMPUS
ORGANISERS	GEOSCIENCE AUSTRALIA
PRESENTERS	Professor Bob Bodnar Virginia Tech USA
SUMMARY	ACROFI (http://acrofiiv.heroku.com/) is the biannual meeting of fluid-inclusion researchers from Asian countries. It has the same format as its highly successful counterparts, the European ECROFI and the Pan-American PACROFI. The workshop provides an international forum for exchange of the latest research results and ideas between geoscientists from academia, government and industry from Asian countries and other nations. There will be thematic sessions on new developments for the study of fluid and melt inclusions, magmatic melts and fluids, metamorphic fluids, subsurface and basinal fluids, inclusions associated with ore deposits and mineral exploration, and novel fields of inclusion research.
CONTACT	TERRY MERNAGH
EMAIL	Terry.Mernagh@ga.gov.au
TOTAL FEE Including GST	$264 Delegates. $154 Students (Includes Catering and GST)

WORKSHOP 25

DATE	Monday 13th August 2012
TITLE	LESSONS LEARNT FROM AUDITING MINERAL RESOURCE ESTIMATES
LOCATION	VENUE TO BE CONFIRMED
ORGANISERS	AMC CONSULTANTS PTY LTD
PRESENTERS	Peter Stoker and Mark Berry (AMC)
SUMMARY	This workshop will present key learnings from AMC's extensive international audits of mineral resource estimates in the metalliferous industry. It is designed to provide new and senior geological staff with insights into best practice and common problems. Topics covered will include drill program design and drilling, surveying, sample preparation and analytical techniques, logging and related processes, geological interpretation and domaining, geostatistics, estimation, classification, reporting, QA/QC processes and data management
CONTACT	MARK BERRY
EMAIL	mberry@amconsultants.com.au
TOTAL FEE Including GST	$1050 (Includes Catering and GST)

WORKSHOP 26

DATE	Tuesday 14th August 2012
TITLE	ASSESSMENT OF GEOLOGICAL UNCERTAINTY IN MINING AND MANAGEMENT OF RISK
LOCATION	VENUE TO BE CONFIRMED
ORGANISERS	AMC CONSULTANTS PTY LTD
PRESENTERS	Peter Stoker and Mark Berry (AMC)
SUMMARY	The profitability of new mining projects and brownfields expansions often fall short of feasibility study forecasts due to technical problems. The analysis and assessment of geological uncertainty is central to many technical problems and this workshop will present the key sources of geological uncertainty with case studies and risk management strategies
CONTACT	MARK BERRY
EMAIL	mberry@amconsultants.com.au
TOTAL FEE Including GST	$1050 (Includes Catering & GST)

For further information on Professional Workshops at the
34th International Geological Congress contact Rob Murdoch **r_murdoch@bigpond.com**



Business Meetings

Schedule for IUGS-IGC Council meetings within 34th IGC

First meeting:	Sunday, 5 August – all day meeting.
Second meeting:	Thursday, 9 August – times to be advised.

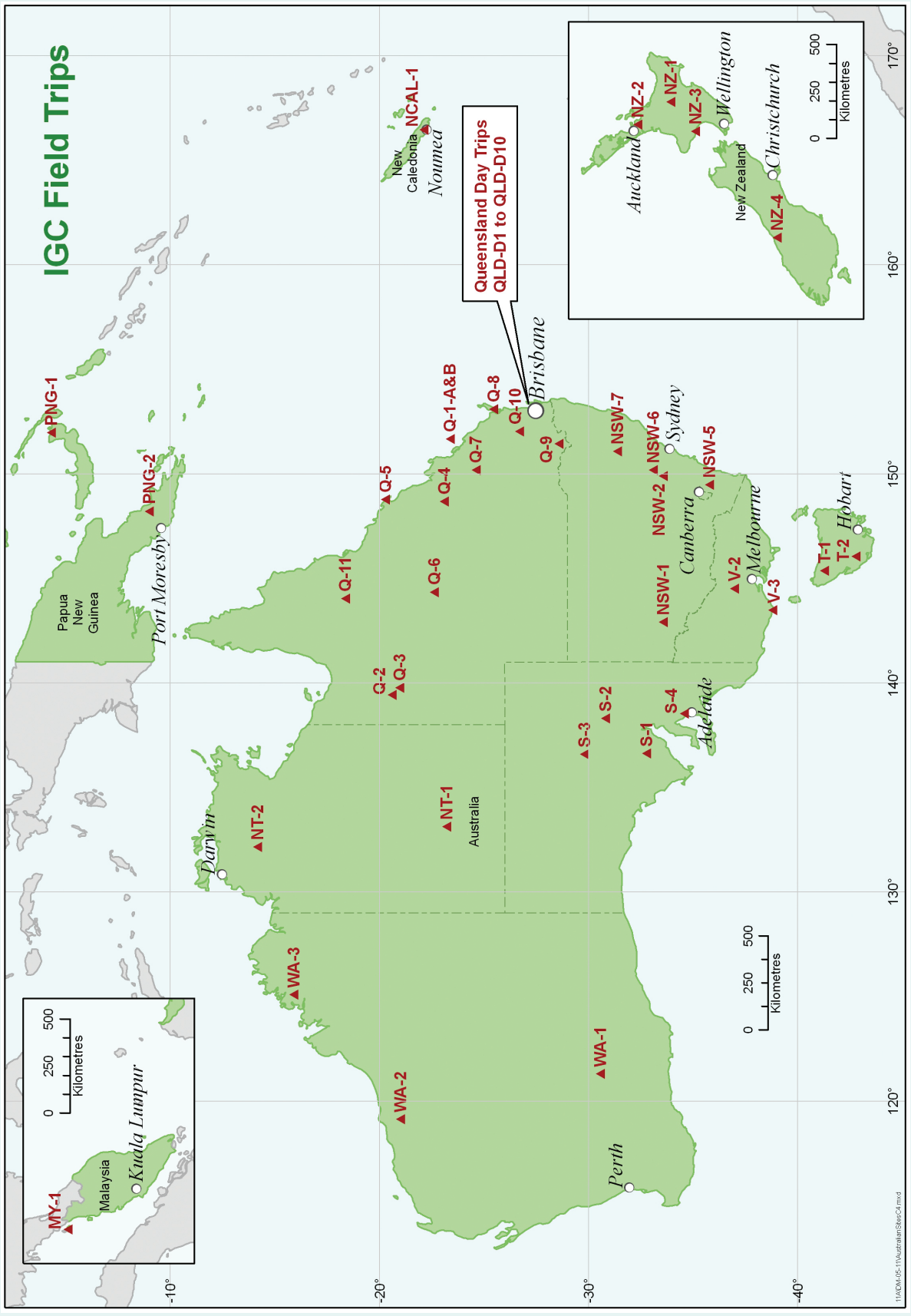
Schedule for IUGS Executive Committee and IGCC business meetings within the 34th IGC

Friday, 3 August	IUGS Bureau meeting
Saturday, 4 August	Half day (morning) extraordinary meeting for the outgoing IUGS Executive Committee.
	Half day (afternoon) meeting of outgoing IGCC.
Tuesday, 7 August	Late afternoon, meeting of the IUGS Executive Committee with Affiliated Organisations.
Saturday, 11 August	Half day (morning) extraordinary meeting for incoming IUGS EC.
	Half day (afternoon) meeting of incoming IGCC meeting.

Other business meetings

All business meetings requested by other groups via the IGC website will be published in the final Congress program.

Field Trips



The references on the map above show locations of one of the primary points of interest for each field trip.

Field Trip Bookings

A list of all Field Trips is provided under each state, territory or country below:

***PLEASE NOTE* that the following Field Trips have been organised and supported by either CSIRO, LINC Energy, or the NSW or SA state government geological surveys and must be booked as per the details shown in the descriptions of these trips.**

QLD-D9	*CSIRO's Queensland Centre for Advanced Technologies - Research Overview*
QLD-D10	*World's only Underground Coal Gasification (UCG) and Gas to Liquids (GTL) Plant*
NSW -2	*Tectonics and mineralisation (including world class porphyries) in the Ordovician Macquarie Arc Lachlan Orogen, NSW*
S-1	*Paleoproterozoic crustal reworking in the core of a transpressional orogen, southern Gawler Craton*
S-3	*Uranium Geology of South Australia*

To book any of the other Field Trips and for additional information, please go to:

www.quadrantaustralia.com/IGC/FieldTrips.shtml

Alternatively, please contact the official tour agent:

cindy.shanahan@quadrantaustralia.com
Quadrant Australia (Travel Licence No: 2TA 4890)
Tel: 02 6772 9066
Fax: 02 6772 9899

N.B. Air costs are indicative only, and final price will depend on availability at time of booking confirmation. The letters B, L, D in tour descriptions are used to indicate which meals are included in the tour cost for the itinerary shown (B = Breakfast; L = Lunch; D = Dinner).

Accompanying persons please note: Registered Accompanying Persons are welcome to participate in field trips, but they will need to pay the full cost and be aware that there will not be a separate Field Trip program for them.

Queensland Day Trips

QLD-D1 *Geology of Brisbane – Walking Trip*

One Day Trip:	Daily from 5 to 10 August 2012
Starts and finishes:	Brisbane Convention and Exhibition Centre
Cost:	Free
Trip description:	Easy self-guided walking trip covering metamorphosed Palaeozoic deep sea sediments, Mesozoic ignimbrite, building stones on historical and heritage listed buildings, the Queensland Museum's collections of recently discovered dinosaurs, Aboriginal artefacts and native animals; all within three kilometres from the conference centre. Bring a camera, no geological hammers.
Highlights:	Brisbane River, Botanical Gardens, Queensland Museum
Special notes:	Self guided walk with maps provided from Tour Desk at the Congress

QLD-D2 The Glasshouse Mountains: Geological Icons of Queensland

One Day Pre Trip:	Saturday 4 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	The Glasshouse Mountains, north of Brisbane, were named by Lieutenant James Cook in 1770, and have Aboriginal names like Tibrogargan, Coonowrin and Ngungun. The 27 million year old group of 15 hypabyssal plugs and laccoliths are composed of metaluminous trachytes and peralkaline rhyolites which exhibit unusual and extreme geochemical characteristics indicating intensive fractional crystallisation.
Highlights:	Spectacular Glasshouse Mountains, scenic and hilly hinterland, subtropical rainforest
Trip Leaders:	Dr Benjamin Cohen and Professor Anthony Ewart, The University of Queensland

QLD-D3 Stradbroke Island and Moreton Bay - Quaternary Sandcastles East of Brisbane

One Day Post Trip:	Saturday 11 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Stradbroke Island is one of the world's largest sand islands with 285 square kilometres of vegetated dunes and heavy mineral and pure quartz sand mining adjacent to a National Park. Complex paleoclimateatic history, freshwater lakes, aeolian deposits and sand dunes formed by wind transport, longshore drift during Quaternary high and low sea levels
Highlights:	Stradbroke Island, sand mining, wildlife, Moreton Bay Marine Park and National Park,
Trip Leader:	Dr Kevin Welsh, The University of Queensland

QLD-D4 The Tweed Shield: Australia's Largest Cenozoic Volcano

One Day Post Trip:	Saturday 11 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Trip to the 100-km wide Tweed Volcano formed 25 to 23 million years ago. Stunning panoramic view points on edge of massive erosion caldera with vistas to Mt Warning at the volcanic core. 100-metre high waterfalls plunge over rhyolitic cliffs, with a chilled margin of perlite glass at their base
Highlights:	Gold Coast hinterland and World Heritage listed Rainforests of Gondwana
Trip Leader:	Dr Kurt Knesel The University of Queensland, Mr Warwick Willmott, and Dr John Jackson

QLD-D5 The Scenic Rim of Queensland: Volcanism, Xenoliths, Megacrysts, and Geomorphology of the Early Miocene Main Range Volcano

One Day Post Trip:	Saturday 11 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Miocene mafic volcanic units display nature of explosive and eruptive processes and mantle-derived materials with abundant xenocrysts and ultramafic xenoliths. Quarry outcrops display mafics ranging from hawaiites, olivine nephelenites, leucite basanites to nepheline benmoreites. Excellent and sometimes complex exposures
Highlights:	Scenery of the Great Dividing Range, the Garden City of Toowoomba and volcanic centres
Trip Leader:	Dr Edwin Wiley, The University of Southern Queensland

QLD-D6 Engineering Geology in Southeast Queensland

One Day Pre Trip:	Saturday 4 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Visits to sites where infrastructure projects encounter difficult and demanding geological conditions -the "Moving Mountain", Wivenhoe Dam spillway and the vast gravel deposits in the Brisbane River around the productive farmland west of Brisbane in the Lockyer Valley.
Highlights:	Moving Mountain, Lockyer Valley and Toowoomba bypass pilot tunnel
Trip Leader:	Mr Ron Bathurst, Department of Transport and Main Roads

QLD-D7A Toowoomba Industrial Minerals

One Day Pre Trip:	Saturday 4 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Visit a number of sites supplying clay and shale for making clay bricks, bentonite and palygorskite from lake deposits underlying Cenozoic basalt, and also the Triassic-Jurassic Helidon Sandstone used for many famous Queensland buildings.
Highlights:	Garden City of Toowoomba
Trip Leader:	Mr John Siemon, J.E. Siemon Pty Ltd

QLD-D7B Toowoomba Industrial Minerals

One Day Post Trip:	Saturday 11 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Visit a number of sites supplying clay and shale for making clay bricks, bentonite and palygorskite from lake deposits underlying Cenozoic basalt, and also the Triassic-Jurassic Helidon Sandstone used for many famous Queensland buildings.
Highlights:	Garden City of Toowoomba
Trip Leader:	Mr John Siemon, J.E. Siemon Pty Ltd

QLD-D8A Sunshine Coast Construction Materials

One Day Pre Trip:	Saturday 4 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Field trip to the scenic Sunshine Coast inspecting construction materials. Quarries supply major deposits of coastal/dune and riverine sand and also from Carboniferous-Permian greenstones, hornfelsed carboniferous sediments, and oligocene trachytes, as well as large quarries of Triassic rhyolites and andesites
Highlights:	Scenery of the Sunshine Coast
Trip Leader:	Mr John Siemon, J.E. Siemon Pty Ltd, and Mr Kyle Waye, Holcim (Australia) Pty Ltd

QLD-D8B Sunshine Coast Construction Materials

One Day Post Trip:	Saturday 11 August 2012
Starts and finishes:	Selected Brisbane Congress hotels
Numbers limited to	45
Cost:	$130 fully escorted including lunch and refreshments
Trip description:	Field trip to the scenic Sunshine Coast inspecting construction materials. Quarries supply major deposits of coastal/dune and riverine sand and also from Carboniferous-Permian greenstones, hornfelsed carboniferous sediments, and oligocene trachytes, as well as large quarries of Triassic rhyolites and andesites
Highlights:	Scenery of the Sunshine Coast
Trip Leader:	Mr John Siemon, J.E. Siemon Pty Ltd, and Mr Kyle Waye, Holcim (Australia) Pty Ltd

QLD-D9 *CSIRO's Queensland Centre for Advanced Technologies - Research Overview*

One Day Pre Trip: Friday 3 August 2012

Starts and finishes: Queensland Centre for Advanced Technologies QCAT, Pullenvale, QLD

Cost: Free*

*Delegates will need their own transport to and from QCAT via car, taxi or bus.

*Lunch can be purchased onsite at the Cafe d'Bella.

Trip description: CSIRO's Queensland Centre for Advanced Technology is a technology precinct for the resources, energy and associated advanced technology industries. The trip will highlight the Virtual Mining Centre, CSIRO's low emissions coal research focussed on coal gasification and syngas separation technologies, a demonstration on non-GPS dependant autonomous vehicles, advanced borehole logging research, and an overview of CSIRO coal research including coal characterisation, preparation, mine safety and optimisation research.

Visit the following website for more information and to book:
http://www.cat.csiro.au/IGCongress.html

RSVP is essential. If you are interested please contact Damian Harris - damian.harris@csiro.au or phone (07) 3327 4477

Highlights:

- The Virtual Mining Centre, an immersive space for controlling tele-robitics equipment as well as mine planning and visualisation;
- CSIRO's low emissions coal research focussed on coal gasification and syngas separation technologies;
- A demonstration of non-GPS dependant autonomous vehicles;
- Advanced borehole logging research;
- An overview of CSIRO coal research including coal characterisation, preparation, and mine safety and optimisation research.

Trip Leader: Dr Mike McWilliams, Chief, CSIRO Earth Science and Resource Engineering

QLD-10 World's only Underground Coal Gasification (UCG) and Gas to Liquids (GTL) Plant

One Day Pre Trip: Saturday 4 August 2012

Starts and finishes: Brisbane Convention and Exhibition Centre

Numbers are limited

Cost: Free

Trip description: Linc Energy cordially invites you to be our guest on a one-day field trip to the world's only UCG to GTL facility, located near Chinchilla, west of Brisbane.

You'll also have an opportunity to see some of the Australian landscape with the trip taking us through the fertile Lockyer Valley, to the city of Toowoomba, perched at the top of the Great Dividing Range escarpment and onto the western Darling Downs.

Our flagship demonstration plant - near Chinchilla, 300 kilometres from Brisbane - offers the chance to see the leading-edge technology developed there and hear from our expert team. You'll also be able to observe the Gas to Liquids facility that turns the Syngas – produced via underground gasification - into ultra-clean fuel.

Our geologists and UCG specialists will provide expert commentary on UCG: how it works, how it differs from Coal Seam Gas, how the Gas to Liquids process works, what makes a coal seam suitable for UCG and the importance of environmental management.

PLEASE NOTE: Linc Energy is proudly sponsoring this Field Trip which is free-of-charge for IGC delegates, however numbers are strictly limited.

Register your interest by emailing us at: **sponsorship@lincenergy.com**

www.lincenergy.com

Highlights: The world's only UCG to GTL facility - Linc Energy's flagship demonstration plant, Australian landscape

Trip Leader: Duncan New, Greg Perkins and Matthew Buchanan, Linc Energy

Queensland Extended Trips

Q-1 A *Geology of Heron Island, Southern Great Barrier Reef*

Pre Trip: 6 days 5 nights - Monday 30 July to Saturday 4 August 2012

Starts: Gladstone Marina, Gladstone

Finishes: Gladstone Marina, Gladstone

Numbers limited to 30

Cost: Land: $2680 per person share twin/double

Single supplement: $865
Air: $180

Trip description: Travel by launch, Reef Voyager, to Heron Island, part of the Capricorn-Bunker group located at the Southern end of the Great Barrier Reef. The reef can be examined for reef zonation, reef-building processes during the Holocene, carbonate sediment types, their erosion and dispersal, carbonate facies distribution and early diagenetic phenomena

Highlights: Snorkelling in the tropical waters of the World Heritage listed Great Barrier Reef with its cays, corals and stunning marine life. Resort accommodation on beautiful tropical Heron Island.

Trip Leader: Dr John Jell, The University of Queensland

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. All meals and snorkelling activities are included. Optional scuba diving and helicopter flights over Great Barrier Reef are available. This field trip is not suitable for children.

Day by day itinerary

Day 1 - Monday 30th July 2012 - Gladstone to Heron Island

On arrival into Gladstone you will need to make your own way to the Gladstone Marina by 1030 as your launch transfer on the Reef Voyager to Heron Island departs shortly after this. The route to Heron Island crosses Gladstone Harbour passing around the southern end of Facing Island; it then heads northeast and passes close to Irving Shoals and Polmaise Reef, the latter being only exposed at low tide. The first reef with a vegetated sand cay is Masthead Reef; the route then passes by little Erskine Island and along the lee of Wistari reef before crossing the channel to enter Heron Island harbour. The trip is approximately 2 hours. On arrival you will be met and welcomed with a short time to settle into your room before meeting for lunch followed by a logistics and safety induction and lecture on the reefs and islands of the Capricorn and Bunker Groups and their regional setting.

In the late afternoon you will have an initial inspection of the sand cay, beach rock and surrounding reef flat (Site1) before meeting for dinner.

Overnight: Heron Island Resort

Meals: L / D

Day 2 - Tuesday 31st July 2012 - Heron Island

After an early breakfast, there will be a group snorkelling induction and acquisition of equipment, with time to practice in ocean. After morning tea depart on a semi-submersible examination of reef slope (Site3) followed by lunch, then an examination of the southern reef flat (Site 2). Finish the day with afternoon tea and a lecture followed by dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 3 - Wednesday 1st August 2012 - Heron Island

After breakfast depart by boat to Heron lagoon to snorkel on patch reefs (Site 6), then traverse in the boat across the reef top and snorkel on windward reef slope with spur and groove structures (Site 7). After morning tea there's some more snorkelling, this time off Sharks Bay (Site 4) followed by lunch.

Start the afternoon with an examination of the northern reef flat (Site 8) followed by afternoon tea and a lecture and examination of sediment samples.

Return to your rooms with time to freshen up before dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 4 - Thursday 2nd August 2012 - Heron Island

After breakfast make your way to the jetty for your boat trip to Heron lagoon to the eastern part of Heron reef and shoal area between Heron and Sykes reefs (Site 12). Return to the island for lunch followed by a trip by boat to the leeward side of Heron Reef to snorkel at Blue Pools and along the reef slope (Site 5) followed by afternoon tea and an examination of the reef off the Resort end of Cay.

Return to your rooms with time to freshen up before dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 5 - Friday 3rd August 2012 - Heron Island

After breakfast make your way to the jetty for your boat trip to Wistari lagoon to snorkel on patch reefs (Site 9), then traverse in the boat across the reef top and snorkel on leeward sand apron (Site 10) and reef slope (Site 11) followed by morning tea and some free time before lunch. In the afternoon take a helicopter over-flight of Heron/Wistari reefs before afternoon tea and a lecture.

Return to your rooms with time to freshen up for your final dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 6 - Saturday 4th August 2012 - Heron Island to Gladstone

After breakfast there's time to pack and settle your hotel account before meeting for morning tea and a course wrap-up, to discuss what you have learnt during your visit. After lunch depart on the Reef Voyager to arrive into Gladstone Marina at around 3.30PM. Depart by bus to the airport for flight to Brisbane for the Congress.

Meals: B / L

Equipment Required: Participants should be prepared for hot weather. Swimsuit, sun hat, sun glasses and soft sneakers/boat shoes are essential.

Q-1 B Geology of Heron Island, Southern Great Barrier Reef

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Gladstone Marina, Gladstone

Finishes: Gladstone Marina, Gladstone

Numbers limited to 30

Cost: Land: $2680 per person share twin/double

Single supplement: $865

Air: $200

Trip description: Travel by launch, Reef Voyager, to Heron Island, part of the Capricorn-Bunker group located at the Southern end of the Great Barrier Reef. The reef can be examined for reef zonation, reef-building processes during the Holocene, carbonate sediment types, their erosion and dispersal, carbonate facies distribution and early diagenetic phenomena

Highlights: Snorkelling in the tropical waters of the World Heritage listed Great Barrier Reef with its cays, corals and stunning marine life. Resort accommodation on beautiful tropical Heron Island.

