

Conference Brochure

#ALTA2018



ALTA 2018

**Nickel-Cobalt-Copper
Uranium-REE-Lithium
and Gold-PM**

Conference & Exhibition
and In Situ Recovery (ISR) Symposium

19-26 May 2018

Pan Pacific Hotel, Perth, Australia

◆ 23rd annual event ◆

Thank you to our Co-Sponsors and Partners



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About the Conference

ALTA 2018 is one of the world's premier annual metallurgical events, now in its **23rd year**, and a leading platform for metallurgical innovation.

The Uranium-REE-Lithium sessions and Uranium Ore Processing short course are organised in cooperation with the **International Atomic Energy Agency (IAEA)**. The In Situ Recovery (ISR) Symposium is organised in partnership with **CSIRO Minerals**.

Held over eight days in Perth, it comprises three technical conferences, three short courses, and an international trade exhibition. It features highly-focused programs, topical forums and presentations by key international speakers.

The emphasis of the program is practical rather than academic, and the theme that runs through the conference is the various aspects of project development.

This event is an outstanding platform for exposing the latest worldwide developments in plant operations, process technology, new projects, testwork and scale-up, process modelling and control systems, application of mineralogy and geometallurgy, R&D, equipment, reagents, materials, tailings disposal and environmental alleviation.

Don't miss this annual gathering of the global nickel, cobalt, copper, uranium, rare earths, lithium, ISR, gold and precious metals industries.

ALTA is even **bigger** this year with the addition of a new event organised in partnership with **CSIRO**. The first **ALTA In Situ Recovery (ISR) Symposium** will be held on Wednesday 23 May

The program includes **98 papers** from **26 countries** (more in progress)

[List of papers and published abstracts](#)

PROGRAM OVERVIEW							
Saturday 19 May	Sunday 20 May	Monday 21 May	Tuesday 22 May	Wednesday 23 May	Thursday 24 May	Friday 25 May	Saturday 26 May
SHORT COURSE	SHORT COURSE	CONFERENCE SESSIONS					SHORT COURSE
A-Z of Copper Ore Leaching	SX and its Application to Copper, Uranium & Nickel-Cobalt	Nickel-Cobalt-Copper Including Hydromet Processing of Copper, Nickel & Cobalt Sulphides Forum & Panel		In Situ Recovery (ISR) Symposium <i>in parallel with NCC Sessions</i>	Uranium-REE-Lithium Including Lithium Processing Forum & Panel <i>in parallel with</i> Gold-PM Including Refractory & Complex Gold Ores Forum & Panel		Uranium Ore Processing
		Welcome Reception	Conference Dinner		Happy Hour		
EXHIBITION							

Opportunities for Participation

Present

- 50% discount off registration fees (one per paper) - 75% discount for sole consultant presenters.
- Network with other presenters at the Presenter Breakfast.
- Generous 30-minute timeslots.
- Opportunity to update papers after the conference prior to distribution of final proceedings.

Sponsor

- Outstanding promotional opportunities including networking functions and conference merchandise.
- Includes one complimentary registration to the associated event/s and discount fees for additional staff.
- Sponsor logo and link on conference website.

Exhibit

- Exhibition open to external visitors, with free entry during visitor hours.
- Includes one complimentary registration to the associated event/s and discount fees for additional staff.
- Exhibitor logo and link on conference website.

Attend

- Three international conferences in one week. Flexible registration structure.
- Three pre and post conference technical short courses.
- Networking functions.

Program Topics

Nickel-Cobalt-Copper

Including Hydromet Processing of Copper, Nickel and Cobalt Sulphides Forum & Panel

- Nickel, cobalt and copper extraction and refining
- Pressure leaching
- Heap, tank and vat leaching
- In-situ Leaching
- PAL of laterites
- Processing of subsea ores and nodules
- Processing of sulphides - pressure-ox, bio-ox, chloride leach, etc
- Ore upgrading technology
- Plant design and operation reviews and issues
- New and developing projects
- Testwork, scale-up, process development and modelling
- Purification, preparation and recovery by SX, IX, EW, precipitation etc
- SX plant fire protection
- Solid/liquid separation and clarification
- Application of membranes
- New technology developments, applications and experience
- Materials of construction and corrosion
- Equipment design and reagent developments
- Tailings disposal and environmental

In Situ Recovery (ISR) Symposium

organised in partnership with CSIRO Minerals

Concludes with discussion and Q&A

- In situ testwork, design and operation
- Developments in uranium ISR
- Application to other metals
- Technology for enhancing orebody permeability
- Environmental protection and remediation
- Lessons learned from ISR operations
- Social, community and regulatory aspects
- In situ orebody characterisation
- Mineral and gangue chemistry
- Lixiviant selection and leach chemistry
- Product recovery

