



**MASTER OF ECONOMIC GEOLOGY SHORT COURSE**

# **Ores in Magmatic Arcs - South America**

**11 – 26 October 2019**



CODES, Centre for Ore Deposit and Earth Sciences, University of Tasmania

CRICOS Provider Code 00586B



**UNIVERSITY of  
TASMANIA**

AUSTRALIA

*The Andean margin of South America contains several of the world's major mineral provinces. The magmatic arcs of the Andes are the source of most of the world's copper and molybdenum from porphyry-style deposits. They are also major sources of gold and silver, primarily from epithermal deposits. Other deposit styles developed through the Andes include IOCGs, skarns, VHMS and orogenic gold deposits. As this region is one of the major areas globally for mineral exploration and mining, there is a pressing need for relevant training on research and exploration skills applicable to ores formed in these magmatic arc environments, focussing on the specific geological, tectonic and environmental characteristics of this region. CODES is therefore proud to offer our two-week field-based short course, Ores in Magmatic Arcs – South America.*

*This short course has a strong focus on field observations and hands-on practical skills, supported by an understanding of theoretical aspects. The full spectrum of deposits (e.g., porphyry, high sulfidation, low sulfidation) developed in magmatic arc settings will be covered. The short course presenters have detailed knowledge of the areas and deposits visited and are uniquely equipped to deliver the skills and insights needed by participants.*

*Course fees include all accommodation and field transport, course notes, field guide, and breakfasts and lunches. Travel to and from South America, and all internal flights within South America, dinners and alcohol, are not included in the course fee and are the responsibility of each participant. A valid passport is required for entry into Chile, Peru and Ecuador, and it is the responsibility of each participant to determine whether they require a visa for each country visited, and to obtain that visa before travel.*

## COURSE PRESENTERS

**David Cooke** is Professor of Geochemistry, Director of the ARC Industrial Transformation Research Hub: Transforming the Mining Value Chain (TMVC), and Director of CODES. He has extensive research expertise in hydrothermal fluid chemistry and ore-forming systems, specialising in porphyry and epithermal deposits.

**Mike Baker** is a Senior Research Fellow in Economic Geology in the ARC Industrial Transformation Research Hub: Transforming the Mining Value Chain (TMVC). He has extensive research expertise in mineral chemistry and its applications to exploration for porphyry and epithermal deposits, and has worked extensively in South America.

*Ores in Magmatic Arcs is offered as a unit in the national Minerals Geoscience Masters program.*

## MASTER OF ECONOMIC GEOLOGY

### THE MOST COMPREHENSIVE MASTER DEGREE IN MINERAL EXPLORATION AND MINING GEOLOGY ANYWHERE IN THE WORLD

This course work-based Masters program is aimed at geoscientists who want to gain a thorough up-date on advances across the spectrum of economic geology applied to mineral exploration. The Master of Economic Geology at UTAS is part of the national Minerals Geoscience Masters program, jointly offered by the University of Tasmania and the University of Western Australia, in conjunction with Curtin Business School at Curtin University.

#### Course structure

The Masters course can be completed in either of two ways:

*Option 1:* requires the completion of six coursework units and a minor research thesis. Four of the units must be completed at CODES, while the remainder may be completed at other participating universities. Duration: 18–24 months full-time; up to 30 months part-time (flexible in recognition of industry participants).

*Option 2:* requires the completion of eight units of coursework, at least four of which must be undertaken at CODES. Duration: up to 30 months part-time (flexible in recognition of industry participants).

Participating universities offer up to seven units annually or in rotation over a two-year period. Most units are of two weeks duration.

#### Courses offered by CODES

- KEA707 Ores in Magmatic Arcs (Indonesia): next offered March 2021
- KEA707 Ores in Magmatic Arcs (South America): 11 – 26 October 2019

## TRAVEL AND CLOTHING

All participants must carry their own PPE (steel-capped boots, long-sleeved shirts, long sturdy trousers, hard hats, reflective vests, safety glasses, gloves and hearing protection). You will need sun cream, lip balm and moisturisers (particularly in Chile), and cold and wet weather gear.

