

## ABOUT THE CONFERENCE

**ALTA 2018**, organised by ALTA Metallurgical Services, is the 23<sup>rd</sup> year of one of the world's premier annual metallurgical events. The conference is an annual gathering of the global Nickel, Cobalt, Copper, Uranium, Rare Earths, Lithium, Gold and Precious Metals industries and features highly focused programs, topical forums and presentations by key international speakers. Held over eight days at Pan Pacific Perth, it comprises three technical conferences, three practically-oriented short courses, social functions and an international trade exhibition. This year the event also includes a focussed 1-day ISR Symposium for the first time.

This conference will be an outstanding platform for exposing the latest worldwide developments in plant operations, process technology, new projects, testwork & scale-up, process modelling & control systems, application of mineralogy & geometallurgy, R&D, equipment, reagents, materials, tailings disposal and environmental alleviation. The event provides an excellent opportunity to network with a wide variety of key industry professionals and showcase products and services to decision-makers in the pertinent field.

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		ISR Symposium <i>in parallel with NCC Sessions</i>	Uranium-REE-Li Including Lithium Processing Forum & Panel <i>in parallel with</i> <b>Gold-PM</b> 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, viewed annually by 65,000+ visitors from 140+ countries.

### 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; viewed annually by 65,000+ visitors from 140+ countries.

### Attend

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

Thank you to our Co-Sponsors and Partners

## PROGRAM TOPICS

### Nickel-Cobalt-Copper

*Including Hydromet Processing of Copper, Nickel & 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

*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-Li

*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



# 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 23<sup>rd</sup> 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 1995-2015 Nickel-Cobalt-Copper, Uranium-REE and Gold-PM conferences for free download (1260 papers). The library will be expanded regularly, providing a major ongoing resource to the industry. A selection of papers from ALTA 2017 and ALTA 2016 are also available.



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