Uranium-REE-Lithium

organised in cooperation with the International Atomic Energy Agency

Including Lithium Processing Forum & Panel

- Uranium ore treatment processes
- Recovery and refining of REE
- Recovery and refining of lithium
- Recovery and refining of scandium
- Operational reviews and issues
- New technology developments, applications and experience
- Ore upgrading technology
- Recovery of other products - vanadium, base metals
- By-product uranium from phosphoric acid, copper leaching, etc
- Plant design
- New and developing projects
- Heap, vat and tank leaching
- Testwork, scale-up, process development and modelling
- In-situ leaching
- Solid/liquid separation and clarification
- SX/IX/CIX/RIP/RIL and precipitation processes
- Application of membranes
- Equipment design and reagent developments
- Tailings, environmental and safety issues
- SX plant fire protection
- Materials of construction and corrosion

Gold-PM

Including Refractory and Complex Gold Ores Forum & Panel

- Refractory and complex ore treatment - ultrafine grinding, pressure-ox, bio-ox, roasting
- Processes for ores with copper, arsenic, mercury, antimony
- New and developing projects
- Heap and vat leaching
- Cyanidation, CIP and CIL
- In-situ leaching
- Elution and gold room technology
- Gravity treatment and intensive cyanidation
- Recovery of silver and precious metals
- Application of membranes
- Operation reviews and issues
- Cyanide recovery, recycle, detox and alternative reagents
- Alternative leaching mediums - chloride, thiosulphate, bromide etc
- Solid/liquid separation and clarification
- New technology developments, applications and experience
- Plant design and new project reviews
- Testwork, scale-up, process development and modelling
- Equipment design and reagent developments
- Tailings environmental and safety issues
- Sampling, instrumentation and control

Keynote and Opening Speakers

Conference Opening Address

Dr Stephen Grocott, Chairman, AMIRA International Ltd and Chief Technical Development Officer, Clean TeQ Limited (Australia)

What is Changing in the Global Minerals Industry - Delivering Value by Leveraging Resources - [View Abstract](#)

Nickel-Cobalt-Copper Keynote

Dr Kathy Sole, Kathryn C. Sole Consulting (South Africa); co-authored by **John Parker**, Process Ideas (South Africa) and **Peter Cole**, Peter Cole Metallurgical Services (South Africa)

Flowsheet Options for Cobalt Recovery in African Copper-Cobalt Hydrometallurgy Circuits [View Abstract](#)

In Situ Recovery (ISR) Keynote

Mr Wayne Heili, Managing Director and CEO, Peninsula Energy Limited (USA)

Key Lessons Learned from the Application of ISR to Uranium [View Abstract](#)

Uranium-REE-Lithium Opening Address

Dr Brett Moldovan, Uranium Production Specialist, Division of Nuclear Fuel Cycle and Waste Technology, Department of Nuclear Energy, International Atomic Energy Agency (IAEA)

The Challenges of Operating a Uranium Mill in the Modern Era [View Abstract](#)

Uranium-REE-Lithium Keynote

Dr Julian Hilton, Chairman, Aleff Group (UK)

Constructive disruption: Leveraging Key Intangibles for Smarter Uranium Projects [View Abstract](#)

Gold-PM Keynote

Dr James Wang, Deputy Executive Director, State Key Laboratory of Comprehensive Utilization of Low Grade and Refractory Gold Ores, Zijin Mining Group (China)

Treatment of Refractory Gold Ores in China [View Abstract](#)

Dinner Address

Mr Alan Taylor, Metallurgical Consultant/Managing Director, ALTA Metallurgical Services (Australia)

A Metallurgist's Musings and Speculations on Future Industry Driving Forces and Trends

Associated Events

In Situ Recovery (ISR) Symposium

Focussed 1-day **ISR Symposium** to be **organised in partnership with CSIRO Minerals**. The Symposium will be held Wednesday 23 May, and follows on from the three previous ISR events organised by CSIRO. [More information](#)

Short Courses

These practically-oriented technical short courses are both a valuable introduction for newcomers and a useful refresher for old hands.

A-Z of Copper Ore Leaching (Saturday 19 May) [Course Outline](#)

SX and its Application to Copper, Uranium & Nickel-Cobalt (Sunday 20 May) [Course Outline](#)

Uranium Ore Processing (Saturday 26 May) [Course Outline](#)

Organised in cooperation with the International Atomic Energy Agency (IAEA)

EXHIBITION AND SPONSORSHIP

ALTA conferences are well-known for providing exceptional opportunities for the industry to share ideas, innovations, technologies and projects, and develop new contacts and broader networks.

ALTA 2018 offers a variety of promotional opportunities to suit a range of budget and business needs. This unique event will be an outstanding platform to promote your latest developments in equipment, supplies, materials, technology and services. During the conference gain direct access to senior level participants through enhanced visibility and exposure. Before, during and after the conference, sponsors and exhibitors receive ongoing exposure via ALTA's website.