Trip Leader: Dr John Jell, The University of Queensland

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. . All meals and snorkelling activities are included. Optional scuba diving and helicopter flights over Great Barrier Reef are available. This field trip is not suitable for children.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Brisbane to Heron Island

Depart Brisbane on your flight to Gladstone where you will be met on arrival and transferred to the Gladstone Marina for your launch transfer to Heron Island on the Reef Voyager. The trip is approximately 2 hours. On arrival you will be met and welcomed with a short time to settle into your room before meeting for lunch followed by a logistics and safety induction and lecture on the reefs and islands of the Capricorn and Bunker Groups and their regional setting.

In the late afternoon there's an initial inspection of the sand cay, beach rock and surrounding reef flat (Site1) before meeting for dinner.

Overnight: Heron Island Resort

Meals: L / D

Day 2 - Sunday 12th August 2012 - Heron Island

After an early breakfast there's a group snorkelling induction and acquisition of equipment with time to practice in the ocean. After morning tea you will have an examination of the southern reef flat (Site 2) followed by lunch then a semi-submersible examination of reef slope (Site3). Finish the day with afternoon tea and a lecture followed by dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Heron Island

After breakfast take a boat to Heron lagoon to snorkel on patch reefs (Site 6), then traverse in the boat across the reef top and snorkel on windward reef slope with spur and groove structures (Site 7). After morning tea there will be an examination of the northern reef flat (Site 8) followed by lunch. In the afternoon enjoy a helicopter over-flight of Heron/Wistari reefs before afternoon tea and a lecture and examination of sediment samples.

Return to your rooms with time to freshen up before dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Q-1 B Geology of Heron Island, Southern Great Barrier Reef (continued)

Day 4 - Tuesday 14 August 2012 - Heron Island

After breakfast make your way to the jetty for your boat trip to Heron lagoon to the eastern part of Heron reef and shoal area between Heron and Sykes reefs (Site 12). Return to the island for lunch followed by a trip by boat to leeward side of Heron Reef to snorkel at Blue Pools and along the reef slope (Site 5) followed by afternoon tea and an examination of the reef off Resort end of Cay.

Return to your rooms with time to freshen up before dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Heron Island

After breakfast make your way to the jetty for your boat trip to Wistari lagoon to snorkel on patch reefs (Site 9), then traverse in the boat across the reef top and snorkel on leeward sand apron (Site 10) and reef slope (Site 11) followed by morning tea, then snorkelling off Sharks Bay (Site 4). After lunch examine the Reef flat where you will enjoy afternoon tea. Return to the island for afternoon lecture and final dinner.

Overnight: Heron Island Resort

Meals: B / L / D

Day 6 - Thursday 16th August 2012 - Heron Island to Gladstone

After breakfast there's some time to pack and settle your hotel account before meeting for morning tea and a course wrap-up, to discuss what you have learnt during your visit. After lunch depart on the Reef Voyager to arrive into Gladstone Marina at around 3.30PM. Transfer by bus to the airport for onward travel.

Meals: B / L

Equipment Required: Participants should be prepared for hot weather. Swimsuit, sun hat, sun glasses and soft sneakers/boat shoes are essential.

Q-2 Mineralisation of the Mount Isa Region

Post Trip: 7 days 6 nights - Saturday 11 August to Friday 17 August

Starts: Mount Isa

Finishes: Mount Isa

Numbers limited to 14

Cost: Land: $2950 per person share twin/double

Single supplement: $845

Air: $300

Trip description: Travel to outback Queensland to the Mount Isa region. The world-class mineral province includes major Cu, Pb, Zn, Ag, iron oxide Cu-Au, Mo, Re, phosphate and rare earth resources. Most mines are in Proterozoic host rocks and visits will cover origin, structure, and stratigraphy, with a comprehensive Time Space Chart detailing major vents in the Mount Isa - Cloncurry region

Highlights: Mount Isa, major mines, outback Queensland, wildlife

Trip Leader/s: Dr Laurie Hutton, Geological Survey of Queensland and Dr Geoff Derrick, G M Derrick Geology

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children.

Day by Day itinerary

Day 1 - Saturday 11 August 2012

Participants fly from Brisbane to Mount Isa on designated morning Qantas flight. Meet driver and travel west from Mount Isa, then north to Riversleigh Station, passing Lawn Hill National Park and the Riversleigh Fossil site. (350 kms drive with boxed lunch en route). Arrive at Adels Grove on Lawn Hill Creek. Evening welcome drinks followed by dinner.

Overnight: Camping at Adels Grove

Meals: L / D

Day 2 - Sunday 12 August

After breakfast depart for an inspection visit of Century Mine by vehicle. In the afternoon visit the UNESCO World Heritage listed Riversleigh Fossil deposits at Lawn Hill Gorge. Return to Adels Grove for dinner and overnight at the campsite.

Overnight: Camping at Adels Grove

Meals: B / L / D

Day 3 - Monday 13 August

Morning return to Mount Isa via Gregory River with possible geological site visits en route, depending on time. Afternoon visits to Lady Annie and Lady Loretta mine sites.

Overnight: Mount Isa.

Meals: B / L / D

Day 4 - Tuesday 14 August

Morning visit to Mount Isa Mine – probably mostly core of copper, lead and zinc orebodies. Afterwards there may be a visit to Hilton core and the visit may also include Summit Resources drill core from Valhalla.

Overnight: Mount Isa

Meals: B / L / D

Day 5 - Wednesday 15 August

After breakfast depart and inspect geology along the highway from Mount Isa to Cloncurry. Other visits during the day include Mary Kathleen pit, Mount Robin calcite quarry and Corella formation rocks.

Overnight: Cloncurry

Meals: BLD

Day 6 - Thursday 16 August

Following breakfast depart and travel south to Selwyn via Kuridala and inspect core at the Ivanhoe mine and the pit at Merlin. Later inspect ironstone hosted mineralisation at Selwyn.

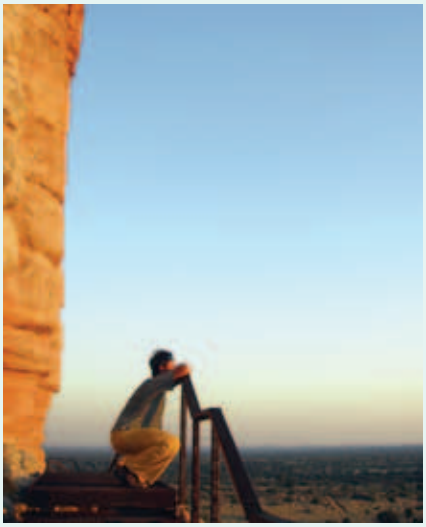
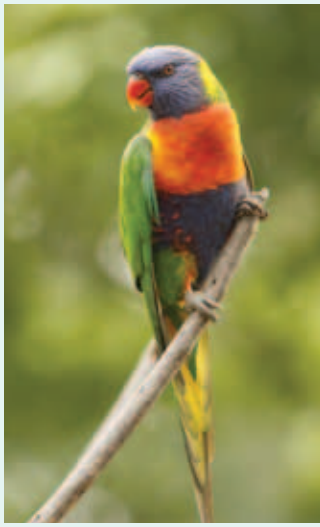
Overnight: Cloncurry

Meals: B / L / D

Day 7 - Friday 17 August

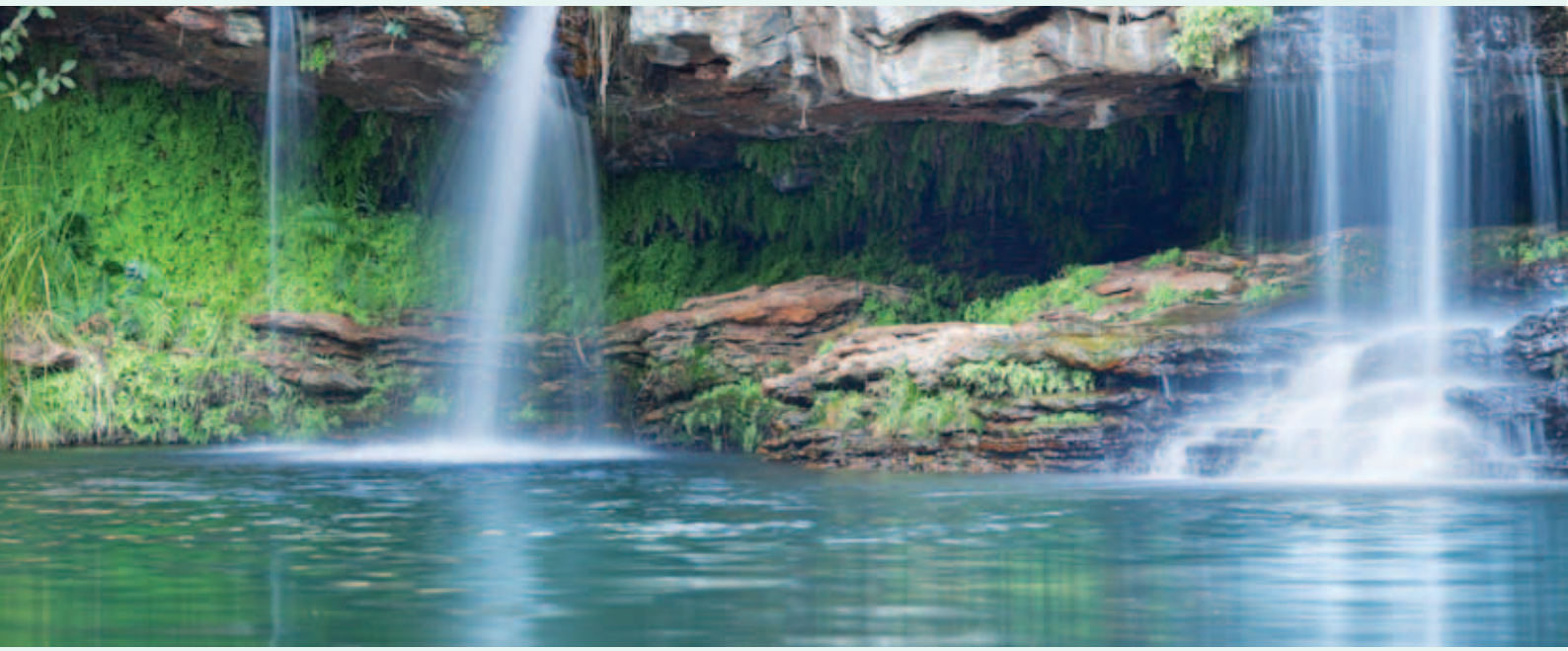
Depart Cloncurry and travel to Mount Isa with pits visits to Ernest Henry mine and Rocklands mine to the north of Cloncurry. Afternoon arrival into Mount Isa. Own onward flight and accommodation arrangements from Mount Isa. Note: Arrival into Mount Isa will be in time to catch the late afternoon flight.

Meals: B / L

Q-3 Mount Isa Crustal Evolution

Pre Trip:	6 days 5 nights - Monday 30 July to Saturday 4 August 2012
Starts:	Mount Isa
Finishes:	Mount Isa
Numbers limited to	20
Cost:	Land: $1700 per person share twin/double
	Single supplement: $575
	Air: $550
Trip description:	Travel into outback Queensland to study crustal evolution of the Mount Isa region, with its Proterozoic sequences, its relationships to the Precambrian Rodinia and Nuna (Columbia) supercontinents. Examine aspects of regional structure, chronostratigraphy, magmatic history and basin architecture in the western and eastern successions.
Highlights:	Mount Isa, mines, outback Queensland, wildlife.
Trip Leader:	Dr George Gibson, Geoscience Australia
Special notes:	Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children.
Day by day itinerary	**Day 1- Monday 30th July 2012**
	Fly from Brisbane to Mount Isa. On arrival you will be collected from the airport and driven to Gunpowder Mine to view the syn-rift stratigraphic section through Calvert and lower Isa superbasin near the mine. Return to Gunpowder Mine for dinner and overnight.
	Overnight: Onsite at Gunpowder Mine
	Meals: L / D
	Day 2 - Tuesday 31st July 2012
	After breakfast travel to view the Syn-rift stratigraphic sections through Leichhardt and Isa superbasins at Crocodile, followed by Barr Hole, Hole-in-Wall and/or the Esperanza sections.
	Return to Gunpowder Mine for dinner and overnight.
	Overnight: Onsite at Gunpowder Mine
	Meals: B / L / D



Q-3 *Mount Isa Crustal Evolution (continued)*

Day 3 - Wednesday 1st August 2012

After breakfast spend the day viewing the Leichhardt-Kalkadoon basement, post-rift Quilalar transgressive sequence, Argylla Formation, syn-extensional granites of Wonga Belt and overlying Leichhardt superbasin sequence. Arrive into Cloncurry for dinner and overnight.

Overnight: Motel in Cloncurry

Meals: B / L / D

Day 4 - Thursday 2nd August 2012

After breakfast travel to view the deep water turbidites of Soldiers Cap Group. Return to Isa to view the Lake Moondarra section through sequence that hosts Mount Isa-style mineralization.

Arrive at your motel for dinner and overnight.

Overnight: Motel in Mount Isa

Meals: B / L / D

Day 5- Friday 3rd August 2012

After breakfast spend the day visiting Mount Isa Mine leases with Xstrata staff, Sybella Granite and Mica Creek.

Return to your motel for dinner and overnight.

Overnight: Motel in Mount Isa

Meals: B / L / D

Day 6- Saturday 4th August 2012

After breakfast, make your own way to the airport for your onward flight to Brisbane for the Congress.

Meals: B

Equipment Required: All participants to bring sunscreen, wide-brimmed hat, water bottle and long sleeved shirt. Hard hats, boots and fluorescent vests supplied for mine visit.

Q-4 *The Queensland Energy Province - The Geology behind Coal, Coal-seam Gas, Oil, Traditional Gas, Groundwater, and Carbon Geostorage Opportunities*

Post Trip:	5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012
Starts:	Brisbane
Finishes:	Brisbane
Numbers limited to	19
Cost:	Land: $2140 per person share twin/double Single supplement: $550
Trip description:	Queensland's energy province is dominated by the Bowen and Surat basins. Explore the geology behind the state's hydrocarbon potential and world class coal deposits. The field trip will cross both basins with a transect spanning the Permian to Middle Jurassic units with explanations of the interpretations of the depositional systems that host these resource endowments.
Highlights:	Hiking trails and indigenous art at Carnarvon National Park and the prime grazing and agricultural country that characterises Queensland, in addition to its natural and mineral resources.
Trip Leader/s:	Dr Jonathan Hodgkinson and Mr Mike McKillop, Geological Survey of Queensland
Special Notes:	This field trip is not suitable for children, it will involve sections of long distance driving, visiting coast outcrops that may be hazardous and in the case of a couple of the outcrops to visit, require scrambling down steep, but short limestone cliffs. The Boolimba Bluff hiking trail is a steep climb and is not recommended for anyone unused to physical exertion
Day by day itinerary	**Day 1 - Saturday 11th August 2012** Depart Brisbane by coach early in the morning and travel northwards to Theodore. En route roadside outcrops to Precipice National Park – Middle to Early Jurassic Surat Basin. Arrive Theodore and check into your motel for dinner and overnight. Overnight: Motel in Theodore Meals: D

Q-4 The Queensland Energy Province - The Geology behind Coal, Coal-seam Gas, Oil, Traditional Gas, Groundwater, and Carbon Geostorage Opportunities (continued)

Day 2 - Sunday 12th August 2012

Early departure from Theodore for the journey to Lake Maraboon. The day will include transect from Middle to Early Jurassic Surat Basin, Triassic and Late Permian Bowen Basin. Roadside outcrops en route to Springsure and Emerald – transect across the Triassic and into the Permian of the Denison Trough of the Bowen Basin. Check into your accommodation for dinner and overnight.

Overnight: Lake Maraboon Holiday Village

Meals: B / L / D

Day 3 - Monday 13th August 2012

After breakfast there will be a safety induction at Fairbairn Dam before travelling on to Carnarvon Gorge where you will have roadside outcrop stops from Permian to Middle Jurassic highlighting major oil and gas bearing units and explanation of interpreted depositional environments along the way.

Arrive at your accommodation for dinner and overnight.

Overnight: Carnarvon Gorge Wilderness Lodge

Meals: B / L / D

Day 4 - Tuesday 14th August 2012

Spend the morning around the spectacular Carnarvon Gorge where you will view Jurassic Precipice Sandstone Boolimba Bluff, 200 metres high above Carnarvon Creek . The afternoon is free to explore the various hiking trails and points of interest within the park.

Carnarvon National Park is a spectacular gorge system with towering white cliffs and lush side gorges. Carnarvon Creek meanders through eucalypt and cabbage palm forest and attracts 170 bird species. Explore creeks, mossy gorges and cool rainforests on 21 kilometres of walking track. Discover Aboriginal art at Baloon Cave and the Art Gallery. Spot whiptail wallabies and fairy-wrens, and watch platypus in the creek in the early morning.

A GSQ field guide will also lead a group to the 'Amphitheatre' if there is enough interest to view the Triassic/Jurassic disconformity and the fluvial sedimentary structures of the Precipice Sandstone.

Return to your accommodation for dinner and overnight.

Overnight: Carnarvon Gorge Wilderness Lodge

Meals: B / L / D

Day 5 - Wednesday 15th August 2012

After breakfast depart for Roma with a visit en route to the SANTOS coal seam gas operations-Fairview, before travelling on to Brisbane. Own accommodation and onward flight arrangements in Brisbane.

Meals: B / L

Equipment Required: Participants should be prepared for hot or wet weather. Sun hat, rain coat and strong walking shoes are essential. Hard hat, protective glasses, steel toecap boots, long sleeve shirts and long pants are mandatory at some mines.

Q-5 Cretaceous Volcanics and Tectonism of the Whitsunday Large Igneous Province

Post Trip: 7 days 6 nights - Saturday 11 August to Friday 17 August 2012

Starts: Airlie Beach

Finishes: Airlie Beach

Numbers limited to 20

Cost: Land: $1990 per person share twin/double

Air: $230

Trip description: All accommodation and travel is by charter yacht in the protected waters of the beautiful Whitsunday Island group. This Early Cretaceous Silicic Large Igneous Province with its large extrusive volume led to a different style of volcanic rifted margin. Visit spectacular views of tilted and partly exhumed volcanic sequences.

Highlights: Great Barrier Reef World Heritage area, Whitehaven Beach, yacht charter, marine life,

Trip Leader: Dr Scott Bryan, Queensland University of Technology

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. Shared cabin accommodation only onboard yacht. All cabins have air-conditioning and ensuites. This field trip is not suitable for children. This trip will involve visiting coastal outcrops that may be hazardous and require moderate level of fitness.

Day by day itinerary

Day 1 - Saturday 11th August 2012

Delegates make own way to Brisbane airport for own flight arrangements to Proserpine where you will be met and transferred to Abel Point Marina in Airlie Beach to board your boat; a large sailing vessel with private, air-conditioned cabins with ensuites.

Overnight: Boat moored at South Molle Island

Meals: D

Day 2 - Sunday 12th August 2012

View volcanic geology around South Molle Island

Overnight: Boat moored at South Molle Island

Meals: B / L / D

Day 3 - Monday 13th August 2012

Sail to Hamilton Island where you will examine volcanic geology around Catseye Bay. Continue on to Whitehaven Beach for overnight anchorage.

Overnight: Boat moored at Whitehaven Beach

Meals: B / L / D

Q-5 *Cretaceous Volcanics and Tectonism of the Whitsunday Large Igneous Province (continued)*

Day 4 - Tuesday 14th August 2012

View the volcanic geology of South East Whitsunday Island before returning to Whitehaven Beach for the night.

Overnight: Boat moored at Whitehaven Beach

Meals: B / L / D

Day 5 - Wednesday 15th August 2012

Today you will see the volcanic Geology of Hill Inlet and Tongue Point on Whitsunday Island and Esk Island then return to Whitehaven Beach for the night.

Overnight: Boat moored at Whitehaven Beach

Meals: B / L / D

Day 6 - Thursday 16th August 2012

Spend the day sailing and snorkelling on the Great Barrier Reef before mooring at Hayman Island for the night.

Overnight: Boat moored at Hayman Island

Meals: B / L / D

Day 7 - Friday 17th August 2012

Return to Abel Point Marina and disembark. Own arrangements for onward travel.

Meals: B

Equipment Required: Participants should be prepared for hot or cool wet weather. Swimsuit recommended and sun hat, rain coat, soft sneakers or boat shoes and strong walking shoes are essential.

Q-6 Cretaceous Faunas, Events and Geology of the Northern Great Artesian Basin

Pre Trip:	7 days 6 nights - Sunday 29 July to Saturday 4 August 2012
Starts:	Longreach
Finishes:	Longreach
Numbers limited to	40
Cost:	Land:$2655 per person share twin/double Single supplement: $620 Air: $550
Trip description:	Travel to Longreach on outback Queensland to visit key Cretaceous (Aptian-Late Albian) dinosaur, marine reptile and invertebrate fossil sites in the Northern Eromanga Basin. Visit the Lark Quarry Dinosaur trackways, and see specimens of Australovenator, Diamantinasaurus and Kronosaurus.
Highlights:	Australia Age of Dinosaurs Museum, Stockman's Hall of Fame and Qantas Museum in the outback town of Longreach, wildlife and outback hospitality
Trip Leader:	Dr Alex Cook, Queensland Museum
Special notes:	Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. Some collecting is permitted, but fossil experts from Australia need a letter of clearance. This field trip is not suitable for children.

Day by day itinerary

Day 1 - Sunday 29th July 2012

Arrive Longreach

Delegates are required to take the designated flight into Longreach and make their own way to the motel.

Overnight: Motel in Longreach

Meals: D

Day 2 - Monday 30th July 2012 - Longreach to Winton

After breakfast spend the day visiting the Australian Age of Dinosaurs laboratory and then travel on to Winton for dinner and overnight.

Overnight: Motel in Winton

Meals: B / L / D

Day 3 - Tuesday 31st July 2012 - Winton

After breakfast visit Carisbrooke Station followed by Lark Quarry.

Lark Quarry, in outback Australia, is currently the only recorded dinosaur stampede on earth. In this place, around 95 million years ago, a large herd of small two legged dinosaurs gathered on the banks of a forest lake to drink.

Return to your motel for dinner and overnight.

Overnight: Motel in Winton

Meals: B / L / D

Q-6 Cretaceous Faunas, Events and Geology of the Northern Great Artesian Basin (continued)

Day 4 - Wednesday 1st August 2012 - Winton to Richmond

After breakfast visit the Richmond Marine Fossil, followed by Kronosaurus Korner, Fossil pits and further sights along the way.

Check into your motel for dinner and overnight.

Overnight: Motel in Richmond

Meals: B / L / D

Day 5 - Thursday 2nd August 2012 - Richmond to Longreach

After breakfast view the Hughenden Porcupine Gorge followed by site visits along the way to Longreach.

Check into your motel for dinner and overnight.

Overnight: Motel in Longreach

Meals: B / L / D

Day 6 - Friday 3rd August 2012 - Longreach

Today's visits include the Qantas Founders Museum and the Australian Stockman's Hall of Fame, where early pioneers are honoured in a series of fascinating displays. This evening enjoy the Drover's Extravaganza Dinner and fun farewell awards.

Overnight: Motel in Longreach

Meals: B / L / D

Day 7 - Saturday 4th August 2012 - Longreach to Brisbane

Tour concludes after breakfast. Delegates to take own transfer to the airport for the flight to Brisbane for the Congress.

Meals: B

Equipment Required: Participants should be prepared for hot or cool wet weather. Sun hat, rain coat and strong walking shoes are essential.

Q-7 Plio-Pleistocene Faunas and Chronology of Southeast and Central Queensland

Post Trip:	5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012
Starts:	Brisbane
Finishes:	Rockhampton
Numbers limited to	30
Cost:	Land: $1820 per person share twin/double
	Single supplement: $370
Trip description:	Travel west from Brisbane into country Queensland where the rich sites of the Darling Downs continue to provide new data on the late Neogene development of the biota. The unique faunas of the Plio-Pleistocene of southeast Queensland provide valuable insights into the development, diversity and demise of the Australian Megafauna, and the evolution of rainforest faunas during the Pleistocene
Highlights:	Isla Gorge National Park, local wildlife
Trip Leader:	Dr Gilbert Price, The University of Queensland
Special Notes:	This field trip is not suitable for children.

Q-7 Plio-Pleistocene Faunas and Chronology of Southeast and Central Queensland (continued)

Day by day itinerary

Day 1 - Saturday 11th August 2012

Meet at designated departure point in Brisbane and depart by coach travelling west from the city. Visit the Dinmore fossil site to view fossil plants. Spend half a day there before travelling further west to the garden city of Toowoomba.

Overnight: Motel in Toowoomba

Meals: D

Day 2 - Sunday 12th August 2012

After breakfast travel from Toowoomba to Clifton with stops en route to view megafauna fossil sites and the Sobbe personal fossil collection. Travel on to Chinchilla for dinner and overnight.

Overnight: Motel in Chinchilla

Meals: B / L / D

Day 3 - Monday 13th August 2012

Depart after breakfast for the journey to Rockhampton with stops of geological interest along the way. Possible stop at Isla Gorge National Park, time permitting, then continue to Rockhampton for two nights.

Overnight: Motel in Rockhampton

Meals: B / L / D

Day 4 - Tuesday 14th August 2012

After breakfast depart to visit Rockhampton fossil sites including Mt Etna National Park. Please note that these visits may include caving which will require a reasonable level of fitness. Later visit the Capricorn Caves and take a cave tour followed by a visit to another fossil site. Return to your motel for dinner and overnight.

Overnight: Motel in Rockhampton

Meals: B / L / D

Day 5 - Wednesday 15th August 2012

Depart Rockhampton and travel south to Brisbane. Own onward travel arrangements from Brisbane. Note: Participants may finish the trip in Rockhampton should they wish to travel north.

Meals: B

Equipment Required: Participants should be prepared for hot or cool wet weather. Sun hat, rain coat and strong walking shoes are essential.

Q-8A Fraser Island - Natural and Geological Beauty on the World's Largest Sand Island

Pre Trip:	5 days 4 nights - Tuesday 31 July to Saturday 4 August 2012
Starts:	Brisbane
Finishes:	Brisbane
Numbers limited to	30
Cost:	Land: $2130 per person share twin/double Single supplement: $615
Trip description:	Fraser Island is the world's largest sand island and is a fantastic modern analogue for the formation of sand dominated sedimentary deposits - both onshore and offshore, including at abyssal depths. See parabolic dunes up to 5-km long, economic concentrations of ilmenite, rutile, and zircon, perched lakes, and coloured sands
Highlights:	World Heritage listed Fraser Island, "coloured sands" lakes, rainforests, surf beaches, land and marine life
Trip Leader:	Mr Mal Jones, Geological Survey of Queensland
Special notes:	Accommodation at the Kingfisher Bay Resort

Day by day itinerary

Day 1 - Tuesday 31st July 2012 - Brisbane to Fraser Island

Depart Brisbane by coach and travel via the Glasshouse Mountains, Gympie and Maryborough to River Heads where you will catch the ferry across to Fraser Island. Informal information session on arrival covering the interaction between fluvial (Mary River) and tidal influences in Great Sandy Strait. Afterwards meet for dinner.

Overnight: Kingfisher Bay Resort

Meals: L / D

Day 2 - Wednesday 1st August 2012 - Fraser Island

After breakfast spend the day visiting Eurong, Lake Waby, Happy Valley (Yidney Rocks), Indian Head and Middle Rocks, before returning to Kingfisher Bay for an information session on the termination of the largest littoral drift system on the east coast of Australia, wave and wind activity and sea level changes. Afterwards there's time to freshen up before dinner.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Day 3 - Thursday 2nd August 2012 - Fraser Island

After breakfast, spend the morning whale watching on the western side of Fraser Island followed by visits to Lake Mackenzie, Eurong and Inskip Point before returning to Kingfisher Bay for an information session on the Hervey Bay shoreline of Fraser Island showing reasons for the contrast in coastal types, north and south of Fraser Island, as well as discussions on 'what is' and 'what is not' the Great Barrier Reef. You will also learn about the fringing reefs of Hervey Bay, Holocene beach ridge accretion at Inskip Point where there are heavy mineral concentrations, the dynamic nature tidal delta at the southern entrance to Great Sandy Strait and the dispersive environment for heavy minerals.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Q-8A Fraser Island - Natural and Geological Beauty on the World's Largest Sand Island (continued)

Day 4 - Friday 3rd August 2012 - Fraser Island

Free day at Kingfisher Bay to take a nature walk, canoe, relax around the pool or walk along the beach.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Day 5 - Saturday 4th August 2012 - Fraser Island to Brisbane

After breakfast depart Fraser Island on the ferry and return to Brisbane via River Heads, Rainbow Beach and the resort town of Noosa, with an information session along the way about the wave dominated coast, southward continuation of landform features – dunes, coloured sand, humicrete – with some differences such as calcareous aeolianite at Double Island Point.

Return to Brisbane. End of tour. Own accommodation required for night of 4 August.

Meals: B / L

Equipment Required: Participants should be prepared for warm weather. Swimsuit recommended and sun hat, sneakers or beach sandals and strong walking shoes are essential.

Q-8B Fraser Island - Natural and Geological Beauty on the World's Largest Sand Island

Post Trip: 5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012

Starts: Brisbane

Finishes: Brisbane

Numbers limited to 30

Cost: Land: $2130 per person share twin/double

Single supplement: $615

Trip description: Fraser Island is the world's largest sand island and is a fantastic modern analogue for the formation of sand dominated sedimentary deposits - both onshore and offshore, including at abyssal depths. See parabolic dunes up to 5-km long, economic concentrations of ilmenite, rutile, and zircon, perched lakes, and coloured sands

Highlights: World Heritage listed Fraser Island, "coloured sands" lakes, rainforests, surf beaches, land and marine life

Trip Leader: Mr Mal Jones, Geological Survey of Queensland

Special notes: Accommodation at the Kingfisher Bay Resort

Day by day itinerary **Day 1 - Saturday 11th August 2012 - Brisbane to Fraser Island**

Depart Brisbane and travel by coach via the Glasshouse Mountains, Gympie and Maryborough to River Heads where you will catch the ferry across to Fraser Island. On arrival you will have an information session about the interaction between fluvial (Mary River) and tidal influences in Great Sandy Strait before meeting for dinner.

Overnight: Kingfisher Bay Resort

Meals: L / D

Q-8B Fraser Island - Natural and Geological Beauty on the World's Largest Sand Island (continued)

Day 2 - Sunday 12th August 2012 - Fraser Island

After breakfast spend the day visiting Eurong, Lake Waby, Happy Valley (Yidney Rocks), Indian Head and Middle Rocks, before returning to Kingfisher Bay for an information session on the termination of largest littoral drift system on east coast of Australia, wave and wind activity and sea level change as landscape controls. Afterwards there's time to freshen up before dinner.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Fraser Island

After breakfast spend the morning whale watching on the western side of Fraser Island followed by visits to Lake Mackenzie, Eurong and Inskip Point before returning to Kingfisher Bay for an information session on the Hervey Bay shoreline of Fraser Island showing reasons for the contrast in coastal types north and south of Fraser Island, as well as "what is" and "what is not" the Great Barrier Reef. You will also learn about the fringing reefs of Hervey Bay,Holocene beach ridge accretion at Inskip Point where there are heavy mineral concentrations, the dynamic nature tidal delta at the southern entrance to Great Sandy Strait and the dispersive environment for heavy minerals.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Fraser Island

Free day at Kingfisher Bay to take a nature walk, canoe, relax around the pool or walk along the beach.

Overnight: Kingfisher Bay Resort

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Fraser Island to Brisbane

After breakfast depart Fraser Island on the ferry and return to Brisbane via River Heads, Rainbow Beach and the resort town of Noosa, with an information session along the way about the wave dominated coast, southward continuation of landform features – dunes, coloured sand, humicrete – with some differences such as calcareous aeolianite at Double Island Point.

Arrival into Brisbane with own arrangements for onward travel.

Meals: B / L

Equipment Required: Participants should be prepared for warm weather. Swimsuit recommended and sun hat, sneakers or beach sandals and strong walking shoes are essential.

Q-9A Granite Belt (including visits to Wineries)

Pre Trip:	2 days 1 night - Friday 3 August to Saturday 4 August 2012
Starts:	Brisbane
Finishes:	Brisbane
Numbers limited to	30
Cost:	$800 per person share twin/double
	Single supplement**:** $68
Trip description:	Only three hours drive south west from the subtropical city of Brisbane is a very different landscape – the cool, mountainous Granite Belt. This region is home to Bald Mountain (Australia's "second largest rock monolith"), as well as the large granitic intrusions of The Pyramids, Balancing Rock and Castle Rock, as well as orchards and wineries. The trip also includes the World Heritage Rainforests of Gondwana national parks.
Highlights:	Granite Belt scenery, Bald Mountain, Balancing Rock
Trip Leader:	Mr Bob Bultitude, Geological Survey of Queensland
Special notes:	The trip includes an optional walk for about five kilometres through Girraween National Park (some steep gradients) and a good level of fitness is required.
Day by day itinerary	**Day 1 - Friday 3rd August 2012 - Brisbane to Stanthorpe**
	After breakfast depart Brisbane by coach and travel along the Cunningham Highway with a short walk at Main Range National Park (Cunninghams Gap); a part of the Gondwana Rainforests of Australia World Heritage Area. The park is approximately 30,000 hectares, and sits on the western part of the Scenic Rim. This escarpment is remnant of a shield volcano that was active approximately 24 million years ago. Basalt lavas formed a gentle sloping shield shaped volcano which may have reached 1400 metres in altitude. Prolonged erosion has removed mainly the eastern side of the volcano, leaving exposed intrusive plugs and dykes. There is a diversity of plant communities, ranging from subtropical and cool temperate rainforest, to wet and dry sclerophyll forest.
	Continue on to Stanthorpe and to Girraween National Park. Girraween is an Aboriginal word meaning "Place of Flowers", and the park is famous for its massive granite outcrops and large angular tors, as well as eucalypt forests, sedgelands, and heathlands. The park covers an area of approximately 12,000 Hectares, with an average elevation of 900 metres. Visit various sites including the region of The Pyramid and Castle Rock. There will be optional walks in the park, ranging from 1 to 5 km.

Q-9A Granite Belt (including visits to Wineries) (continued)

Return to Stanthorpe and check into your motel before an evening wine tasting, tour, and dinner at the Queensland Wine Tourist Centre. This major project is collaboration between Southern Queensland University/Stanthorpe High School and Queensland Technical and Further Education and has been developed to showcase the Queensland wine industry.

Overnight: Motel in Stanthorpe

Meals: B / L / D

Day 2 - Saturday 4th August 2012 - Stanthorpe to Brisbane

Following breakfast depart Stanthorpe and travel into New South Wales to Bald Rock National Park. Bald Rock is Australia's largest granite monolith, with the summit at 1277 metres. The rock is not true granite and is classified as Stanthorpe Adamellite, being of lower Triassic age showing marked phases in mineralogy and texture. The park is dominated by the granite landscape as well as dry eucalypt forests, and grassy woodlands. Spend time exploring the park with a guided program before departing in the early afternoon to return to Brisbane with a stop at a winery if time permits.

Return to Brisbane. Tour concludes Brisbane. Own accommodation arrangements for night of 4 August

Meals: B / L

Equipment Required: Participants should be prepared for cool weather. Sun hat, rain jacket and strong walking shoes are essential.

Q-9B Granite Belt (including visits to Wineries)

Post Trip: 2 days 1 night - Saturday 11 August to Sunday 12 August 2012

Starts: Brisbane

Finishes: Brisbane

Numbers limited to 30

Cost: $800 per person share twin/double

Single supplement: $68

Trip description: Only three hours drive south west from the subtropical city of Brisbane is a very different landscape – the cool, mountainous Granite Belt. This region is home to Bald Mountain (Australia's "second largest rock monolith"), as well as the large granitic intrusions of The Pyramids, Balancing Rock and Castle Rock, as well as orchards and wineries. The trip also includes the World Heritage Rainforests of Gondwana national parks.

Highlights: Granite Belt scenery, Bald Mountain, Balancing Rock

Trip Leader: Mr Bob Bultitude, Geological Survey of Queensland

Special notes: The trip includes an optional walk for about 5 km through Girraween National Park (some steep gradients). A good level of fitness is required

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Brisbane to Stanthorpe

After breakfast depart Brisbane by coach and travel along the Cunningham Highway with a short walk at Main Range National Park (Cunninghams Gap); a part of the Gondwana Rainforests of Australia World heritage Area. The park is approximately 30,000 hectares, and sits on the western part of the Scenic Rim. This escarpment is remnant of a shield volcano that was active approximately 24 million years ago. Basalt lavas formed a gentle sloping shield shaped volcano which may have reached 1400 metres in altitude. Prolonged erosion has removed mainly the eastern side of the volcano, leaving exposed intrusive plugs and dykes. There is a diversity of plant communities, ranging from subtropical and cool temperate rainforest, to wet and dry sclerophyll forest.

Continue on to Stanthorpe and to Girraween National Park. Girraween is an Aboriginal word meaning "Place of Flowers", and the park is famous for its massive granite outcrops and large angular tors, as well as eucalypt forests, sedgelands, and heathlands. The park covers an area of approximately 12,000 Hectares, with an average elevation of 900 metres. Visit various sites including the region of The Pyramid and Castle Rock. There will be optional walks in the park, ranging from 1 to 5 km.

Return to Stanthorpe and check into your motel before an evening wine tasting, tour, and dinner at the Queensland Wine tourist Centre. This major project is acollaboration between Southern Queensland University/Stanthorpe High School and Queensland Technical and Further Education and has been developed to showcase the Queensland wine industry.

Overnight: Motel in Stanthorpe

Meals: B / L / D

Day 2 - Sunday 12th August 2012 - Stanthorpe to Brisbane

Following breakfast depart Stanthorpe and travel into New South Wales to Bald Rock National Park. Bald Rock is Australia's largest granite monolith, with the summit at 1277 metres. The rock is not true granite and is classified as Stanthorpe Adamellite, being of lower Triassic age showing marked phases in mineralogy and texture. The park is dominated by the granite landscape as well as dry eucalypt forests, and grassy woodlands. Spend time to exploring the park with a guided program before departing in the early afternoon to return to Brisbane with a stop at a winery if time permits.

Return to Brisbane. Tour ends. Own onward travel arrangements from Brisbane.

Meals: B / L

Equipment Required: Participants should be prepared for cool weather. Sun hat, rain jacket and strong walking shoes are essential.

Q-10 Cracow-Gympie Gold

Post Trip: 3 days 2 nights - Saturday 11 August to Monday 13 August 2012

Starts: Brisbane

Finishes: Brisbane

Numbers limited to 40

Cost: $1020 per person share twin/double

Single supplement: $125

Trip description: The trip visits the historic gold mining town of Gympie. Discovered in 1867, Gympie is noted for its high grade collectors' quality nuggety gold in lateral quartz veins. Visit the historic mining areas of Kilkivan and the Esk Trough, a volcanic trough of Permian-Triassic age with examples of porphyry style copper-gold deposits at Booubyjan and Coalstoun. Visits include the Cracow epithermal gold mine of low sulphidation style and the Mt Rawdon gold deposit hosted by breccias and altered volcanics related to a dacite intrusive event of late Triassic age

Highlights: Cracow, Gympie, Mount Rawdon Mines, southeast Queensland scenery

Trip Leader/s: Mr Doug Young, AIG Queensland and ActivEX Ltd, and Mr Mike Erceg, Newcrest Mining

Special Notes: This field trip is not suitable for children.

Day by day itinerary

Day 1 - Saturday 11th August 2012

Depart Brisbane and travel by coach to Gympie to visit outcrops in the Gympie goldfield, followed by lunch at Kilkivan. After lunch continue on to view ophiolite sequences, gold in mesothermal vein systems and Booubyjan porphyry copper-gold. Arrive into Gayndah for dinner and overnight.

Overnight: Motel in Gayndah

Meals: B / L / D

Day 2 - Sunday 12th August 2012

After breakfast travel to Cracow, visiting magma mixing sites and fossil volcanic vents along the way. After lunch at Cracow view outcrops of vein systems, an open pit historic mine and drill core inspections, before returning to Gayndah for dinner and overnight.

Overnight: Motel in Gayndah

Meals: B / L / D

Day 3 - Monday 13th August 2012

After breakfast, depart Gayndah and travel to Mt Perry where you will view the sites of old Mt Perry goldfield and Mt Rawdon, with open pit and core inspections. Lunch will be at Mt Rawdon before returning to Brisbane via Woologa with visits to some other sites on the way. Tour ends.

Own accommodation and onward travel arrangements from Brisbane.

Meals: B / L

Equipment Required: Participants should be prepared for hot or cool wet weather. Steel cap boots and fluorescent vests are required with hard hats advisable. You will also require sun hat, rain coat and strong walking shoes.

Q-11 North Queensland: 1700 million years of Earth History on the Proterozoic-Phanerozoic Margin of Eastern Australia

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Cairns

Finishes: Townsville

Numbers limited to 30

Cost: Land: $2140 per person share twin/double

Single supplement: $485

Air: $290

Trip description: Travel to the scenic Cairns hinterland in Far North Queensland to traverse the Silurian to Devonian rocks of the Mossman Orogen. Cross the Tasman Line, a major north-south structure that separates largely Palaeozoic rocks to the east from the Proterozoic rocks of the North Australian Craton. The Paleoproterozoic to Mesoproterozoic Etheridge Province, the Quaternary lavas at Copperfield Gorge, the world famous Undara Lava Tubes, the voluminous Carboniferous to Permian ignimbrite fields. Visit past and current mining at Chillagoe (gold and base metals) and Georgetown and Charters Towers (gold).

Highlights: Tropical rainforest to savannah woodland, wildlife, outback scenery and culture, world-famous Undara Lava Tubes, mining history

Trip Leader/s: Mr Ian Withnall, Geological Survey Queensland and Professor Bob Henderson, James Cook University

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children.

Day 1 - Saturday 11th August 2012 - Brisbane to Cairns

Fly from Brisbane to Cairns where you make your own way to the hotel. Enjoy an afternoon at leisure before meeting for dinner.

Overnight: Motel in Cairns

Meals: D

Day 2 - Sunday 12th August 2012 - Cairns to Chillagoe

After breakfast depart Cairns for your visits to Barron River Falls at Kuranda to view cleaved metapelites of the Devonian Hodgkinson Formation followed by a visit to an abandoned townsite at Thornborough to see turbidites of the Devonian Hodgkinson Formation. Continue on to historic Tyrconnell mine where you will have lunch. Afterwards travel on to Chillagoe for the night with stops en route near Kingsborough townsite to view melange in Hodgkinson Formation, the Burke Developmental Road where you will see rhyolitic ignimbrite of Carboniferous Featherbed Volcanic Group, the Burke Developmental Road for granite of the Kennedy Igneous Association and the Chillagoe Smelter site.

Arrive at your Chillagoe motel for dinner and overnight.

Overnight: Motel in Chillagoe

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Chillagoe to Undara

After breakfast depart your motel to visit Balancing Rock in Chillagoe to view Silurian to Early Devonian limestone of the Chillagoe Formation, including some indigenous rock art. Travel on to the Palmerville Fault on the Chillagoe-Bolwarra road followed by a visit to Red Dome or Mungana where you will view pits and examine core. In the afternoon travel to Undara via Mt Garnet with a possible visit to Innot Hot Springs/Hypipamee Crater, if time permits.

Q-11 North Queensland: 1700 million years of Earth History on the Proterozoic-Phanerozoic Margin of Eastern Australia (continued)

Arrive at your accommodation for dinner and overnight.

Overnight: Lodge in Undara

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Undara to Georgetown

After breakfast visit Undara National Park and take the Archway Explorer tour of Quaternary volcanic features, including the lava caves. Continue on to Routh Creek, Newcastle Range on Gulf Developmental Road to view Carboniferous ignimbrite of the Newcastle Range Volcanic Group before stopping for lunch. Spend the afternoon viewing Proterozoic S-type granites around Georgetown and later a possible visit to the Ted Elliott mineral collection after hours, if it can be arranged.

Arrive at your motel for dinner and overnight in Georgetown.

Overnight: Motel in Georgetown

Meals: B / L / D

Day 5 - Wednesday 15 August 2012 - Georgetown to Greenvale

After breakfast depart Georgetown and travel to Einasleigh via Forsayth. Visit Copperfield Gorge at Einasleigh township to view Quaternary basalt followed by a stop at the Einasleigh River at old copper mine to see gneiss and amphibolite of Einasleigh Metamorphics and Carboniferous microgranite ring dyke. Enjoy lunch at Einasleigh with an opportunity to visit Einasleigh Hotel – a genuine outback Australian pub, before travelling out to the Lynd Road near ND Creek to view Neoproterozoic or Cambrian Oasis Metamorphics (east of Tasman Line). Continue on to Lynd Highway, west of Greenvale to see chloritic schist of the Cambro-Ordovician Eland Metavolcanics and then Greenvale Nickel mine to view Neoproterozoic or Cambrian schists of the Halls Reward Metamorphics and serpentinite of the Boiler Gully Complex.

Late in the afternoon you will visit the Spring Creek causeway at Lucky Springs homestead, where you will see the Gray creek fault zone between amphibolite of the Cambrian Gray Creek Complex and late Ordovician andesitic volcaniclastic rocks and oolitic limestone.