For more information, view [Sponsor and Exhibitor Packages](#) or contact [Allison Taylor](#)

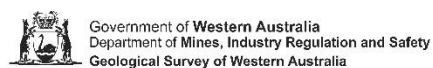
Sponsors



Exhibitors



Co-Sponsors and Partners



Register *HERE*

Conference Fees

	Ni-Co-Cu (includes ISR) 21-23 May	ISR Symposium (only) 23 May	Uranium-REE-Li <i>and</i> Gold-PM 24-25 May	Full Week (includes ISR) 21-25 May
Early Bird (ends 28 February)	\$2200	\$700	\$1500	\$3300
Standard	\$2300	\$750	\$1600	\$3500
TMS and SAIMM Members	\$2200	\$700	\$1500	\$3300
3+ Delegates (per delegate)	\$2100	\$700	\$1400	\$3100
Young Professional (32 years & under)	\$1600	\$525	\$1100	\$2450
Sole Consultant/Unemployed/Retired	\$1150	\$375	\$800	\$1750
Presenter (1 per paper)	\$1150	\$375	\$800	\$2450
Presenter - Sole Consultant/ Unemployed/Retired (1 per paper)	\$575	\$375	\$400	\$1225
Exhibitor/Sponsor (included in package)	\$0	\$0	\$0	\$0
Exhibitor/Sponsor (additional delegates)	\$2000	\$700	\$1300	\$3000
Booth Support Staff (excludes sessions)	\$400	-	\$300	\$625
Student (conditions apply)	\$700	\$250	\$500	\$1000

Short Courses

	A-Z of Copper Ore Leaching Sat, 19 May	SX & its Application to Cu, U and Ni-Co Sun, 20 May	Uranium Ore Processing Sat, 26 May
Early Bird (ends 28 February)	\$750	\$750	\$750
Standard	\$800	\$800	\$800
TMS and SAIMM Members	\$750	\$750	\$750
3+ Delegates (per delegate)	\$750	\$750	\$750
Young Professional (32 years & under)	\$550	\$550	\$550
Sole Consultant/Unemployed/Retired	\$400	\$400	\$400
Presenter	\$750	\$750	\$750
Exhibitor/Sponsor	\$750	\$750	\$750
Student (conditions apply)	\$250	\$250	\$250

Social Functions

	Welcome Reception Monday 21 May	Conference Dinner Tuesday 22 May	Happy Hour Thursday 24 May
Delegate - Full Week	\$0	\$130	\$0
Delegate - Nickel-Cobalt-Copper	\$0	\$130	\$45
Delegate - U-REE/Gold-PM	\$60	\$130	\$0
Additional Tickets	\$60	\$130	\$45



ALTA Metallurgical Services

Celebrating 32 Years of Service

ALTA Metallurgical Services (**ALTA**) was established by metallurgical consultant **Alan Taylor** in 1985, to serve the worldwide mining, minerals and metallurgical industries. **ALTA** offers a wide range of services and resources to the metallurgical industry.

Consulting

High-level metallurgical and project development consulting.

Short Courses

Practically-oriented short courses presented by Alan Taylor. Topics include treatment of nickel laterites, copper ore leaching, uranium ore processing, copper SX-EW, heap leaching and solvent extraction.

Conferences

ALTA conferences are one of the world's premier annual metallurgical events. **ALTA 2018** is the 23rd annual conference and will be held 19-26 May in Perth, Australia. The event comprises three technical conferences, three short courses and an international trade exhibition. It features a highly-focused program, topical forums and presentations from key international speakers.

Publications

Proceedings and manuals from ALTA conferences, seminars and short courses.

MetBytes

Free technical articles offering metallurgical commentary and insights.

Free Library

Includes proceedings from 1995-2016 Nickel-Cobalt-Copper, Uranium-REE and Gold-PM conferences for free download (1340 papers). A selection of ALTA 2017 papers is also available. The library will be expanded regularly, providing a major ongoing resource to the industry.



Alan has 40+ years' experience in the metallurgical, mineral and chemical processing industries in Australasia, New Zealand, North and South America, Africa, Asia and Europe. He has worked in metallurgical consulting, project development, engineering/construction, plant operations, plant start-up and technology development. Projects and studies have involved copper, gold/silver, nickel/cobalt, uranium and base metals.

Since 1985, as an independent metallurgical consultant, Alan has as undertaken feasibility studies, project assessment, project development, supervision of testwork, flowsheet development, basic engineering, supervision of detailed engineering, plant commissioning and peer reviews and audits. Clients have included a variety of major and junior mining, exploration and engineering companies throughout Australia and overseas.

Extensive experience in:	...including
<ul style="list-style-type: none">• Gold/Silver• Copper• Nickel/Cobalt• Uranium• Base Metals	<ul style="list-style-type: none">• Leaching: atmospheric, heap, in-place, bio. and pressure• Cyanidation and CIP/CIL• Solid/liquid separation• Flotation• Electrowinning and electrorefining• Solvent extraction/ion exchange