Arrive at your motel for dinner and overnight.

Overnight: Motel in Greenvale

Meals: B / L / D

Day 6 - Thursday 16th August 2012

Depart your motel after breakfast and travel to Clarke River off the Lynd Highway to view turbidites in the Early Devonian Kangaroo Hills Formation, followed by a tour of Charters Towers, lunch and presentation by Charters Towers Gold, if it can be arranged. Spend the afternoon driving to Townsville with stops along the way.

Arrive Townsville where the tour ends. Own accommodation and onward travel.

Meals: B / L

Equipment Required: Participants should be prepared for hot or cool wet weather. Steel cap boots and fluorescent vests are required with hard hats advisable. You will also require sun hat, rain coat and strong walking shoes.

NSW Extended Trips

NSW-1 *Lake Mungo - Early Man, Regolith, Landform Evolution*

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Broken Hill

Finishes: Mildura

Numbers limited to 30

Cost: Land: $2480 per person share twin/double

Single supplement: $825

Air: $750

Trip description: Scenic Lake Mungo is in the Willandra Lakes World Heritage Area. The study of the regolith has also revealed a fascinating history of landform evolution and climate change. Initially a freshwater lake, water levels gradually receded and prevailing westerly winds shaped an extensive lunette on its eastern shore, which has since been eroded to form the spectacular 'Walls of China'. Aboriginal occupation of the area is believed to extend back at least 40 000 years. Fossils of extinct megafauna have also been found

Highlights: Indigenous history, fossils, Willandra National Park

Trip Leader: Roger Cameron

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Arrive Broken Hill

Early morning arrival into Broken Hill. You are met on arrival to start your drive to Silverton (Mad Max country) for lunch and a leisurely afternoon around Silverton. Viewing of Duricrusts and regolith on basement and Silverton railway cutting, Mundi Mundi lookout and possible duricrusts developed on Pre-Cambrian. Return to Broken Hill for dinner and overnight.

Check into your hotel for the night and meet for dinner, followed by a talk on surface and sub-surface characteristics of Murray Basin (M.B.) and Willandra Lakes' place in that setting.

Overnight: Motel in Broken Hill

Meals: L / D

Day 2 - Sunday 12th August 2012 - Broken Hill to Lake Mungo

After breakfast, early departure from Broken Hill for Lake Mungo with visits along the way to learn about the Northern limits of the Murray Basin, Darling River and basement 'islands' in the Murray Basin. Drive to Wilcannia to see the Darling River and continue to Manara Range to illustrate rocks that are basement to the Murray Basin followed by Gypsum Palace to show the saline history of the Murray Basin. Continue on to Ivanhoe and Mossgiel to show the Willandra Creek as the Palaeo-Lachlan (feeding Wilandra Lakes). View the 'featureless' Riverine Plain, showing imagery of the Lachlan Alluvial Fan. After lunch you will see the transition from Riverine Plain to Aeolian sand plains and dunefields. Travel down to Mossgiel to show the Riverine Plain then travel west to Garnpang - stopping at Alma Lake to show the boundary between the Riverine Plain (to the east) and the Aeolian Plain (to the west). Brief stop at the Lake Garnpang lunette then travel on to Mungo Lodge.

Overnight: Mungo Lodge

Meals: B / L / D

NSW-1 Lake Mungo - Early Man, Regolith, Landform Evolution (continued)

Day 3 - Monday 13th August 2012 - Lake Mungo

After breakfast the first day at Lake Mungo will include a comprehensive tour of the area: Western shoreline lookout, leeside shoreline gravels, visitors centre, and lunette. The Walk area: Mungo stratigraphy: Gol Gol Fm., Mungo Fm., Arumpo Fm., Zanci Fm. Algal tubules, burning zones, sand pinnacles, hardened clay aboriginal fireplace(s), mobile dune photography. Back to bus, brief stop(s) at vegetation and palaeo-fauna information boards, then Red Top Tank lookout at southern sector of lunette – clay-rich part of lunette. Mallee stop and Belah Camp for vegetation. Vigars Well – role of 'soaks' – near-surface groundwater. Aboriginal silcrete quarry site, the 'Mungo Silcrete lobe' or site Mungo 109. The day provides good photographic opportunities.

Overnight: Mungo Lodge

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Lake Mungo

The second day at Lake Mungo includes world-famous anthropogenic sites at Mungo. First drive down to Chibnalwood Lake: lake-in-lake morphology, clay lunette(s), characteristic erosional morphology, then back to the southern limit of Lake Mungo's lunette on the (old) Joulni Station: Sites of Mungo III and Mungo I burial sites. Antiformal 'Mungo' stratigraphy at burial site. Possible viewing of recently discovered 'footprints' locality and Arumpo Bentonite mine.

Overnight: Mungo Lodge

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Lake Mungo to Mildura

Depart Mungo Lodge, drive to Pooncarie Bridge and on to BeMax Resources' Ginkgo HMS Mine. Today's subjects cover economic geology: Pliocene-hosted Heavy Mineral Sands. Brief visits to Top Hut exposure of (fluvial) Parilla Sand with minor silcrete, Council borrow pit in (marine) Loxton Sands with silcrete. Depart and travel over the darling River at Pooncarie Bridge to Ginkgo Mine for an overview by the Manager – Geology and Exploration. Introduction to Pliocene stratigraphy, Pliocene strandlines and highwall stratigraphy. Pit or dredge pond visit: the dredge, the floating plant (trommel & surge bin, and wet concentrator), the back to the WHIMS Plant (Wet High Intensity Magnetic Separator). Possible discussion on mine output and future mine sites. Drive to Wentworth to the confluence of the Darling River with the Murray River, then on to Mildura and the Grand Hotel. This evening there's a 'wrap-up' dinner and talk or discussion in the evening.

Overnight: Motel in Mildura

Meals: B / L / D

Day 6 - Thursday 16th August 2012

Tour concludes after breakfast. Own onward travel arrangements.

Meals: B

NSW-2 *Tectonics And Mineralisation (Including World Class Porphyries) In The Ordovician Macquarie Arc Lachlan Orogen, NSW*

Post Trip:	6 days 5 nights - Saturday 11 August to Thursday 16 August 2012
Starts:	Brisbane Airport 0915 Saturday 11 August
Finishes:	Sydney CBD late PM Thursday 16 August and 2 hours later for Newcastle CBD
Numbers limited to	53
Cost:	AUD1100 plus single supplement of AUD220
Trip description:	The Macquarie Arc has a rich mineral endowment consisting of world-class porphyry copper–gold deposits as well as other deposit styles. Examine the nature and geneses of some key deposits (Cadia, Northparkes, Cowal among others) within the tectonic framework of the evolution and then accretion of the arc. The Macquarie Arc system records ~50 million years of subduction-related development along the boundary between east Gondwana and the paleo-Pacific plate. ***For more detailed information, click HERE. To book for this field trip, please contact Karen Horne - details below.***
Highlights:	Copper-gold mines, central New South Wales
Trip Leaders:	Associate Professor David Cooke, Dr Dick Glen and Dr Cam Quinn
Special notes:	This field trip is organised by the Geological Survey of New South Wales, NSW Trade & Investment as part of 34IGC. Logistical information and booking - **Karen Horne karen.horne@industry.nsw.gov.au** Phone +61 2 49316587; Fax +61 2 49316726 Scientific information - David Cooke, **d.cooke@utas.edu.au** or Dick Glen, **dick.glen@industry.nsw.gov.au**
Day by day itinerary	**Day 1 - Saturday 11th August 2012** Brisbane Airport to Newcastle Airport with Virgin Australia Airlines (DJ1102) Depart 0915, Arrive 1035. Pickup excursion coach at airport (maximum number 53). Drive across northern Sydney Basin. Introductory Talk; Ordovician turbidites east of the Macquarie Arc; Arc-turbidite contact; volcaniclastic arc rocks of the northern Rockley-Gulgong Volcanic Belt. After dinner discussion Overnight: Wellington motels Meals: B/L/D **Day 2 - Sunday 11th August 2012** Arc evolution in the northern Molong Volcanic Belt -- phases 1,2,3,4. Mitchell Formation, Hensleigh Siltstone; Fairbridge Volcanics; Reedy Creek Limestone; Cheesemans Creek Formation. COPPER HILL MINE (courtesy Golden Cross Resources). After dinner discussion Overnight: Orange motel Meals: B/L/D

NSW-2 *Tectonics And Mineralisation (Including World Class Porphyries) In The Ordovician Macquarie Arc Lachlan Orogen, NSW (continued)*

Day 3 - Monday 13 August 2012

Southern Molong Volcanic Belt. CADIA MINE AND CORE (courtesy Newcrest Mining Ltd). Arc evolution in the southern Molong Volcanic Belt -- phases 2,3,4. Cargo Volcanics; Bowen Park Limestone; Malachis Hill Formation, Angullong Formation and Silurian unconformity.

Overnight: Orange motel

Meals: B/L/D

Day 4 - Tuesday 14 August 2012

Arc evolution in the northern Junee-Narromine Volcanic Belt -- phases 1,2,3,4.

Nelungaloo Volcanics and Yarrimbah Formation; Goonumbla Quarry; NORTHPARKES MINE AND CORE (courtesy Northparkes Mines)

Overnight Forbes motels

Meals: B/L/D

Day 5 - Wednesday 15 August

Arc evolution in the southern Junee-Narromine Volcanic Belt phases 2,3,4. COWAL GOLD MINE AND CORE (courtesy Barrick Gold); mafic dykes; deformed Silurian conglomerate.

After dinner discussion and wrap-up.

Overnight: West Wyalong motels

Meals: B/L/D

Day 6 - Thursday 16 August

Drive to Sydney via Ordovician turbidites, Gundagai serpentinite, Early Silurian turbidites and other features.

Arrive Sydney CBD late afternoon to early evening. Note no accommodation has been booked for this night. Bus will continue back to Newcastle CBD for those who wish to continue there.

Meals: B/L

Equipment Required: August is mid-winter, with possible snow around Orange (altitude 862 m). Wellington, Parkes/Forbes and West Wyalong (elevations 330-250 m) will be warmer. Warm and wet-weather gear are thus recommended. No strenuous walking involved. Boots required for mine visits; hard hats etc will be supplied.

NSW-5 Bega - Murrumbidgee Batholiths Pluton Construction Revealed: Looking Within and Below Batholiths

Post Trip: 5 days 4 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Canberra

Finishes: Sydney

Numbers limited to 20

Cost: Land: $1795 per person share twin/double

Single supplement: $400

Air: $230

Trip description: This field trip will focus on two contrasting, classic batholiths in the Lachlan Orogen, the I-type Bega and S-type Murrumbidgee batholith of southeast Australia. Examine incremental growth and differentiation processes in plutons, including depositional features such as load casts, cross-beds, graded beds, collapsed rafts of roof and wall-rocks, magma mixing zones, syn-plutonic composite dykes, mafic enclave swarms in the making, and complex but spectacular migmatites plus a classic metamorphic complex

Highlights: Exquisite and rugged coastal and mountainous scenery of the southern New South Wales coast and highlands, passing through Canberra

Trip Leader/s: Professor Bill Collins, University of Newcastle and Dr Simon Richards, James Cook University

Special Notes: This field trip is not suitable for children.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Arrive Canberra

Delegates to fly to Canberra and make own way to your hotel. Meet in the hotel foyer for dinner with your fellow participants.

Overnight: Hotel in Canberra

Meals: D

Day 2 - Sunday 12th August 2012 - Canberra to Cooma

After breakfast depart Canberra by coach and travel to Cooma to spend the day visiting the Cooma Complex.

Check into your motel for dinner and overnight.

Overnight: Motel in Cooma

Meals: B / L / D

Day 3 - Monday 13th August 2012 Cooma to Pericoe

This morning after breakfast travel to the Lower Wog Wog River before arriving at Fulligan's Farmstay for dinner and overnight.

Overnight: Fulligan's Farmstay, Pericoe

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Pericoe to Eden

After breakfast visit the Upper Wog Wog River then travel on to Eden for dinner and overnight.

Overnight: Motel in Eden

Meals: B / L / D

NSW-5 Bega - Murrumbidgee Batholiths Pluton Construction Revealed: Looking Within and Below Batholiths (continued)

Day 5 - Wednesday 15th August 2012 - Eden to Narooma

Today after breakfast, spend the day visiting the Bega River, Illawambra Dam and subduction complex before travelling on to Narooma for dinner and overnight.

Overnight: Motel in Narooma

Meals: B / L / D

Day 6 - Thursday 16th August 2012 - Narooma to Sydney

After breakfast head north to Bingie Point for a stop before making your way back to Sydney and the conclusion of the field trip. Tour ends. Own arrangements upon arrival into Sydney.

Meals: B/L

Equipment Required: Cool (10-20C maximum). As this is mid-winter the weather may be cold and possibly wet. Warm wind-proof jacket and hat, sunscreen, walking boots and field gear required. We will be walking each day, occasionally in creek beds where rocks could be wet and slippery

NSW-6 A Banquet of New South Wales Geology, Geohistory, Dead Fish and Great Wines!

Pre Trip: 6 days 5 nights - Monday 30 July to Saturday 4 August 2012

Starts: Sydney

Finishes: Canberra

Numbers limited to 20

Cost: Land: $2595 per person share twin/double

Single supplement: $380

Air: $230

Trip description: View the geology and geohistory of four distinct regions, the Hunter Valley, the Blue Mountains, the Central West and the Canberra – Wee Jasper areas. See how the region's geology underpins its ecology, local history, industry and agriculture, as well as every other aspect of life in those areas today. Travel into the Paleozoic Lachlan orogen with its extensive copper-gold deposits and famous Late Devonian Canowindra Fish Fossils. Participants can dig for fish fossils at a nearby quarry and enjoy the prizewinning wines of this region

Highlights: Hunter Valley, Blue Mountains, fish fossils, mines, local wines and Canberra

Trip Leader/s: Ms Monica Yeung, Gondwana Dreaming Pty Ltd, Dr Alex Ritchie, Australian Museum, and Mr Andrew Wooldridge

Day by day itinerary **Day 1 – Monday 30 July 2012**

Delegates arrive at designated meeting point in Sydney. Depart by coach and travel north to Newcastle and then into the Hunter Valley. The main topic for this first day is the Sydney Basin Geology, including coalmining in the Hunter Valley and, of course, the famous wines produced here. Visit a coalmine and, if you wish, discuss their CO2 strategies before discovering how the local soils and landforms have influenced their famous wines. Remember when you taste the wines - "wine comes from grapes, grapes grow on vines, vines grow in soil and soil comes from rock"!

Overnight: Motel in the Hunter Valley.

Meals: L/D

Day 2 – Tuesday 31 July 2012

After breakfast depart from the Hunter Valley and drive south, skirting Wollemi and Yenco National Parks on the way to Springwood in the Blue Mountains. Visit some of the spectacular lookouts in this region to understand the geology and see some of what are arguably Australia's oldest caves.

Overnight: Motel in the Blue Mountains.

Meals: B/L/D

Day 3 – Wednesday 1 August 2012

After breakfast visit the relics of a shale oil mining enterprise, then leave the Blue Mountains and travel to Orange to visit one of the mining operations in the area (Cadia, Gold-Copper) depending on which one will be accessible, before travelling on to Canowindra for dinner and the first of two overnight stays. Dinner at Canowindra.

Overnight: Motel in Canowindra.

Meals: B/L/D

Day 4 – Thursday 2 August 2012

Today is all about dead fish and managing Australia's encroaching dry-land salinity on farmland. After a visit to the Age of Fishes Museum and its world famous 370 million year old fish fossil fauna, killed in a severe drought and preserved in exquisite detail in 3D, visit a quarry and try your hand at extracting fish fossils from a different, and slightly older, site where complete armoured fish are preserved as a result of anoxic bottom waters in the sediments of a 380 million year old deep rift valley lake. After lunch we are joined by a land management specialist who will introduce participants to the reasons behind dry-land salinity and how farmers in the area are using local geology in addressing this problem in order to save their livelihood. Dinner again at Canowindra.

Overnight: Motel in Canowindra.

Meals: B/L/D

Day 5 – Friday 3 August 2012

Travel from Canowindra to Wee Jasper, via Cowra. The Taemas – Wee Jasper area is world famous for its scenic textbook folds in Late Silurian limestones and the equally well known fossil reef and fish fossil deposits. Spend some time wandering around the exposed reef formations and enjoy lunch at a local homestead before travelling on to Canberra for dinner and overnight accommodation.

Overnight: Motel in Canberra

Meals: B/L/D

Day 6 – Saturday 4 August 2012

After breakfast there's a short tour of Canberra, the Nation's bush capital, where kangaroos and other wildlife reside alongside its citizens. See the Capital against the backdrop of its Geological History. Visit Australia's Parliament House - a tribute to geology - where the variety of building stones used and admired for their beauty, all tell a story and have special significance. At the end of this day, return to Sydney by coach (or stay in Canberra to catch an evening flight to Brisbane or spend another night in the Capital to catch up with colleagues from the Australian National University or Geoscience Australia).

Meals: B/L

Equipment Required: Participants should be prepared for generally cool to cold weather. A wind and rain proof jacket is essential. If you feel the cold you may even want to bring a hat and gloves – just in case. Apart from that, bring comfortable clothing and good walking shoes, a day pack, a water bottle and a sun hat.

NSW-7 *Oroclinal Bending in the Southern New England Orogen (Brisbane to Sydney)*

Post Trip: 4 days 3 nights - Saturday 11 August to Tuesday 14 August 2012

Starts: Brisbane

Finishes: Sydney

Numbers limited to 25

Cost: $1570 per person share twin/double

Single supplement: $270

Trip description: The southern New England belt, in the area between Brisbane and Sydney, is a Late Paleozoic to Early Mesozoic subduction-related orogen. The field trip will explore the tectono-magmatic evolution of the orogen and the development of a series of tight oroclines. See the different components of the bent orogen and make observations on the multiple episodes of magmatism and deformation.

Highlights: Spectacular coastal and mountainous scenery, fascinating geology, world-class wineries

Trip Leader: Dr Gideon Rosenbaum, The University of Queensland .

Special Notes: This field trip is not suitable for children.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Brisbane to Tenterfield

Depart Brisbane by coach and travel to Cunningham's Gap for an introduction to the geology of the New England Orogen. Travel on to view Texas Beds, Gerymare Granite then two further stops at Texas Beds. Further stops include Mt You You and the Granite Belt to see Permo-Triassic granitoids and volcanic rocks, followed by an optional wine tasting in the Granite Belt if time permits.

Arrive into Tenterfield where you will check into your hotel for dinner and overnight.

Overnight: Motel in Tenterfield

Meals: L / D

Day 2 - Sunday 12th August 2012 - Tenterfield to Nambucca Heads

After breakfast travel from Tenterfield to Glen Innes with stops along the New England Highway to view Permo-Triassic granitoids. Travel on to Red Range to visit Yarrow Creek where you will see Henry River Granite before travelling across to Nambucca Heads with stops along the way at Wongwibinda, Abroi Granite, Ebor Falls and the Dorrigo Mountain Complex.

Arrive in time to check into your hotel for dinner and overnight.

Overnight: Motel in Nambucca Heads

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Nambucca Heads to Port Macquarie

After breakfast spend the morning looking at the deformation in Early Permian rocks around Nambucca Heads followed by the deformation in Early Permian rocks around Scotts Head. Continue south to Port Macquarie to view bluschists and serpentinites.

Arrive into Port Macquarie with time to check in and freshen up before dinner.

Overnight: Motel in Port Macquarie

Meals: B / L / D

NSW-7 Oroclinal Bending in the Southern New England Orogen (Brisbane to Sydney) (continued)

Day 4 - Tuesday 14th August 2012 - Port Macquarie to Sydney

After breakfast travel south to visit the Hastings Block followed by the Taree Block and the St George Area where you will see serpentinites and deformation. Continue on to the Gloucester Basin before travelling south to view Alum Mt Basalt followed by an optional wine tasting in the Hunter Valley before arriving into Sydney. Own arrangements upon arrival into Sydney.

Meals: B / L

Equipment Required: Cool to cold (~0°C -20C maximum). As this is mid-winter the weather may be cold and possibly wet. Warm wind-proof jacket and wet weather gear recommended as well as hat, sunscreen and walking boots.

Victoria Extended Trips

V-2 Central Victorian Historical Gold Mines and Recent Wines

Post Trip: 5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012

Starts: Melbourne

Finishes: Melbourne

Numbers limited to 20

Cost: Land: 2040 per person share twin/double

Single supplement: $310

Air: $280

Trip description: The central Victorian region is one of the classic orogenic gold provinces of the world. The 19th century gold boom left an indelible economic legacy on the Australian economy, the results of which can be seen in the many beautiful and historic towns and cities. Trace the Palaeozoic evolution of the region, with an overview of the structure, mineralogy and alteration products of gold mineralisation through visits to road cuttings, historic workings and underground mines in the Bendigo region

Highlights: Historic Ballarat, Eureka Stockade show, heritage buildings, Bendigo mines, gold-mining history and wines

Trip Leader: Mr Ross Cayley, Department of Primary Industries

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children. This trip will involve sections of long distance driving, visiting active underground mine workings and remote outcrops. Visits to wineries have also been planned.

Day by day itinerary **Day 1 - Saturday 11th August 2012 - Melbourne to Ballarat**

Arrive at Melbourne Airport where you will be met and transferred by coach to Ballarat for dinner and the spectacular 'Blood on the Southern Cross' show at Sovereign Hill.

'Blood on the Southern Cross' is an explosive sound-and-light show that tells the story of the Eureka Rebellion, a dramatic battle between gold miners and Government forces at Ballarat on 3 December, 1854.

Overnight: Hotel at Ballarat

Meals: D

V-2 Central Victorian Historical Gold Mines and Recent Wines (continued)

Day 2 - Sunday 12th August 2012 - Ballarat to Bendigo

After breakfast depart Ballarat and travel to the regional city of Bendigo via Stawell. Visit a winery to sample some of the wines of the region before arriving at your hotel for overnight and dinner

Overnight: Hotel at Bendigo

Meals: B / D

Day 3 - Monday 13th August 2012 - Bendigo

Spend the day in the region around Bendigo. In the 1850s Bendigo was once a booming gold-mining town and one of the richest producers of gold in the world. Return to your hotel for overnight with dinner and discussion at the Wine Bank on View.

The Wine Bank is a wine bar operating from a heritage listed building constructed in 1876, the former home of the Union Bank and the Bank of Australasia and New Zealand (ANZ).

Overnight: Hotel at Bendigo

Meals: B / D

Day 4 - Tuesday 14th August 2012 - Bendigo to Castlemaine

Depart Bendigo and travel via Fosterville and Heathcote to Castlemaine with a winery visit en route. Arrive at your hotel for overnight and dinner

Overnight: Hotel at Castlemaine

Meals: B / D

Day 5 - Wednesday 15th August 2012 - Castlemaine to Melbourne

After breakfast depart Castlemaine and travel to Melbourne via the small historic township of Maldon. Afternoon arrival into Melbourne. Own flight arrangements from Melbourne.

Meals: B/L

Special note: You may need to book overnight accommodation in Melbourne before onward travel.

Equipment Required: Sun hat, rain coat, strong walking shoes and a day pack are essential. Steel cap boots are required for mine visits.

V-3 Otway Basin Carbon Capture and Storage

Post Trip: 4 days 3 nights - Sunday 12 August to Wednesday 15 August 2012

Starts: Melbourne

Finishes: Melbourne

Numbers limited to 15

Cost: Land: $1930 per person share twin/double

Single supplement: $260

Air: $280

Trip description: Investigate the carbon capture and storage activity and research in the Otway Basin. View the energy and environmental aspects of the region including the carbon capture and storage facility at Port Campbell, methane storage, gas processing, CO2 production at Boggy Creek, as well as geothermal and wind operations. Drive along the scenic coastal Great Ocean Road, and pass through the Pliocene-Pleistocene volcanoes in the Kanawinka Global Geopark

Highlights: Spectacular scenery along the Great Ocean Road, Kanawinka Global Geopark

Trip Leader/s: Mr Rob Langford, Geoscience Australia and Dr Peter Tingate, Department of Primary Industries and Department of Sustainability and Environment

Special Notes: This field trip is not suitable for children as it will involve sections of long distance driving, visiting coastal outcrops that may be hazardous and in the case of a couple of the outcrops to visit, require scrambling down steep, but short limestone cliffs.

Day by day itinerary

Day 1 - Sunday 12th August 2012 - Melbourne to Apollo Bay

Depart Melbourne by coach for Apollo Bay - Viewing Cretaceous Eumeralla Formation geology

Arrive at your hotel for overnight and dinner

Overnight: Hotel in Apollo Bay

Meals: B/ L/ D

Day 2 - Monday 13th August 2012 - Apollo Bay

Travel from Apollo Bay to Torquay - Cretaceous Eumeralla Formation geology and Early Tertiary sequences

Return to Apollo Bay for overnight and dinner

Overnight: Hotel in Apollo Bay

Meals: B / L / D

Day 3 - Tuesday 14th August 2012 - Apollo Bay to Warrnambool

Travel from Apollo Bay to Warrnambool - Iona gas processing and geothermal/wind installations if possible – Tertiary geology Great Ocean Road

Arrive at your hotel for overnight and dinner

Overnight: Hotel in Warrnambool

Meals: B / L / D

Day 4 - Wednesday 15th August 2012 - Warrnambool to Melbourne

Depart Warrnambool and travel to Melbourne - CO2CRC Otway Pilot site visit; Return trip via Pliocene-Pleistocene volcanic landscape. Own flight arrangements from Melbourne.

Meals: B

Special Note: You may need to book overnight accommodation in Melbourne before onward travel.

Equipment Required: Participants should be prepared for cold or wet weather. Sun hat, rain coat and strong walking shoes are essential. Hard hats and safety glasses provided – Steel toe boots are required by attendees to visit industrial operations

Tasmania Extended Trips

T-1 *North Coast Tectonic and Sedimentary Sequences*

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Launceston

Finishes: Launceston

Numbers limited to 20

Cost: Land: $2205 per person share twin/double

Single supplement: $380

Air: $300

Trip description: Travel to Tasmania where the trip provides an overview of the late Proterozoic to late Palaeozoic geology of Western Tasmania Terrane. There are Late Proterozoic shallow water sedimentary rocks, Middle Cambrian ophiolite obduction, middle Cambrian volcanic and sedimentary sequences. To the east a deep water clastic sequence forms the East Tasmania Terrane and this transition is exposed in northern Tasmania.

Highlights: Cave Trip (Ordovician limestone) and a winery visit in the beautiful Tamar River region. Spectacular coastal, highland and forest scenery.

Trip Leader/s: Dr Ron Berry, University of Tasmania and Dr Stuart Bull, University of Tasmania

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Launceston

Arrive into Launceston and make your own way to the hotel.

Overnight: Hotel in Launceston

Meals: D

Day 2 - Sunday 12th August 2012 - Launceston to Ulverstone

After breakfast depart Launceston by coach for Ulverstone. Today you will concentrate on coastal exposures near Ulverstone (Low tide is at 12.52) and then continue to Ulverstone for dinner and overnight.

Overnight: Hotel in Ulverstone

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Ulverstone

Following breakfast depart and drive west of Ulverstone where you will concentrate on Burnie Formation and the Rocky Cape Group. (Low tide 13.34). Transfer back to your hotel for overnight and dinner.

Overnight: Hotel in Ulverstone

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Ulverstone to Launceston

After breakfast travel to Launceston for a Cave tour in the Upper Mersey Valley. (Low tide 14.21)
Arrive at your hotel for overnight and dinner.

Overnight: Hotel in Launceston

Meals: B / L / D

T-1 North Coast Tectonic and Sedimentary Sequences (continued)

Day 5 - Wednesday 15th August 2012 - Launceston to Georgetown

After breakfast depart and travel to Georgetown where you will concentrate on the West Tamar Valley allochthonous units. (Low Tide 15.11)

Overnight: Hotel in Georgetown

Meals: B / L / D

Day 6 - Thursday 16th August 2012 - Georgetown to Launceston

After breakfast travel back to Launceston to concentrate on geology east of the Tamar Valley (Mathinna Group, granites). Own arrangements upon arrival in Launceston.

Meals: B / L

Equipment Required: wet weather gear, warm clothes and good quality footwear for rocky foreshores.

T-2 Ore Deposits of Tasmania

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Launceston

Finishes: Hobart

Numbers limited to 24

Cost: Land: 2270 per person share twin/double

Single supplement: $440

Air: $300

Trip description: Travel to Tasmania to visit the highly mineralized and scenic Cambrian Mt Read Volcanics which host the Mt Lyell copper deposits, the Rosebery, Hercules and Hellyer Pb/Zn/Cu/Au deposits, and the Henty gold deposit. See the Renison and Mt Bischoff tin deposits, the new Avebury Nickel mine, and the Savage River magnetite deposits

Highlights: Cradle Mountain National Park, spectacular mountain and forest scenery, abundant and unusual wildlife and a colourful mining-related history.

Trip Leader: Dr Geoffrey Green, Mineral Resources Tasmania

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children. Visiting mine sites in Tasmania requires participants to follow strict safety protocols and may be tested for alcohol and drugs prior to entry.

Day by day itinerary **Day 1 - Saturday 11th August 2012 - Burnie**

On arrival in Launceston you will be met by your driver and transferred to Burnie, visiting the Tasmania gold mine and stopping in at Beaconsfield for a core/surface inspection.

Arrive at your hotel for overnight and dinner.

Overnight: Hotel at Burnie

Meals: D

Day 2 - Sunday 12th August 2012 - Burnie to Tullah

After breakfast travel to the Savage River mine for a core surface inspection. After lunch visit the Hellyer mine for a surface and core display.

Arrive at your Tullah hotel for a two night stay.

Overnight: Hotel at Tullah

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Tullah

After breakfast visit Rosebery mine for a full day of surface and underground visits and a core display.

Return to your hotel for dinner.

Overnight: Hotel at Tullah

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Tullah to Queenstown

After breakfast visit Renison Bell, Mt Bischoff or Mt Lindsay for a core display, followed by a visit to Henty gold mine in the afternoon.

Travel to your hotel in Queenstown for an overnight and dinner.

Overnight: Hotel at Queenstown

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Queenstown to Hobart

This morning after breakfast depart for a morning visit to Mt Lyell Cu-Au mine then travel on to Hobart for your final night and farewell dinner.

Overnight: Hotel at Hobart

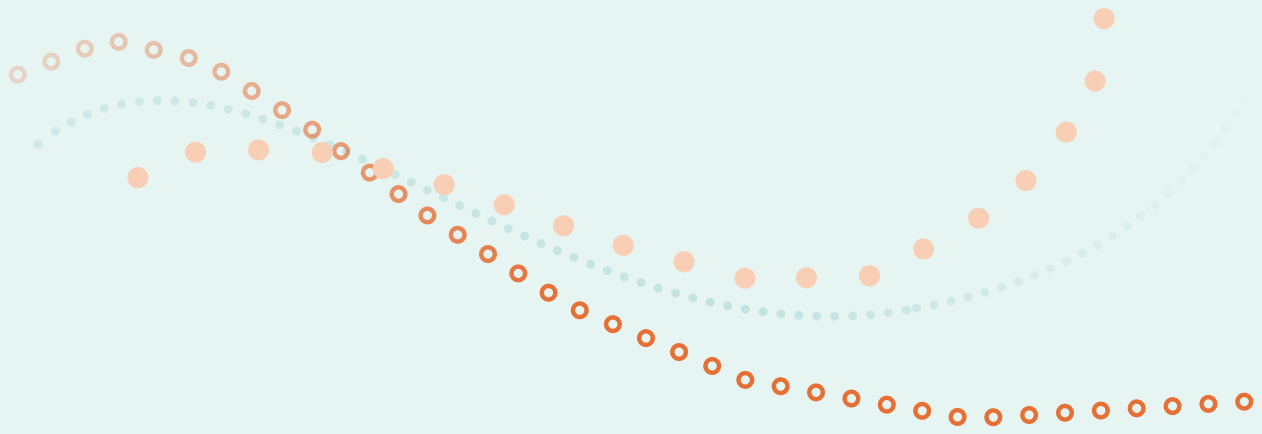
Meals: B / L / D

Day 6 – Thursday 16th August 2012 -

Breakfast at your hotel before making your own way to the airport for your onward travel.

Meals: B

Equipment Required: Western Tasmania is subject to wet winter weather and snow is not unusual at higher elevations. Participants should be prepared for cold, wet weather. Good quality parka style rain coat/anorak and safety boots with reinforced toecaps are essential.



South Australia Extended Trips

S-1 *Paleoproterozoic crustal reworking in the core of a transpressional orogen, southern Gawler Craton*

Pre Trip:	4 days - Tuesday 31 July to 3rd August 2012
Starts:	Whyalla, South Australia (Participants will need to arrange their own transport to arrive in Whyalla either the night before the excursion (Monday 30th July) or to arrive on the first morning flight from Adelaide on Tuesday 31st July (arrives at 7.40 am). The excursion will commence on Tuesday morning.)
Finishes:	Port Lincoln, South Australia (Participants can then fly back to Adelaide on an evening flight on Friday 3rd August, or the following morning.)
Numbers limited to	16 (participants should book refundable arrangements until minimum numbers have been confirmed)
Cost:	$950 (contact field trip leaders to discuss possible alternatives)
Trip description:	Travel across the beautiful Yorke and Eyre Peninsulas of South Australia where early Mesoproterozoic mineralisation in the eastern Gawler Craton encompasses an IOCG–U province and a Au-dominated province. Investigate lithological, structural, metamorphic and metallogenic features covering a c. 1600 million year history of the Gawler Craton. For further details and to register for this field trip please visit **http://www.pir.sa.gov.au/minerals/press_and_events/events/igc_south_australian_field_trips**
Highlights:	c. 3150 Magneissic basement to the Gawler Craton, the oldest exposed rocks in Australia outside the Western Australia Spectacular coastal exposures of a classic transpressional orogen, the c. 1730-1700 Ma Kimban Orogen, which dominates the structural and metamorphic architecture of the region.
Trip Leader/s:	Professor Martin Hand, The University of Adelaide and Dr Anthony Reid, Geological Survey of South Australia

S-2 *Arkaroola - Flinders Ranges - Astrobiology and Planetary Geology*

Pre Trip:	6 days 5 nights - Monday 30 July to Saturday 4 August 2012
Starts:	Adelaide
Finishes:	Adelaide
Numbers limited to	18
Cost:	Land: $2225 per person share twin/double Single supplement: $645 Air: $290
Trip description:	Travel to the Flinders Ranges where the spectacular Mount Painter Inlier is host to some of the oldest rocks in Australia and some of the earliest signs of life. Visit a range of interesting planetary/geology sites such as: Pichie Richie Gorge, Bunyeroo Gorge, the Brachina Gorge, Paralana radioactive hot springs, stromatolite occurrences, the Mt Gee fossil hydrothermal system, Mt Fitton talc occurrence, stony deserts and sand dunes.
Highlights:	Spectacular Flinders Ranges, Mount Painter topography, stony deserts, sand dunes, springs and gorges.

S-2 Arkaroola - Flinders Ranges - Astrobiology and Planetary Geology (continued)

Trip Leader/s: Ms Matilda Thomas and Dr Jonathan Clarke, Geoscience Australia with Professor Malcolm Walter FAA University of New South Wales, and/or Professor Vic Gostin, The University of Adelaide

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. This field trip is not suitable for children due to long hours travelling to and around remote areas.

Day 1 - Monday 30th July 2012 - Adelaide to Arkaroola

Delegates to arrange own flights to Adelaide.

This morning gather at the designated meeting point in Adelaide. Depart and spend the day travelling with a lunch stop in Hawker along the way. Arrive into Arkaroola for sunset drinks followed by dinner.

Overnight: Arkaroola Wilderness Sanctuary

Meals: L / D

Day 2 - Tuesday 31st July 2012 - Paralana Springs

After breakfast spend the day visiting Paralana Fault and Hot Springs; Orpaminda Creek, Neoproterozoic fossiliferous veins, Sturtian glacials.

Return to your hotel with time to freshen up before dinner and overnight.

Overnight: Arkaroola Wilderness Sanctuary

Meals: B / L / D

Day 3 - Wednesday 1st August 2012 - Travel Ridge Top track

After breakfast spend the day visiting the Mt Gee hydrothermal system and Ridgetop Tour.

Return to your hotel with time to freshen up before a barbecue dinner and overnight.

Overnight: Arkaroola Wilderness Sanctuary

Meals: B / L / D

Day 4 - Thursday 2nd August 2012 - Arkaroola

Enjoy breakfast then a day of optional sightseeing around the Arkaroola area.

Options include: Scenic flights (to take in Gammon Ranges, Mawson Plateau, Arkaroola area, Lake Frome or Lake Eyre), walking trails, wildlife spotting or lunch at a local restaurant.

Return to your hotel for dinner and overnight.

Overnight: Arkaroola Wilderness Sanctuary

Meals: B / D

Day 5 Friday 3rd August 2012 - Arkaroola to Wilpena Pound

After breakfast check out of you hotel and travel to Wilpena Pound with visits to Etina Stomatolites, Trezona stromatolites and flakes, Acraman impact layer, Ediacaran golden spike, Ediacara fauna and Cambrian reefs along the way.

Arrive at your accommodation in time to freshen up before meeting for your farewell dinner with a guest speaker, in the Woolshed Restaurant at Rawnsley Park Station.

Overnight: Rawnsley Park Station

Meals: B / L / D

S-2 Arkaroola - Flinders Ranges - Astrobiology and Planetary Geology (continued)

Day 6 - Saturday 4th August 2012 - Wilpena Pound to Adelaide

After breakfast travel back to Adelaide taking in Wilpena Pound and Pitchi Ritchi rhythmites as well as lunch along the way at Willows Brewery Restaurant in Quorn. Estimated time of arrival into Adelaide will be 6.00pm. Own accommodation and flight arrangements upon arrival in Adelaide.

Meals: B/ L

Optional extra: Astronomy and telescope tours can be arranged on any evening at Arkaroola. .

Equipment Required: Suitable field clothing including sturdy shoes, long trousers /sleeves and sun protection.

S-3 Uranium Geology of South Australia

Post Trip: 3 days 2 nights - 10am Monday 13 August to 5pm Wednesday 15 August 2012

Starts: Adelaide Airport, General Aviation Terminal - AirSouth Finishes: Adelaide Airport, General Aviation Terminal - AirSouth

Numbers limited to 16 (participants should book refundable arrangements to Adelaide until minimum numbers have been confirmed)

Cost: $1000

Trip description: Travel by private charter flight to visit remote mine sites including Olympic Dam, the world's largest ore body. The trip will be a transect through the ages of a uranium-rich mineral system originating in the earliest Mesoproterozoic of South Australia and will examine various uranium-mineralised areas in the context of Mineral Systems, and the relationship between each type. See various brecciahosted, iron oxide-copper-gold and sediment hosted systems in a sequence from older to younger to illustrate (re)mobilisation of metal. The importance of structural controls, even on younger systems, will be demonstrated.

Departure and arrival time from and to Adelaide will be designed to meet early morning flights from, and evening flights to Brisbane (participants responsibility). Early arrival and late departure accommodation in Adelaide, and evening meals on the trips are participants responsibility.

For further details and to register for this field trip please visit **http://www.pir.sa.gov.au/minerals/press_and_events/events/igc_south_australian_field_trips**

Highlights: Olympic Dam, Beverley Uranium Mine, Mount Painter (northern Flinders Ranges)

Trip Leaders: Dr Martin Fairclough, Tania Wilson and Mr Steve Hore, Geological Survey of South Australia

S-4 Ediacaran-Cambrian of South Australia

Post Trip: 8 days 7 nights - Saturday 11 August to Saturday 18 August 2012

Starts: Adelaide

Finishes: Adelaide

Numbers limited to 16

Cost: Land: $3715 person share twin/double

Single supplement: $835

Air: $290

S-4 Ediacaran-Cambrian of South Australia (continued)

Trip description: Examine the oldest preserved multicellular organisms in the Ediacaran of the Flinders Ranges, as well as some of the spectacular Cambrian biodiversity of South Australia. Visit the fossiliferous carbonate successions at Ajax Mine and Mt Scott Range, plus a visit to the lower Cambrian Emu Bay Shale Lagerstätte on Kangaroo Island, which preserves a diverse marine biota including soft-bodied animals

Highlights: Spectacular scenery, wildlife and geology, Kangaroo Island

Trip Leader: Dr Jim Gehling, South Australian Museum, Adjunct Associate Professor Jim Jago, University of South Australia

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Adelaide

Upon arrival in Adelaide meet in your hotel foyer to be collected for your tour to the South Australian Museum to view the fossil collections. This evening meet for dinner and an introduction to the field trip. You may be joined by sponsors and dignitaries.

Overnight: Hotel in Adelaide

Meals: L / D

Day 2 - Sunday 12th August 2012 - Adelaide to Rawnsley Park Resort

Depart Adelaide and travel north on Highway One to Port Wakefield. Continue onto Pichi Richi Pass, for a picnic lunch stop and inspection of Elatina Formation rhythmites. After lunch continue on via Quorn and Hawker to Rawnsley Park.

Overnight: Rawnsley Park Resort

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Rawnsely Park Resort to Parachilna

After breakfast travel up Blinman road east of Wilpena Pound for a photo and geological stop. Continue on to the Flinders Ranges National Park via Bunyeroo Gorge scenic road with a stop at a lookout at Razor Back for Ediacaran succession, a second Acraman stop at Bunyeroo Gorge, then drive on to the Brachina Geological Trail. From here you will travel east to the classic Trezona Fm stromatolite site, Trezona Bore track to Ediacaran GSSP site (Elatina Fm diamictite, GSSP, Nuccaleena Fm (cap carbonate) then drive west into Brachina Gorge and stop at the Wonoka Formation, Bonney Sandstone, Rawnsley Quartzite and classic Ediacara Member fossil site; Parachilna Fm burrow beds marking the base of the Cambrian; Wilkawillina Limestone archaeocyathid bioherms; final stop at end of Brachina Trail for the Wirrealpa LS with brachiopod and trilobite hash beds and interpretation signs. Pause to view the sun set on the western Flinders Ranges before arriving at your hotel for dinner and overnight.

Overnight: Prairie Hotel, Parachilna

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Parachilna

After breakfast depart for the Ediacara Conservation Park. Inspect the historic discovery site for fossils of the Ediacara biota and inspect mine ruins, Walk through the fossil beds near Greenwood Cliff and inspect basal Cambrian rocks. National Heritage Listed Ediacara Fossil Site at Nilpena, on-site fossil repository, Rawnsley Quartzite succession, excavated fossil bearing seafloors (circa 300 sq m), shallow canyon shoulder and canyon fill fossiliferous faces. Enjoy lunch with views of Lake Torrens and Ediacara Conservation Park.

Return to your hotel with time to freshen up before meeting for dinner and entertainment in the Woolshed at Nilpena Station.

Overnight: Prairie Hotel, Parachilna

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Parachilna

After breakfast drive north towards the Ajax (Beltana) Mine within the Perilya Zinc mine complex where you will see pavements of classic silicified archaeocyathids and small shelly fossils in Ajax LS. Depart mid-morning for the Mt Scott Range Cambrian succession south of Aroona Dam for a walk (around 1km). En route back to Parachilna stop at Trebilcock Gorge: Bunyeroo Formation and diapirically-influenced sedimentation at Acraman level.

Return to your hotel for dinner and overnight.

Overnight: Prairie Hotel, Parachilna

Meals: B / L / D

Day 6 – Thursday 16th August 2012 - Parachilna to Adelaide

After breakfast travel back to Adelaide via Mern Mena where you will see the Moralana Cambrian succession west of Wilpena Pound, or stop at winery in the renowned wine growing region of the Clare Valleyt.

Check into your hotel for dinner and overnight

Overnight: Hotel in Adelaide

Meals: B / L / D

Day 7 - Friday 17th August 2012 Adelaide

After breakfast depart for the airport to catch a flight to Kangaroo Island. You will be met on arrival and transferred to Buck Farm. Walk to Buck Quarry and search for fossils in the scree (with no collecting) then continue your walk to view the coastal exposure of White Point Conglomerate, Marsden SS, Emu Bay Shale and Boxing Bay Fm at the base of big gully. Return to Adelaide in time to freshen up for your final dinner and overnight.

Overnight: Hotel in Adelaide

Meals: B / L / D

Day 8 - Saturday 18th August 2012 - Adelaide to Brisbane

Own onward flight arrangements from Adelaide

Meals: B

Northern Territory Extended Trips

NT-1 Geology of Uluru - Alice Springs Region, Ayers Rock, Meteorite Crater

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Alice Springs

Finishes: Alice Springs

Numbers limited to 20

Cost: Land: $2775per person share twin/double

Single supplement: $640

Air: $360

Trip description: Traverse through the entire Amadeus Basin sequence, including Neoproterozoic carbonates and glacials and Devonian foreland basin deposits. Visit Gosses Bluff, which forms the exposed remnants of the central uplift of a Cretaceous comet impact, Kings Canyon, which will combine spectacular scenery and geomorphology with an opportunity to view well-exposed Ordovician fluvial and marine deposits. The trip will end at the iconic Uluru and Kata-Tjuta (Ayers Rock and the Olgas) which preserve arkoses and conglomerates that were deposited in a deep foreland basin during the late Neoproterozoic to Cambrian

Highlights: Uluru/Ayers Rock, Kata Tjuta/the Olgas, Kings Canyon, indigenous culture, wildlife

Trip Leader: Ms Christine Edgoose, Northern Territory Geological Survey

Special Notes: This field trip is not suitable for children

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Brisbane to Alice Springs

Arrive Alice Springs and make your own way to the hotel.

Overnight: Hotel in Alice Springs

Meals: D

Day 2 - Sunday 12th August 2012 - Alice Springs to Ellery Creek

After breakfast depart Alice Springs for Ellery Creek. On arrival you will walk/drive to view the section from basal Neoproterozoic Heavitree Quartzite at Ellery Big hole, through the rest of the Neoproterozoic section, (including glacial), and through the Palaeozoic section finishing in the Devonian Mereenie Sandstone.

Arrive at Glen Helen for dinner and overnight.

Overnight: Glen Helen Resort

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Ellery Creek to Kings Canyon

After breakfast depart for Ormiston Gorge where you will view the deformation of Heavitree Quartzite and overlying Bitter Springs Formation on the basin margin. Drive on to Tylers Pass to view Gosses Bluff impact structure and then drive into the crater. Continue on to Kings Creek Station for dinner and overnight.

Overnight: Kings Creek Station

Meals: B / L / D

NT-1 Geology of Uluru - Alice Springs Region, Ayers Rock, Meteorite Crater (continued)

Day 4 - Tuesday 14th August 2012 - Kings Canyon to Yulara

After breakfast walk the Kings Canyon rim before proceeding on to Uluru (Ayers Rock) in the afternoon to watch the sun set over this amazing and spectacular rock.

Arrive at Ayers Rock for dinner and overnight

Overnight: Outback Pioneer

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Yulara

After breakfast depart for a perimeter walk around Uluru followed by a visit to the indigenous cultural centre and a drive to the spectacular rock formation of KataTjuta (The Olgas) for a short viewing walk.

Return to your hotel for dinner and overnight.

Overnight: Outback Pioneer

Meals: B / L / D

Day 6 - Thursday 16th August 2012 - Yulara to Alice Springs

After breakfast drive back to Alice Springs with a visit to Henbury meteorite craters along the way. Own accommodation and onward flight arrangements upon arrival in Alice Springs

Meals: B / L

Special Note: You will need to book your own accommodation in Alice Springs at the end of the tour.

Equipment Required: Participants should be prepared for mild days and cold nights. Sunhat, warm jacket and strong walking shoes are essential.

NT-2 Geology of Kakadu-Litchfield, Aboriginal Culture

Pre Trip: 7 days 6 nights - Sunday 29 July to Saturday 4 August 2012

Starts: Darwin

Finishes: Darwin

Numbers limited to 20

Cost: Land: $3960 per person share twin/double

Single supplement: $860

Air: $400

Trip description: This trip combines the world heritage wetlands, scenery and Indigenous culture of Kakadu National Park with an opportunity to visit one of Australia's premier Paleoproterozoic mineral fields. View the geology and mineral deposits of the Pine Creek Orogen, the Ranger unconformity-related uranium mine in Kakadu, the historical Rum Jungle uranium and polymetallic mineral field and the Pine Creek goldfield. See the Palaeoproterozoic geology and tectonic evolution of the Pine Creek Orogen, including Archean basement

Highlights: Kakadu National Park, wetlands, indigenous culture, Aboriginal art

Trip Leader/s: Dr Andrew Wygralak and Dr Julie Hollis, Northern Territory Geological Survey

Special Notes: This field trip is not suitable for children as there will be sections of long distance driving, potentially hot weather and some bush walking.

Day by day itinerary

Day 1 - Sunday 29th July 2012 - Arrive Darwin

Delegates make own arrangement to Darwin and to the designated hotel. Late afternoon meet at the hotel and transfer to dinner at Darwin Sailing Club.

Overnight: Hotel in Darwin

Meals: D

Day 2 - Monday 30th July 2012 - Darwin to Jabiru

After breakfast depart Darwin to visit the Archaean Nanambu Complex (S. Alligator) followed by lunch at the Crocodile Hotel in Jabiru. In the afternoon visit the Ranger mine before driving back to Jabiru for dinner and overnight.

Overnight: Crocodile Hotel, Jabiru

Meals: B / L / D

Day 3 - Tuesday 31st August 2012 - Jabiru- Cooinda-Jabiru

Breakfast at the Crocodile hotel before driving to Myra Falls Inlier to view the geology of the Myra Falls area before driving on to view the Aboriginal rock art at Ubirr Rock.

"Groups of Aboriginal people camped in rock shelters around Ubirr to take advantage of the enormous variety of foods available from the East Alligator River, the Nadab floodplain, the woodlands, and the surrounding stone country. The rock overhang of the main gallery provided an area where a family could set up camp. Food items were regularly painted on the back wall, one on top of the other, to pay respect to the particular animal, to ensure future hunting success, or to illustrate a noteworthy catch. Among the animals painted in the main gallery are barramundi, catfish, mullet, goannas, long-necked turtles, pig-nosed turtles, rock ringtail possums, and wallabies. Although Aboriginal people no longer live in the shelter, the animals depicted are still hunted for food today".

Return to Jabiru with time to freshen up before dinner and overnight.

Overnight: Hotel in Jabiru

Meals: B / L / D

Day 4 - Wednesday 1st August 2012 - Jabiru to Pine Creek

After breakfast depart for visits to Nourlangie Rock and the Kombolgie sandstone and to see Aboriginal paintings where you will be given a talk on uranium versus national park (Koongarra).

Drive to Cooinda for lunch followed by a drive to Pine Creek lookout and viewing of the geology of Pine Creek goldfield. Continue on to Union Reefs mine where you will see the plant, gold pour in the gold room and learn about the geology of the area.

Drive back to Pine Creek and check into your hotel with time to freshen up before meeting for dinner at the Pine Creek pub.

Overnight: Hotel in Pine Creek

Meals: B / L / D

Day 5 - Thursday 2nd August 2012 - Pine Creek to Adelaide River

After an early breakfast depart for Frances Creek to view a small Fe deposit of mixed sedimentary/hydrothermal origin. Continue on to Hayes Creek for lunch then to Cosmo Howley mine. Arrive in Adelaide River with the option to visit the World War II Cemetery before checking into your hotel with time to freshen up prior to dinner at the Adelaide River pub.

Overnight: Hotel in Adelaide River

Meals: B / L / D

NT-2 Geology of Kakadu-Litchfield, Aboriginal Culture (continued)

Day 6 - Friday 3rd August 2012 - Adelaide River to Darwin

After breakfast depart for Batchelor where you will visit the Rum Jungle, an Archaean basement, Brown's deposit. Enjoy lunch at the Butterfly Farm in Batchelor before heading back to Darwin, travelling via Litchfield National Park to view the Depot Creek Sandstone and have a stop at Wangi Falls for a swim.

On arrival into Darwin, check into your hotel with time to freshen up before meeting for dinner.

Overnight: Hotel in Darwin

Meals: B / L / D

Day 7 - Saturday 4th August 2012 - Darwin to Brisbane

After breakfast make your own way to the airport for flight to Brisbane for the Congress.

Meals: B

Equipment Required: Participants should be prepared for hot weather. Swimsuit recommended and sun hat, sun glasses and strong walking shoes are essential.

Western Australia Extended Trips

WA-1 Yilgarn Craton: geological setting of gold and nickel deposits in the Eastern Goldfields

Post Trip: 6 days 5 nights - Saturday 11 August to Thursday 16 August 2012

Starts: Kalgoorlie

Finishes: Kalgoorlie

Numbers limited to 20

Cost: Land: $2510 per person share twin/double

Single supplement: $505

Air: $1070

Trip description: The Eastern Goldfields Superterrane of the Yilgarn Craton hosts world-class gold and komatiite-hosted nickel deposits within classic Neoarchean granite-greenstones. See the historic gold mining town of Kalgoorlie. Visit major mines and examine their geological setting. The Yilgarn is covered by a thick regolith blanket that includes salt lakes defining a vast paleodrainage system, transported material, extensive laterite hosting huge nickel resources, and deeply weathered in-situ rock

Highlights: Historic gold-mining town of Kalgoorlie, Super pit, Western Australia outback and wildlife, gold-rush history

Trip Leader: Mr Stephen Wyche, Geological Survey of Western Australia

Special Notes: This field trip is not suitable for children.

Day by day itinerary **(The order of days may change depending on mine access)**

Day 1 - Saturday 11th August 2012 - Arrive Kalgoorlie

Delegates fly to Perth in Western Australia and then on to Kalgoorlie and make own way to motel.

Overnight: Motel in Kalgoorlie

Meals: Nil

Day 2 - Sunday 12th August 2012 - Kalgoorlie

After breakfast there will be a full day of visits, including the Kalgoorlie stratigraphy and geological setting (Mount Hunt section) and the Prospectors' Hall of Fame.

Return to your motel for overnight and dinner.

Overnight: Motel in Kalgoorlie

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Kalgoorlie

After breakfast travel by coach to see the St Ives nickel and gold mine, followed by a viewing of the Kalgoorlie Superpit.

Return to your motel for overnight and dinner.

Overnight: Motel in Kalgoorlie

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Kalgoorlie to Leonora

After breakfast check out of your hotel before travelling to see the Felsic volcanic and volcaniclastic rocks of the Eastern Goldfields (Kanowna area) followed by a visit to the Geological Survey of Western Australia core library, before checking into your motel with time to freshen up before dinner.

Overnight: Motel in Leonora

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Leonora to Kalgoorlie

After breakfast check out of your hotel then travel by coach bus to see the Mafic and ultramafic rocks between Kalgoorlie and Menzies in the Eastern Goldfields.

Return to your Kalgoorlie motel with time to freshen up before dinner.

Overnight: Motel in Kalgoorlie

Meals: B / L / D

Day 6 – Thursday 16th August 2012 - Depart Kalgoorlie

After breakfast visit a gold mine in the Kalgoorlie area to view late-basin sedimentary rocks. End of tour. Later transfer to the airport to depart Kalgoorlie in the late afternoon – own arrangements for onward travel.

Overnight: Motel in Kalgoorlie

Meals: B / L

Equipment Required: Participants should be prepared for cold and/or wet weather. Hat and strong walking shoes are essential. Steelcap boots, long trousers and long-sleeved shirts are required for mine-site visits.

WA-2 A billion years of Earth history: a geological transect through the Pilbara Craton and the Mount Bruce Supergroup

Pre Trip: 8 days 7 nights - Saturday 28 July to Saturday 4 August 2012

Starts: Perth

Finishes: Paraburdoo

Numbers limited to 18

Cost: Land: $3290 per person

Air: $900

Trip description: The Pilbara region of remote Western Australia contains the world's best preserved early Archean rocks and the oldest fossils occur east of Pilbara granite-greenstones which contain significant mineral deposits that include iron ore, gold, base metals, tin, tantalum, and barite. Sections illustrate the development of the Earth's crust between 3520 and 3420 Ma. The North Pole 3500-3420 Ma stromatolites provide our best evidence for Earth's earliest life and the ancient environments. Examine late Archean to early Proterozoic Fortescue and Hamersley Basins which host the huge Pilbara iron ore mines

Highlights: Pilbara Craton, Marble Bar, Fortescue and Hamersley Basins, spectacular remote area camping

Trip Leader/s: Dr Arthur Hickman, Geological Survey of Western Australia and Dr Martin Van Kranendonk, University of New South Wales

Special notes: Specific joining instructions apply to this field trip and will be provided upon receipt and confirmation of trip booking. Camping trip. This field trip is not suitable for children as it will involve sections of long distance driving as well as some moderate hill walks and one longer walk of 3-4 km across flat even ground.

Day by day itinerary

Day 1 - Saturday 28th July 2012 - Arrive Perth

Delegates arrive into Perth and make your own way to your hotel.

Overnight: Hotel in Perth

Meals: Nil

Day 2 - Sunday 29th July 2012 - Perth - Port Hedland - Shaw River

After an early breakfast you will be transferred to the airport for you flight to Port Hedland with trip leader Dr Martin Vanranendonk. On arrival you will be met by your second trip leader, Dr Arthur Hickman. Depart and drive south to the Shaw River Crossing for lunch and then on to the North Pole Dome region of the Pilbara; world's oldest fossil stromatolites in the volcanic caldera of the 3.48 Ga Dresser Formation; world's second oldest fossils in the carbonate platform of the c. 3.4 Ga Strelley Pool Formation. Afternoon arrival at your campsite before dinner.

Overnight: Camp near Shaw River

Meals: B / L / D

Day 3 - Monday 30th July 2012 - Shaw River to Marble Bar

After breakfast drive to Trendall to view stromatolites in the (3430 – 3350 Ma) Strelley Pool Formation then to the Earth's oldest erosional unconformities – beneath Strelley Pool Formation, west bank Shaw River. Afterwards drive to North Pole Monzogranite and after lunch drive to Marble Bar then on to Chinaman Pool on the Coongan River to view Duffer Formation. View Marble Bar transect (3.46 Ga pillow basalt, bedded jaspilitic chert, and hydrothermal vein chert). Arrive at the Marble Bar Caravan Park for your overnight and dinner.

Overnight: Caravan Park, Marble Bar

Meals: B / L / D

WA-2 A billion years of Earth history: a geological transect through the Pilbara Craton and the Mount Bruce Supergroup (continued)

Day 4 - Tuesday 31st July 2012 - Marble Bar to Munjina

After breakfast visit the Warrawoona Syncline. Shallow–moderate east–plunging lineations pointing towards zone of sinking in the Warrawoona Syncline. Zone of sinking vertical L-tectonites in the core of the Warrawoona Syncline. Return to Marble Bar and drive 25 km south west on Hillside Road to Glen Herring Gorge to view unconformity at the base of the Fortescue Group, Glen Herring Gorge. After lunch return to Hillside Road, to view roadside exposure of basalt lava flows in the Fortescue Group. Continue on to Coolyia Creek crossing, northern end of Black Range, Ma Black Range Dyke and phreatomagmatic boulder conglomerate. Later view Ma stromatolites in Tumbiana Formation. Arrive at Munjina (Auski Road House and camping ground).

Overnight: Camp near Munjina

Meals: B / L / D

Day 5 - Wednesday 1st August 2012 - Munjina to Woongarra Pool

After breakfast depart for your visit to Newman to view Ma impact spherule beds in the Bee Gorge Member, upper Wittenoom Formation and road cutting exposure of banded iron-formation in the Bee Gorge Member, showing conjugate folding and faulting. Drive on to Munjina East Gorge Lookout and Albert Tognolini Rest Area. After lunch view features of Brockman Iron Formation at Dales Gorge and Fortescue Falls and travel on to Tom Price, then to Woongarra Pool to camp overnight.

Overnight: Camp near Woongarra Pool

Meals: B / L / D

Day 6 - Thursday 2nd August 2012 - Woongarra Pool to Duck Creek

Today view the Woongarra Rhyolite and contact with the Boolgeeda Iron Formation of the Hamersley Group, Woongarra Pool and unconformity at the base of the lower Wyloo Group in the Hardey Syncline See the Meteorite Bore Member at Meteorite Bore then drive west to Duck Creek to view Dolomite stromatolites.

Camp overnight Duck Creek

Overnight: Camp Duck Creek

Meals: B / L / D

Day 7 - Friday 3rd August 2012 - Woongarra Pool to Paraburdoo

After breakfast set off to see Duck Creek Dolomite (c. 1.8 Ga), basin deepening, and banded iron-formation, Kazput Formation (c. 2.3 ga) stromatolitic carbonate and Boundary ridge, transition from BIF to glacial diamictites. Drive to Paraburdoo for overnight camp.

Overnight: Camping at Paraburdoo

Meals: B / L / D

Day 8 - Saturday 4th August 2012 - Paraburdoo to Perth

Early breakfast and own travel arrangements from Paraburdoo to Perth and on to Brisbane for the International Geological Congress.

Meals: B

Equipment Required: Participants should be prepared for hot weather, with daytime temperatures around 30–35˚C, with warm nights. Rain is unexpected but could occur. Sun hat, sunglasses, suncream, strong walking shoes or boots, and light sleeping bag are essential. Jeans or other form of lower leg protection recommended (spinifex grass).

Tents, pillows and mattresses provided.

WA-3 Geology of the Kimberley. Paleoproterozoic Tectonics and Mineralization, Neoproterozoic Glaciations, Devonian Barrier Reef

Pre Trip: 9 days 8 nights - Friday 27 July to Saturday 4 August 2012

Starts: Broome

Finishes: Broome

Numbers limited to 18

Cost: Land: $3650 per person

Air: $650

Trip description: Cross the Kimberley Plateau to Kununurra and to Halls Creek, the scene of Western Australia's first gold rush. See the Paleoproterozoic granites, gabbros and metamorphic rocks, and overlying sandstones. Visit Neoproterozoic glacial deposits, the Devonian barrier reef complex at Windjana Gorge and the sandstone karst landscapes of the Bungle Bungle Range. Mineralization includes diamonds, Argyle, iron ore, Ni-Cr-PGE, Cu-Zn VHMS deposits and gold, Zn-Pb MVT deposits, and hydrocarbons in the Canning Basin

Highlights: Unique plants and wildlife, Aboriginal history and culture, spectacular scenery and spectacular remote area camping

Trip Leader/s: Dr Ian Tyler and Dr Peter Haines, Geological Survey of Western Australia, Dr Roger Hocking, State Geology

Special notes: Camping trip. This field trip is not suitable for children.

Day by day itinerary

Day 1 - Friday 27th July 2012 - Broome to Windjana Gorge

Delegates arrive into Broome in time to depart on your tour at 1:30pm to drive by 4WD to Windjana Gorge where you will camp for the night.

Overnight: Camp at Windjana camp grounds

Meals: D

Day 2 - Saturday 28th July 2012 - Windjana Gorge

After breakfast depart for a visit to the Devonian barrier reef complex, including the "classic face" section through the reef. Today you will also have the opportunity to view some Aboriginal artwork.

Overnight: Camp at Windjana camp grounds

Meals: B / L / D

Day 3 - Sunday 29th July 2012 - Windjana Gorge to Mt House Station

After breakfast visit the Paleoproterozoic Hooper Complex (1870-1850 Ma), Marboo Formation medium grade turbiditic metasedimentary rocks and Paperbark Supersuite granites and gabbros. Today you will also view the Whitewater Volcanics, Inglis Fault and Precipice Fold Belt (c. 560 Ma), Speewah Group and Kimberley Group (1835-1800 Ma) detrital zircon age and provenance plus Hart Dolerite sills (1795Ma).

Arrive at your campsite for dinner and overnight.

Overnight: Camp at Mount House station

Meals: B / L / D

Day 4 - Monday 30th July 2012 - Mt House Station to Pentecost River

After breakfast travel to the Neoproterozoic glacials. View Mount House Group: Walsh Tillite, glacial pavement and Kimberley Group (1835-1800 Ma): Carson Volcanics and detrital zircon age and provenance.

Arrive at your campsite for dinner and overnight.

Overnight: Camp near Pentecost River Crossing

Meals: B / L / D

WA-3 Geology of the Kimberley. Paleoproterozoic Tectonics and Mineralization, Neoproterozoic Glaciations, Devonian Barrier Reef (continued)

Day 5 - Tuesday 31st July 2012 - Pentecost River Crossing to Ord River

After breakfast take in the views of Cockburn Range (Bastion Group) and Cambridge Gulf, followed by views of Devonian sandstones and the Halls Creek Fault. There may be the option of a scenic helicopter flight to Purnalulu from Turkey Creek Roadhouse. View the Argyle diamond mine and Carr Boyd Group (1200 Ma). Today you will also see Tickalara Metamorphics (c. 1865 Ma oceanic island arc), Dougalls Suite (c.1850 Ma) and Sally Downs Supersuite (1835-1805 Ma): syn- to post-collisional granites.

Arrive at your campsite for overnight and dinner.

Overnight: Camp near Ord River Crossing, Great Northern Highway

Meals: B / L / D

Day 6 – Wednesday 1st August 2012 - Ord River to Panton River

After breakfast travel to see Speewah Group unconformity and Whitewater Volcanics followed by the Paperbark Supersuite granite and gabbro: magma mingling. Layered mafic-ultramafic Panton intrusion (c. 1855 Ma).

Arrive at your campsite for overnight and dinner.

Overnight: Camp near Panton River

Meals: B / L / D

Day 7 – Thursday 2nd August 2012 - Panton River to Saw Pit Gorge

After breakfast visit Ding Dong Downs Formation (c. 1910 Ma) and Halls Creek Group (1880-1840 Ma) stratigraphy (passive to active margin). Followed by a visit to Little Mount Isa (Pb-Zn), Old Halls Creek (WA's 1st gold rush in 1888), Moola Bulla Formation: late orogenic basin and Neoproterozoic glacials (Duerdin and Albert Edward Groups).

Arrive at your campsite for overnight and dinner.

Overnight: Camp near Saw Pit Gorge

Meals: B / L / D

Day 8 – Friday 3rd August 2012 - Saw Pit Gorge to Fitzroy Crossing

After breakfast you will visit more Sally Downs Supersuite granites, Neoproterozoic glacial: Louisa Downs Group unconformity and Permian unconformity: exhumed Devonian reef. Later in the afternoon there's an optional boat tour in Giekie Gorge.

Arrive at your campsite for overnight and dinner.

Overnight: Camp at Fitzroy Lodge

Meals: B / L / D

Day 9 – Saturday 4th August 2012 - Fitzroy Crossing to Broome

Depart and travel to Broome after breakfast and arrive in time for afternoon flights – own arrangements for onward flights to Brisbane.

Meals: B / L

Equipment Required: Suitable field clothing for warm to hot weather. As the tour involves visiting outcrops that require some scrambling, sturdy shoes or preferably boots and long trousers/sleeves are recommended as protection against the sun, rough rocks and vegetation (Spinifex, cane grass etc). Sun protection of SPF 30+ sun cream and hat is important along with insect repellent. All camping equipment is provided, including sleeping bags. Bring toiletries and your own towel.

New Zealand Field Trips

NZ-1 *North Island: Active Volcanism, Neotectonics, Geothermal Activity*

Post Trip:	6 days 5 nights - Saturday 11 August to Thursday 16 August 2012
Starts:	Wellington, New Zealand
Finishes:	Auckland, New Zealand
Numbers limited to	20
Cost:	Land: AUD $2030 per person share twin/double
	Single supplement AUD $460
	Air: From AUD $330 one way Brisbane to Wellington.
Trip description:	Examine the Taupo Volcanic Zone (TVZ) of the central North Island. Visit White Island, New Zealand's most active volcano. Other highlights will be the Newmont Martha epithermal gold mine in Waihi, the Wairakei Geothermal Field near Taupo, Lake Taupo occupying the Taupo Caldera, New Zealand's 'super volcano'; geothermal hotsprings at Waimungu and Wai-O-Tapu near Rotorua; Ruapehu, Ngauruhoe and Tongariro volcanoes; tectonic deformation and basement geology and geological history of New Zealand
Highlights:	Whakatane, White Island, Taupo, Wellington, Te Papa (National Museum), GNS Science
Trip Leader/s:	Dr Hamish Campbell, Dr Tony Christie and Professor Alex Malahoff, Geological and Nuclear Sciences, NZ
Special notes:	Delegates are required to book own air travel to arrive in Wellington on evening of 11 August. Trip finishes late afternoon on 16 August. Surcharge for optional White Island flight is approximately AUD 320. Optional helicopter surcharge AUD 530. This field trip is not suitable for children.
	Airfares are not included in the tour price.
Day by day itinerary	**Day 1 - Saturday 11th August 2012 - Wellington**
	Delegates fly to Wellington and make own way to centrally located hotel. Spend some time settling into your hotel before departing on a tour of GNS Science at Avalon, Lower Hutt, around 20 kilometres away.
	This evening enjoy a function and dinner hosted by GNS Science.
	Overnight: Novotel Hotel, Wellington (or similar)
	Meals: D
	Day 2 - Sunday 12th August 2012 - Wellington to Wairakei
	After breakfast, drive from Wellington to Taupo via State Highway, around 4.5 hours. Along the way you will see basement greywacke rocks (Torlesse Terrane) of Gondwanaland origin near Wellington; tectonically tilted Pleistocene and Pliocene sediments up the Rangitikei River valley; enter the central North Island rift (Taupo Volcanic Zone) from the south; traverse the 'volcanic plateau', passing three of New Zealand's active volcanoes: Mount Ruapehu, Mount Ngauruhoe and Mt Tongariro; travel up the eastern side of Lake Taupo (the caldera of an active super-volcano); visit Taupo and visit the Huka Falls (Waikato River). Visit the GNS Science office at Wairakei a short distance north of Taupo.
	On arrival at hotel you will have some time to settle in before dinner.
	Overnight: Wairakei Resort Hotel, Wairakei (or similar)
	Meals: B / L / D

Day 3 - Monday 13th August 2012 - Wairakei to Whakatane

Depart after breakfast for the three and a half hour drive from Wairakei to Whakatane.

See the Wairakei Geothermal Power Station; visit the geothermal hot-springs at Wai-o-tapu and Waimaungu; observe Mount Tarawera and Lake Rotomahana; traverse the central North Island rift (Taupo Volcanic Zone) from west to east; reconnect with basement greywacke rocks (Torlesse Terrane) at Whakatane. On arrival at your hotel there's free time to settle in before dinner.

Overnight: White Island Rendezvous Complex, Whakatane (or similar)

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Whakatane

After breakfast enjoy a visit to White Island (50 kilometres offshore) either by commercial boat or helicopter, depending on sea and weather conditions. Please be aware that if we need to resort to helicopter transport, extra cost will be incurred. However, it is worth it! This will be a highlight of the excursion and will be an opportunity to visit New Zealand's most active subduction-related volcano. Anticipate being on the island for 1.5 to 2 hours.

Overnight: White Island Rendezvous Complex, Whakatane (or similar)

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Whakatane to Auckland

Following breakfast depart and drive from Whakatane to Auckland (around 4.5 hours). En route, we shall traverse the Bay of Plenty (central North Island rift; Taupo Volcanic Zone) from east to west; travel to the southern end of the Coromandel Peninsula and the Hauraki Goldfields; visit the Newmont Waihi Martha Mine at Waihi, Late Miocene epithermal gold mineralisation associated with subduction-related arc volcanism. Arrive in Auckland with time to settle into your hotel before your farewell dinner.

Overnight: Ventura Inn, Auckland (or similar)

Meals: B / L / D

Day 6 - Thursday 16th August 2012 - Onward travel

After breakfast check out of your hotel and make your own way to the airport for your onward travel.

Meals: B

Equipment Required: Participants should be prepared for cool weather and must be prepared for both wet and dry conditions. It will be winter in New Zealand but in the North Island temperatures are unlikely to be below zero. However, if the weather is cloud-free and still, we may experience frost. Sun hat, rain coat and strong walking shoes are essential, as is warm clothing (woolly hat, scarf, gloves). We will be visiting active geothermal areas and an active volcano and we will be subject to corrosive sulphurous fluids. The level of fitness required is minimal.

NZ-2 North Island - Auckland Volcanic Field

Pre Trip:	3 days 2 nights - Thursday 2 August to Saturday 4 August 2012
Starts:	Auckland, New Zealand
Finishes:	Auckland, New Zealand
Numbers limited to	20
Cost:	AUD $610 per person share twin/double
	Single supplement AUD $240
Trip description:	Auckland is built on an active volcanic field comprising about 50 basaltic cones and maars, the youngest of which is only 600 years old. Visit the Auckland War Memorial Museum's newly built volcano exhibit for an overview of the geological, economic, and social situation. Trip some of the most prominent cones. The trip ends with a visit to the city's and region's Civil Defence and Emergency Management services.
Highlights:	Auckland Museum, Auckland City of Volcanoes
Trip Leader:	Dr Jan Lindsay, University of Auckland
Special notes:	Includes two night's accommodation in Auckland including airport transfers and a full day trip. This field trip is not suitable for children.
	Airfares are not included in the tour price.
Day by day itinerary	**Day 1 - Tuesday 2nd August 2012 - Arrive Auckland**
	Arrive Auckland where you will be transferred to your hotel with an evening at leisure.
	Overnight: Rydges Hotel, Auckland
	Meals: Nil included
	Day 2 - Wednesday 3rd August 2012 - Auckland
	After breakfast meet your trip leader and depart for a full day tour to see the key features of the late Pleistocene – Recent Auckland Volcanic Field.
	Return to your hotel with an evening at leisure
	Overnight: Rydges Hotel, Auckland
	Meals: B
	Day 3 - Thursday 4th August 2012 - Onward travel
	Breakfast at leisure with transfer to the airport. Own onward flight arrangements to Brisbane, Australia for the International geological Congress
	Meals: B & inflight
Equipment Required:	Normal field gear including sturdy footwear and warm clothing. Be prepared for cool wet weather. Camera and hand lens essential.

NZ-3 Pliocene to Miocene shelf to basin floor sequences of Wanganui and Taranaki basins, New Zealand

Post Trip:	5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012
Starts:	New Plymouth, New Zealand
Finishes:	New Plymouth, New Zealand
Numbers limited to	20
Cost:	Land: AUD $1480 per person share twin/double Single supplement: AUD $405 Air: From AUD $430 Brisbane to New Plymouth via Auckland
Trip description:	This field trip will focus on Pliocene to Miocene shelf to basin floor fan successions of the Wanganui and Taranaki basins. The major source of hydrocarbons (oil and gas) is coal of Late Cretaceous to Eocene age. The Wanganui Basin demonstrates Plio-Pleistocene integrated stratigraphy, and a superb marine Pleistocene record.
Highlights:	Waitomo Caves, New Plymouth, Mount Taranaki, Wanganui, Wellington, Te Papa (National Museum), GNS Science
Trip Leader/s:	Dr Greg Browne, Dr Peter King, Dr Malcolm Arnot, and Dr Kyle Bland, Geological and Nuclear Sciences, NZ
Special notes:	Delegates are required to book own air travel to arrive in New Plymouth on evening of 11 August. Trip finishes late afternoon on 15 August. A moderate level of fitness is required, with some stops involving 2-3 km long walks along sandy beaches, some walking and climbing up and downhill (15-30 minutes walking up hills), and traversing through muddy, swampy ground or streams. Participants should be able to easily walk 5-6 km per day. Each day we are away from the city of New Plymouth, shops and drug stores – therefore it's important that participants carry with them any items of medication. We will be driving in vehicles for up to 3 hours for any given day. Those that suffer motion sickness should take medications prior to the trip. Not suitable for children Airfares are not included in the cost of the tour.
Day by day itinerary	**Day 1 - Saturday 11th August 2012 - Arrive New Plymouth** Fly from Brisbane to New Plymouth via Auckland. On arrival in Auckland you will be met and transferred to your hotel for check in. Evening at leisure. Overnight: Autolodge, New Plymouth Meals: In-flight **Day 2 - Sunday 12th August 2012 - New Plymouth** After breakfast travel to Hawera to view fossiliferous Pliocene shelf sequences (Tangahoe and Matemateaonga formations) at several coastal outcrops taking in transgressive erosion surfaces and systems tracts (TSTs), highstand systems tracts (HSTs), and regressive sandstones (RSTs). Return to your hotel with the evening at leisure. Overnight: Autolodge, New Plymouth Meals: B **Day 3 - Monday 13th August 2012 - New Plymouth** After breakfast travel to see the deep-water Late Miocene sandstones of the Mount Messenger Formation, exposed in coastal cliffs near Mokau. Aspects include basin floor fan sedimentology and development of MTDs (slumped intervals) in bathyal settings. Return to your hotel with evening at leisure. Overnight: Autolodge, New Plymouth Meals: B

NZ-3 Pliocene to Miocene shelf to basin floor sequences of Wanganui and Taranaki basins, New Zealand (continued)

Day 4 - Tuesday 14th August 2012 - New Plymouth

After breakfast, travel to see the deep-water Late Miocene sandstones of the Mount Messenger Formation, exposed in coastal cliffs near Tongaporutu. Aspects include development of 4th-order base-level driven depositional cycles on basin floor fans to base-of slope turbidites.

Return to your hotel with evening at leisure.

Overnight: Autolodge, New Plymouth

Meals: B

Day 5 - Wednesday 15th August 2012 - New Plymouth

After breakfast, travel to see the deep-water Late Miocene sandstones of the Mount Messenger and Urenui formations exposed in coastal cliffs near Urenui. Aspects covered include geometries developed in slope fan depositional settings and clastic-filled channels developed in slope settings.

Return to your hotel with evening at leisure.

Overnight: Autolodge, New Plymouth

Meals: B

Day 6 - Thursday 16th August 2012 - Depart New Plymouth

After breakfast check out of your hotel and transfer to the airport for your onward travel – own arrangements.

Meals: B

Equipment Required: Normal field gear including day pack, warm clothing, suitable footwear for sandy beach walks, muddy stream, and potentially quarry, gravel tracks and farm exposures. You should also bring a rain jacket, sun hat, sun glasses, sun cream, warm hat, camera, plus any personal items such as medications etc. Hiking boots or shoes are recommended, with the addition of light weight Teva or similar slip-on footwear for beach sections. Field trip leaders will provide hard hats and fluorovests as required for roadside and/or quarry stops. August is mid-winter in New Zealand and the weather is usually cool to cold and can be variable, with daytime high temperatures of 10-150 C. It may well be wet and windy!

NZ-4 South Island: Plate Boundary Structure, Alpine Fault, Glaciation

Post Trip: 5 days 4 nights - Saturday 11 August to Wednesday 15 August 2012

Starts: Christchurch, New Zealand

Finishes: Auckland, New Zealand

Numbers limited to 20

Cost: Land: AUD $1935 per person share twin/double

Single supplementAUD $460

Air: From AUD $360 Brisbane to Christchurch via Wellington

Trip description: The Alpine Fault moves approximately 8 m in magnitude 8 earthquakes every 200-400 years and accommodates nearly three quarters of the 39 mm/yr plate motion through South Island. Oblique strike-slip deformation has uplifted the Southern Alps, offset glacial and fluvial landforms, and exhumed a classic section of fault rocks (cataclasites and mylonites) from up to 35 km depth. See the geomorphic expression of the Alpine Fault, the geological setting and fault rocks, and visit proposed sites for scientific drilling

NZ-4 South Island: Plate Boundary Structure, Alpine Fault, Glaciation (continued)

Highlights: Southern Alps, Mt Cook, Fox Glacier, Franz Josef Glacier, Hokitika and the spectacular West Coast. Three nights accommodation at Franz Josef Glacier.

Trip Leader/s: Dr Rupert Sutherland, Geological and Nuclear Sciences, NZ and Dr Virginia Toy, University of Otago

Special notes: Delegates are required to book own air travel to arrive in Christchurch on evening of 11 August. Trip finishes late afternoon on 15 August. Tour price includes domestic New Zealand flight from Christchurch to Hokitika return. This field trip is not suitable for children.

International airfares are not included in the tour price.

Day by day itinerary

Day 1 - Saturday 11th August 2012 Brisbane to Christchurch

Delegates arrive into Christchurch. On arrival, you will be met and transferred to your hotel. Evening at leisure.

Overnight: The George Hotel, Christchurch

Meals: In-flight

Day 2 - Sunday 12th August 2012 - Christchurch to Franz Joseph

After breakfast, transfer to the airport for your flight to Hokitika from Christchurch. Visit outcrops of basement rock around the Alpine Fault and observe geomorphology in the Toharoa River area. Drive south to Franz Josef and settle into your hotel before meeting for dinner.

Overnight: Scenic Franz Joseph Glacier Hotel, Franz Joseph

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Franz Joseph

After breakfast visit outcrops of hanging wall basement, and observe glacial geomorphology around Franz Josef Glacier. Visit outcrop of Alpine Fault at Waikukupa River to observe faulting / glaciation interaction. Return to your hotel and freshen up before meeting for dinner.

Overnight: Scenic Franz Joseph Glacier Hotel, Franz Joseph

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Franz Joseph

After breakfast visit Gaunt Creek, the site of the finest exposure of the central Alpine Fault and of the first boreholes forming part of the Alpine Fault – Deep Fault Drilling Project. Observatory inspection and discussion of the project.

Return to hotel with time to freshen up before meeting for dinner.

Overnight: Scenic Franz Joseph Glacier Hotel, Franz Joseph

Meals: B / L / D

Day 5 - Wednesday 15th August 2012 - Franz Joseph to Christchurch

After breakfast, transfer to the airport in Hokitika for the return flight to Christchurch and onward travel – own arrangements.

Meals: B

Equipment Required: Participants should be prepared for cold and wet weather conditions. Winter temperatures on the West Coast of the South Island are commonly sub-zero. Sturdy footwear is essential, preferably boots. Lots of socks are necessary as you will get wet feet. Water-proof rain gear is essential, as is warm clothing. Standard field gear is required (hammer, compass, camera).

Malaysia Trip

MY-1 *Langkawi Geopark*

Post Trip: 4 days 3 nights - Saturday 11 August to Tuesday 14 August 2012

Starts: Langkawi, Malaysia

Finishes: Langkawi, Malaysia

Cost: Land: AUD $1115

Single supplement AUD $355

Air: N/A

Trip description: Langkawi was declared as a member of the UNESCO global Network of National Geoparks in June 2007 and there are over 90 interesting geosites in the 99 islands within the geopark. The Palaeozoic sequence includes the Cambro-ordovician shallow marine clastic Machinchang Formation accessible by cable car, fossiliferous limestones of the Ordovician-Silurian Gondwana-derived glacial-marine pebbly mudstones of the Carboniferous-Permian and Permian Limestone with some intruded by Triassic and Cretaceous granites

Highlights: Spectacular island karst, beautiful beaches with interesting geomorphological features, tropical jungle and friendly villagers with lots of interesting local legends

Trip Leader: Professor Dr Lee Chai Peng, University of Malaysia

Special notes: This field trip is designed to appeal to delegates passing through south-east Asia. Delegates are required to book own air travel to arrive in Langkawi on evening of 11 August. Trip finishes late afternoon on 14 August. This field trip is not suitable for children. Airfares are not included in the tour price.

Day by day itinerary

Day 1 - Saturday 11th August 2012 - Arrive Langkawi

Delegates arrive at Langkawi on Malaysia's west coast and make own way to the hotel to check in. Evening is at leisure

Overnight: Westin Langkawi Resort, Langkawi

Meals: In-flight

Day 2 - Sunday 12th August 2012 - Langkawi

After breakfast meet your tour leader and visit the Cambrian Machinchang Formation (by cable car); Seven Wells Waterfall (15-30 minutes walking); Machinchang Formation along northeastern coast, recent tourmaline-ilmenite-zircon placer deposits at Black Sands Beach.

Return to your hotel with the evening at leisure.

Overnight: Westin Langkawi Resort, Langkawi

Meals: B / L

Day 3 - Monday 13th August 2012 - Langkawi

After breakfast travel see the Ordovician-Silurian Setul Limestone at Tanjung Rhu and Kilim Geopark; Air Hangat Hot Springs. Visit the Bat Cave and take a boat ride to lunch at the Hole In the Wall Restaurant in the Geopark. View Kisap Thrust through Permian Chuping Limestone; Permo-Carboniferous glacial-marine argillites of Singa Formation at Batu Asah, Tanjung Lembung and Tanjung Mali (Cretaceous granite blocks from the island).

Return to your hotel with time to freshen up before your farewell dinner.

Overnight: Westin Langkawi Resort, Langkawi

Meals: B / L / D

MY-1 Langkawi Geopark (continued)

Day 4 - Tuesday 14th August 2012 - Onward travel

After breakfast enjoy some free time in Langkawi before making your own way to the airport for your onward travel.

Equipment Required: Comfortable walking shoes, sunscreen, hat and swimming gear recommended.

New Caledonia Trip

NCAL-1 New Caledonia Subduction/Obduction System, HP-LT Complex, Ophiolites, Syntectonic Basins. Neogene Tropical Weathering and Nickel Resources Holocene Landforms, Barrier Reef, Neotectonics, Isle of Pines.

Pre Trip:	8 days 7 nights- Sunday 28 July to Saturday 4 August 2012
Starts:	Noumea
Finishes:	Noumea
Numbers limited to	15
Cost:	Land: AUD $1935 Single supplement AUD $805 Air: From AUD $985
Trip description:	See an integrated view of the subduction/obduction system and subsequent supergene evolution that lead to the formation of the nickel ores of New Caledonia. Visit the blueschist-eclogite belt of northern New Caledonia to see the tectonic relationships between subducted and exhumed mélange with foreland basins and ophiolite. Visit an operating nickel mine with ultramafic protoliths and tropical oxidised soils which host the nickel ore and the famous garnierite crack seals
Highlights:	Isle of Pines, World Heritage Lagoon, coral reefs, nickel mine
Optional:	Amedee lighthouse with glassbottom boat or snorkelling - $200.00
Trip Leader/s:	Professor Dominique Cluzel, University of New Caledonia, and Mr Pierre Maurizot, B.R.G.M. Nouméa
Special notes:	Delegates are required to book own air travel to arrive in Noumea on evening of 29 July and to fly to Brisbane late afternoon on 4 August, unless you request that Quadrant Australia book it for you. This field trip is not suitable for children. Airfares are not included in the tour price.
Day by day itinerary	**Day 1 - Saturday 28th July 2012 - Arrive Noumea, New Caledonia** Delegates fly to Noumea, the cosmopolitan capital of New Caledonia. On arrival you will be met and transferred to your hotel. Overnight: Tontoutel Hotel, La Tontoutel Meals: D **Day 2 - Sunday 29th July 2012 - Noumea to Bourail** After breakfast depart and travel to Bourail with geological visits along the way. Basement (pre-Late Cretaceous) terranes, Late Cretaceous syn-rift sediments; Eocene foreland basin. On arrival, check into your hotel with time to freshen up before meeting for dinner. Overnight: El Kantara, Bourail Meals: B / L / D

Day 3 - Monday 30th July 2012 - Bourail to Koumac

After breakfast depart for Nepoui and Koumac with visits to Mafic and ultramafic allochthons; Miocene post-obduction sediments and regolith erosion products. Lower Eocene amphibolite.

On arrival at Koumac you will have time to check into your hotel and freshen up for dinner.

Overnight: Monitel, Koumac

Meals: B / L / D

Day 4 - Tuesday 31st July 2012 - Koumac to Hienghene

After breakfast depart Koumac for Ouegoa Amos Pass and the East Coast where you will see Early to mid-Eocene intrabasinal tectonics; Late Eocene olistostrome, HP-LT complex, isoclinal folding and ductile thrusting, mafic and ultramafic inlyiers. Pouebo eclogitised mélange, East Coast scenery, Tao waterfall.

Arrive Hienghene and check into your hotel with time to freshen up before meeting for dinner.

Overnight: Koulnoue Village hotel, near Hienghene

Meals: B / L / D

Day 5 - Wednesday 1st August 2012 - Hienghene to La Tontoutel

After breakfast depart for La Tontouta via Poindimié, Koné with visits along the way to Hienghene karst, Tiwaka waterfall, Central Chain scenery, Boghen schist, Koné Fm.

Check into your La Tontouta hotel wiht time to freshen up for dinner.

Overnight: Tontoutel Hotel, La Tontoutel

Meals: B / L/ D

Day 6 - Thursday 2nd August 2012 - La Tontoutel to Noumea

After breakfast travel to Thio where you will visit the Thio operating nickel mine, ultramafic regolith and supergene Ni ore, syn-alteration faulting, garnierite crack seals.

Enjoy a Kanak welcome at St Paul village with the opportunity to see traditional handicrafts.

Check into your hotel before meeting for; a traditional Melanesian meal or "Bougna", where the ingredients are wrapped in banana leaves and enclosed in an oven made from hot rocks.

Overnight: Noumea Hotel, Noumea

Meals: B / L/ D

Day 7 - Friday 3rd August 2012 - Noumea

After breakfast travel to Prony, Port Boisé and Yate to see Massif du Sud ultramafics, paleo-Moho, mafic and ultramafic cumulates, Eocene dykes with optional tours for glass bottom boat or snorkelling experience at Amedee lighthouse islet.

Return to your Noumea hotel with time to freshen up before dinner.

Overnight: Noumea Hotel, Noumea

Meals: B / L/ D

NCAL-1 New Caledonia Subduction/Obduction System, HP-LT Complex, Ophiolites, Syntectonic Basins. Neogene Tropical Weathering and Nickel Resources Holocene Landforms, Barrier Reef, Neotectonics, Isle of Pines. (continued)

Day 8 – Saturday 4th August 2012 - Onward travel

Breakfast at leisure with the day to explore Noumea for yourself before meeting early afternoon for the transfer to the airport for the evening flight to Australia – own flight arrangements.

Meals: B / D

Equipment Required: Usual field gear including day pack, suitable footwear for quarry/ gravel tracks and farm exposures. You should also bring a rain jacket, sun hat, sun glasses, sun cream, camera, plus any personal items such as medications etc. Hiking boots or shoes are recommended with the addition of light weight Teva or similar slip-on footwear for beach sections. Field trip leaders will provide hard hats and fluro vests as required for roadside and/or quarry stops.

Papua New Guinea Trips

PNG-1 Rabaul Caldera - Historical and Prehistorical Volcanism

Post Trip: 4 days 3 nights - Saturday 11 August to Tuesday 14 August 2012

Starts: Rabaul, Papua New Guinea

Finishes: Rabaul, Papua New Guinea

Numbers limited to 14

Cost: Land: AUD $1320

Single supplement: AUD $255

Air: From AUD $995

Tour description: Rabaul Caldera is one of 15 active volcanoes in Papua New Guinea. Rabaul Town is located within this active caldera complex, which measures 14km N-S and about 9km S-W. During the latest caldera-forming eruption, about 1,400 years ago, much of the south-eastern part of the volcano was removed, forming the deepwater Simpson Harbour. In Rabaul Town there is ongoing vulcanian-type activity

Highlights: Rabaul volcano, Simpson Harbour and township

Trip Leader/s: Mr Herman Patia, Mr Steve Saunders and Ms Ima Itikarai, Rabaul Volcano Observatory

Special notes: Delegates are required to book own air travel to arrive in Rabaul on evening of 11 August. Tour finishes late afternoon on 14 August.: Moderate level of fitness required. This field trip is not suitable for children.

Airfares are not included in the tour price.

Day by day itinerary **Day 1 - Saturday 11th August 2012 - Brisbane to Rabaul**

Delegates travel from Brisbane to Rabaul via Port Moresby. On arrival you will be met and transferred to your hotel

Overnight: Rabaul Hotel, Rabaul

Meals: D

Day 2 - Sunday 12th August 2012 - Rabaul

After breakfast visit Rapindik hot springs, view and climb Mt Tavurvur. Examine 1994 to 2009 deposits at base of Tavurvur. Take a short, but rough walk (30 mins) around Rabalanakaia to view structures and intrusives in the caldera wall. After lunch tour the Observatory followed by a tour of the Submarine Base to have a view of the submerged Tavui Caldera. Explore war-time tunnels in raised limestone of the caldera wall. Snorkel if is desired. Return to your hotel with time to freshen up before dinner.

Overnight: Rabaul Hotel, Rabaul

Meals: B / L / D

Day 3 - Monday 13th August 2012 - Rabaul

After breakfast, travel to Vulcan where you will examine historical eruption deposits from 1878 to 1994. After lunch, examine deposits from latest caldera forming eruption at 4 localities on the south and south west of the caldera. Deposits such as normal ignimbrite, fines depleted ignimbrite, and ignimbrite veneer deposit.

Return to your hotel with time to freshen up before dinner.

Overnight: Rabaul Hotel, Rabaul

Meals: B / L / D

Day 4 - Tuesday 14th August 2012 - Onward travel

Early check out and transfer to the airport. Own arrangements for your onward flight.

Meals: B

Equipment Required: Select lightweight clothing, a shady hat, and footwear suitable for walking in creeks. Any unnecessary baggage can be stored in Port Moresby until you return. Before travelling see your medical practitioner for advice on protection from malaria; most long-term residents do not take prophylactics but protection may be recommended for short term visitors. Sun cream and umbrellas will be provided, and insect repellent if needed.

PNG-2 Port Moresby - Popondetta - Kokoda - Madang - Accretionary Prism Subduction Complex and Ophiolites

Pre Tour: 6 days 5 nights - Tuesday 31 July to Sunday 5 August 2012

Starts: Port Moresby, Papua New Guinea

Finishes: Port Moresby, Papua New Guinea

Numbers limited to 12

Cost: Land: AUD$2755

Single supplement: AUD $705

Air: From AUD $1055

Tour description: Visit a road exposure of a thrust-faulted sequence of Paleocene and Eocene deep marine fine siliciclastic sediments, interpreted as a Late Eocene or Early Oligocene accretionary complex. Further west the complex is juxtaposed with accreted Oligo-Miocene slope sediments. Examine exposures of PUB ophiolite and Owen Stanley Metamorphics along the Popondetta-Kokoda road.These rocks record a Paleocene (58 Ma) arc-continent collision. Visit the Ramu NiCo Mine

Highlights: Great mountain scenery, colourful cultural events and opportunities to visit historic World War 2 Kokoda campaign sites.

Trip Leader/s: Professor Hugh Davies and Dr Russell Perembo, University of Papua New Guinea, and Mr Leo Jonda

Special notes: Delegates are required to book own air travel to arrive in Port Moresby on evening of 31 July and to fly to Brisbane on morning of 5 August unless you request Quadrant Australia to book it for you. Moderate level of fitness is required. Need to be prepared for bumpy travel on roads in the Kokoda area. This field trip is not suitable for children.

Airfares are not included in the tour price.

Day by day itinerary

Day 1 - Tuesday 31st July 2012 - Arrive Port Moresby

Delegates make own arrangements for arrival into Port Moresby where you will be met and transferred to your hotel. Inspection of local geology – Paleogene accretionary complex exposed in road cutting and quarry, if time permits before dinner.

Overnight: Airways Hotel, Port Moresby

Meals: D

Day 2 - Wednesday 1st August 2012 - Port Moresby to Kokoda

A packed breakfast will be available this morning due to your early morning transfer to the airport for the flight to Popendetta. On arrival you will be met by your driver for the trip to Kokoda. Examine exposures of PUB ophiolite and Owen Stanley Metamorphics along the Popondetta-Kokoda road. World War 2 sites include Oivi Ridge and Kokoda Plateau memorial and museum.

On arrival at your hotel there's time to freshen up before meeting for dinner and an evening of traditional cultural entertainment.

Overnight: Kokoda Guest House

Meals: B / L / D

Day 3 - Thursday 2nd August 2012 - Kokoda to Port Moresby

Early breakfast and departure by road to Popondetta airport for your flight to Port Moresby. There will be stops along the way to Yodda historic alluvial workings, exposures of ophiolite and metamorphic rocks in the Kokoda valley, and eruptive material from Mount Lamington catastrophic eruption of January 1951; inspect crater from a distance (weather permitting). World War 2 sites include Awala memorial marking first engagement of Papuan Infantry Battalion with Japanese forces in July 1942.

On arrival transfer to Loloata then spend the afternoon swimming and snorkelling before meeting for dinner with entertainment by the Tubuserea Dance group.

Overnight: Loloata Island Resort, near Port Moresby

Meals: B / L / D

Day 4 - Friday 3rd August 2012 - Port Moresby to Madang

Early breakfast before transferring to the airport for your flight to Madang. On arrival you will be met by your driver and taken by road to Rai Coast to visit Basamuk Bay lateritic ore processing facility and port, glimpses of Finisterre Range geology before arriving at your hotel.

Time permitting there will be optional tours to Coastwatchers Memorial Lighthouse, local villages and snorkelling in the afternoon (at extra cost).

Dinner at your hotel.

Overnight: Madang Resort Hotel, Madang

Meals: B / L / D

Day 5 - Saturday 4th August 2012 - Madang

Early breakfast before travelling to Ramu NiCo Mine at Karumbukari then return to Madang for views of Ramu-Markham valley and Mount Otto. Also, excellent exposures of Marum Complex ultramafic rocks on mine access road. Note: Mine is scheduled to start production in 2012.

Overnight: Madang Resort Hotel, Madang

Meals: B / L / D

Day 6 - Sunday 5th August 2012 - Madang to Brisbane

After breakfast, transfer to Madang Airport for your flight from Madang to Port Moresby to connect with your own onward travel to Australia.

Optional half day tours of Port Moresby area are available, including Bomana War Cemetery, Sogeri Plateau volcanic rocks, and Astrolabe mineral field (at extra cost).

Meals: B

Equipment Required:

Select lightweight clothing, a shady hat, and footwear suitable for walking in creeks. Unnecessary baggage can be stored in Port Moresby until you return. Before travel see your medical practitioner for advice on protection from malaria; most long-term residents do not take prophylactics but protection may be recommended for short term visitors. Sun cream and umbrellas will be provided, and insect repellent if needed.

GeoExpo and Sponsorship

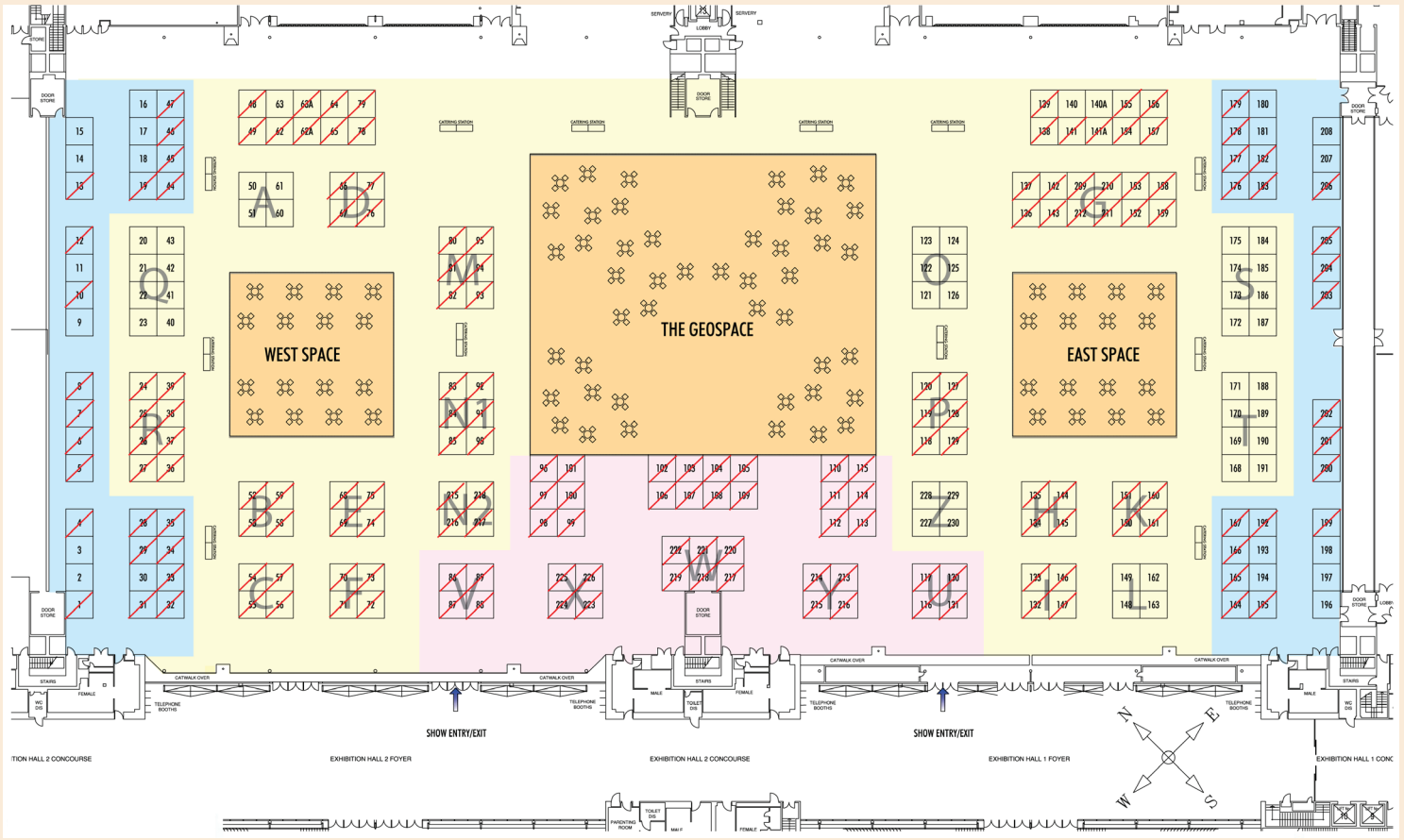
The GeoExpo will be held at the congress venue over the same dates as the 34th IGC. It will contain an interesting array of displays and exhibits and will be main centre of attention during refreshment breaks and lunches, which will be served within the GeoSpace.

Sales of GeoExpo exhibition sites have remarkable. Over 200 exhibition spaces have already been sold and allocated to the companies and organisations listed below. If you are interested in exhibiting at the GeoExpo you must act quickly as very few spaces remain. Limited sponsorship opportunities also remain available.

You can download GeoExpo and sponsorship proposals at www.34igc.org (select the GeoExpo & Sponsorship option). For further assistance and information please contact:

Email: **sponsor@34igc.org**

Tel: **+ 61 7 3368 2644**



Floorplan correct at time of printing but subject to change

Current Exhibitor List

CURRENT AT 8 FEB 2012

35th IGC Council For Geoscience

AAG, Association of Applied Geochemsits

Activation Laboratories Ltd (Actlabs)

AIG, Australian Institute of Geoscientists

AMC Consultants Pty Ltd

American Geosciences Institute

ASEG, Australian Society of Exploration Geophysicists

AusIMM

Australian Geoscience Council

BHP Billiton

BHP Billiton Mitsubishi Alliance Coal Operation Pty Ltd

Bruker

Bureau Veritas Australia

Cambridge University Press

Canadian Federation of Earth Sciences/ Tourism Vancouver

Centre For Petroleum Geoscience And CO2 Sequestration

CGMW, Commission For The Geological Map Of The World

Chinese Academy of Geological Sciences, Sino Probe

CO2CRC

Corescan Pty Ltd

CSIRO

Department of Industry & Investment NSW, Regional Structures and Services

Department of Mines and Petroleum Western Australia

Department of Resources Energy and Tourism, RET

EGRU, James Cook University

F.W. Breithaupt & Sohn

Federal Institute for Geosciences and Raw Materials

FEI Australia

Gap Geophysics Australia Pty Ltd

Geoitalia Consortium

Geological Society of Africa

Geological Society Of America

Geological Society Of Australia

Geological Society of China

Geological Survey of India

Geological Survey of Queensland

Geological Survey of Sweden

Geoscience Australia

Geotic Inc.

Global CCS Institute

Global Drilling Products

Gold & Minerals Gazette

GSA - Coal Geology Group

IAH, International Association of Hydrogeologists

IHS Global Limited

Institute of Geological & Nuclear Sciences NZ (GNS)

Integrated Ocean Drilling Program

International Association of Sedimentologists

International Geothermal Data Federation

International Union of Geological Sciences (IUGS)

Intrepid Geophysics

Kazakhstan Geological Society

Leica Microsystems

Linc Energy

Manufacture, Innovation, Trade, Resources & Energy (MITRE)

Mineral Resource Authority

Mira Geoscience

Nautilus Minerals

Newcrest Mining Limited

Olympus Innov-x

Origin Energy

PESA, Petroluem Exploration Society Australia

Portable Analytical Solutions

QGC

Qld Resources Council

QUT Faculty of Science & Technology

Rio Tinto Exploration

Rock People

Russian Geological Research Institute (VSEGEI)

Society of Economic Geologists

SOPAC

SPECIM, Spectral Imaging Ltd

State Geological Survey of Ukraine

Surtron Technologies

Swedish Nuclear Fuel and Waste Management Co

Terra Search Pty Ltd

The Centre For Exploration Targeting

The Geological Society of London

The Rock Doctor

The University Of Queensland

United States Geological Survey (USGS)

Vale Exploration Pty Ltd

Velseis Pty Ltd

Vertical Events

Wiley - Blackwell

2nd World YES Congress - Early Career Earth Scientists For Society

The YES Network, which is open to all Earth scientists up to 35 years old, who may join online (**http://www.networkyes.org/**) free of charge, will hold its second congress within the 34th IGC.

Presenting the perspectives of future geoscience leaders on major issues, the YES Congress will include an IGC symposium on overcoming geoscience challenges in the 21st Century as well as an evening program of workshops, roundtable discussions and other events.

YES Network encourages all members to take an active part in both the IGC and YES programs and also welcomes new members.

All IGC delegates who wish to attend any of the YES sessions or events during the week. The events are open to all interested parties, regardless of age.

Convenors

Joanne Venus, University of Leeds, Leeds (UK);

Michelle Cooper, Geoscience Australia, Canberra (AUS);

Gabriela Perlingeiro, University of Queensland, Brisbane (AUS);

YES Network International Executive

Program Committee

Joanne Venus, University of Leeds, Leeds (UK);

Michelle Cooper, Geoscience Australia, Canberra (AUS);

Gabriela Perlingeiro, University of Queensland, Brisbane (AUS);

Sarah Gaines, UNESCO, Paris (FRA);

Tiffany Rivera, Roskilde University, Roskilde (DEN).

Official Sponsor

- BHP Billiton

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Indicative Program YES 2012 Congress

Sunday 5 August (University of Queensland)

09:00-10:00 YES Network Congress Registration and Morning Tea (Customs House, 399 Queen Street, Brisbane QLD 4001)

A YES 2012 registration desk will be set up at the Customs House (University of Queensland facility in heart of Brisbane city) for delegates registering for the 2nd World YES Network Congress events.

To participate in YES sessions to be held at the Brisbane Convention and Exhibition Centre, you must register as a 34th IGC delegate and pay the appropriate registration fee. Discounted registration fees are available to YES members and student delegates.

10:00-12:00 CV Workshop (Customs House, 399 Queen Street, Brisbane QLD 4001)

At this workshop YES delegates will learn tips and tools for strengthening their CV. **Murray Smith, Vice President of Human Resources in Minerals Exploration at BHP** will share his insights into what industry looks for in the content and structure of a CV, while **Tiffany Rivera from Roskilde University, Denmark,** will address how academics (and those interested in pursuing a career in academia) should organise and present their CV.

Registration for this workshop will be via the YES Network website between October and March, 2012 (Limited onsite registration).

12:00-13:00 Lunch Function (University of Queensland, Oval Field number to be confirmed)

YES Delegates are invited to a lunch function as a start to the Industry-YES Network Members Event. Come along and meet your fellow YES Network members right before the IGC begins.

The cost of this lunch is included in your registration if you are a YES member and have pre-registered for this event. Additional guests are $30 AUD each; registration and payment details please contact Ashley Paroz at a.paroz@uq.edu.au between October and March, 2012.

12:00-15:00 Industry-YES Members Event (University of Queensland, Oval Field number to be confirmed)

This event will bring industry representatives, academics, researchers and professional organisations together with YES Network members to discuss opportunities for employment, work experience and collaboration in an informal and relaxed environment.

PLEASE NOTE: If you are interested in taking advantage of this exciting opportunity to interact with some of the brightest early career earth scientists from around the world by having a display and/or sending a representative of your organisation please contact Gabriela Perlingeiro at ***g.perlingeiro@uq.edu.au***

Monday 6 August (Brisbane Convention Centre)

18:00-20:00 YES National Chapters, YES Room 1

This session will include presentations from the YES Network National Chapters on exciting projects and their plans for 2012-2014, and the YES awards ceremony.

20:00-22:00 YES Network Meet and Greet Dinner

A chance to see downtown Brisbane, join us for dinner in the city centre. Further details to be confirmed. (Cost not included in your registration)

Tuesday 7 August (Brisbane Convention Centre)

The YES Network Roundtable Program will commence on Tuesday 7 August. Roundtable sessions aim to bring together experts and early career geoscientists to discuss pertinent and topical issues. Two roundtable sessions will run concurrently each evening.

Roundtable sessions will run from 18:30 to 20:30 in the main conference centre, except for Friday 10 August when they will run from 09:00 to 11:30. Light refreshments will be provided and delegates are welcome to join their roundtable session organisers for dinner after each session (not funded) to continue the discussions.

18:30-20:30 Roundtable 1, YES Room 1:

How can Geoscientists best engage with the public and high school pupils

Convenors: YES Outreach Team, Ashvin Wickramasooriya

18:30-20:30 Roundtable 2, YES Room 2:

Geological knowledge and technology transfer in developing nations

Convenor: Regional Representatives from Africa and Middle East

Wednesday 8 August (Brisbane Convention Centre)

17:00-19:00 Roundtable 3, YES Room 1:

Engaging with policy makers: A YES legacy

Convenors: Gabriela Perlingeiro, YES Australia, David Govoni, YES Italy

Keynote Speakers: Alabama State Senador Scott Beason (USA)

17:00-19:00 Roundtable 4, YES Room 2

Education and Outreach in Polar Science

Convenors: Punyasloke Bhadury and Aisling Dolan, (joint YES Network and -Association of Polar Early Career Scientists)

Thursday 9 August (Brisbane Convention Centre)

18:30-20:30 Roundtable 5, YES Room 1

Emerging geoscience themes and the role of the YES network

Convenors: Visioning Team, Sarah Gaines, UNESCO

18:30-20:30 Roundtable 6, YES Room 2:

Women in Geosciences

Conveners: Tiffany Rivera, YES Denmark, Ndivhuwo Cecilia Mukosi, YES South Africa, Joanne Venus, YES United Kingdom, Ezzoura Errami, YES Morocco, African Association of Women Geoscientists

Keynote speaker: Kerstin Lehnert, Director of Integrated Earth Data Application and Director of Geoinformatics for Geochemistry (Columbia University, New York, USA)

GeoHost Support Program

Applications for the GeoHost Training Workshop (TWP) and Funded Delegate (FDP) programs have now closed. Over 1100 applications were received and letters of offer are being progressively sent to successful candidates.

The GeoHost program has a budget exceeding AUD$1.3 million, a level not seen at previous IGCs, all of which will be spent on funding the successful candidates to come to Australia to participate in the 34th IGC and a program of pre-congress workshops.

We thank everyone who applied for their interest in the 34th IGC and GeoHost and we look forward to welcoming the GeoHost delegates to the Brisbane.

34th IGC Contact Information

The latest Congress information is always available at **www.34igc.org**

Please visit the site and join the mailing list to ensure you receive notice of updates to the site.

The 34th IGC office is available to assist you with all Congress enquiries:

General enquiries	info@34igc.org
Registration enquiries	register@34igc.org
Accommodation enquiries	accommodation@34igc.org
Scientific program enquiries	program@34igc.org
Sponsorship enquiries	sponsor@34igc.org
GeoExpo (Exhibition) enquiries	exhibit@34igc.org
Telephone	+ (61) 7 3368 2644
Facsimile	+ (61) 7 3369 3731
Postal address	34th IGC PO Box 177 RED HILL QLD 4059 AUSTRALIA
Address for courier deliveries	34th IGC Carillon Conference Management Pty Limited Office 14, First Floor The Red Hill Centre 152 Musgrave Road RED HILL QLD 4059 AUSTRALIA

Travelling To Australia

Visas to Enter Australia

International delegates please note - You will need a visa to enter Australia and it must be obtained before you travel. We recommend that you apply not less than six (6) weeks prior to your departure date.

Delegates from all countries will need to apply for and obtain a visa to enter Australia. The only exceptions are citizens of Australia and New Zealand travelling on passports issued by these countries. Delegates from some countries will need an official letter of invitation and/or confirmation of congress registration to be provided with their visa application. These letters can only be provided after clearance of registration fee payment. The visa application process differs depending on your country of residence and the location of the nearest Australian embassy, consulate or high commission. For citizens of some countries, applying for an Australian visa is a simple and quick on-line process. In other cases, application forms and an interview may be involved. Please visit the Australian Government's Department of Immigration website at the address shown below – there you will find detailed information on the visa application process applicable to you.

www.immi.gov.au/visitors/event-organisers-participants/iecn.htm

Preferred Travel Provider

The 34th IGC is pleased to announce **Corporate Group Traveller** is the preferred travel provider for the congress.

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All travel booked with Corporate Traveller will have the back up of 24 hour a day, seven days a week support provided by an after hours team in the event of a problem or emergency.

For further information and to book:

- For all travel within Australia please go to: **www.galileoonlinetravel.com/IGC**
- For international travel please contact Debra Grandidier: **debra.grandidier@corporatetraveller.com.au**


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