All participants are required to have a medical assessment for fitness to work at high altitude prior to the trip. The start of the trip will be in Quito (3,000m above sea level), with several days of the trip being at locations in excess of 3,500m in elevation.

- KEA708 Volcanology and Mineralisation in Volcanic Terrains (New Zealand, western Tasmania): next offered March 2020
- KEA709 Ore Deposit Geochemistry, Hydrology and Geochronology: next offered June 2021
- KEA710 Exploration in Brownfield Terrains: next offered June 2020
- KEA711 Geometallurgy: 4–15 November 2019
- KEA712 Ore Deposit Models and Exploration Strategies: next offered October 2020

#### Fees

UTAS tuition fees for 2019 are \$2339 per unit (8 in total) for domestic students and \$7988 (AUD) per unit for full-fee paying overseas students (FFPOS). Field-based courses have additional costs. Costs will vary for units taught by other MGM partner institutions.

#### Entry Requirements

A BSc (Hons), or a BSc (majoring in geoscience) with at least two years industry experience. International students should also refer to <http://www.international.utas.edu.au>. English language proficiency requirements also apply.

#### For further information contact:

Dr Robert Scott  
Masters Coordinator, CODES  
Private Bag 79, Hobart 7001, Australia  
Tel: +61 3 6226 2786  
Email: [Robert.Scott@utas.edu.au](mailto:Robert.Scott@utas.edu.au)  
Website: <http://www.utas.edu.au/codes/masters-short-courses>

## PRELIMINARY PROGRAM

LEADERS: DAVID COOKE, MIKE BAKER

<b>Friday October 11</b>	Arrival in Quito, Ecuador	Hotel Quito
<b>Saturday October 12</b>	Student presentations (optional for industry participants)	Hotel Quito
<b>Sunday October 13</b>	AM: Introduction to fieldtrip (welcome and logistics (all Participants))  PM: Fly to Cuenca	Four Points by Sheraton, Cuenca
<b>Monday October 14</b>	AM: Loma Large site visit  PM: Fly to Quito	Hotel Quito
<b>Tuesday October 15</b>	La Plata (to be confirmed)	Hotel Quito
<b>Wednesday October 16</b>	AM: Travel to Ibarra  PM: Cascabel site visit	Hotel Ajavi
<b>Thursday October 17</b>	Cascabel site visit	Hotel Quito
<b>Friday October 18</b>	AM: Fly to Lima, Peru  PM: Soledad Cu-Au deposit (drillcore)	Wyndham Costa del Sol Lima Airport
<b>Saturday October 19</b>	Fly to Calama, Chile	Park Hotel, Calama
<b>Sunday October 20</b>	Northern Chile regional transect	Park Hotel, Calama
<b>Monday October 21</b>	El Abra site visit	Park Hotel, Calama
<b>Tuesday October 22</b>	AM: Radomiro Tomic  PM: Chuquicamata  Evening: Fly to Santiago	Plaza El Bosque Ebro, Las Condes
<b>Wednesday October 23</b>	Los Sulfatos	Plaza El Bosque Ebro, Las Condes
<b>Thursday October 24</b>	Rio Blanco	Plaza El Bosque Ebro, Las Condes
<b>Friday October 25</b>	Central Chile regional transect	Plaza El Bosque Ebro, Las Condes
<b>Saturday October 26</b>	End of short course	



# REGISTRATION FORM

## Ores in Magmatic Arcs

11–26 October 2019

Please complete and return to:

Dr Robert Scott  
Masters Coordinator  
CODES/Earth Sciences  
University of Tasmania, Private Bag 79  
Hobart, Tasmania, Australia 7001  
Ph: +61 3 6226 2786  
Email: Robert.Scott@utas.edu.au

### PERSONAL DETAILS

Title—Please highlight ( Prof / Dr / Mr / Mrs / Ms / Miss )

First Name: ..... Last Name: (surname / family name): .....

Preferred Name (for use on name tag): .....

Position: .....

Company / University: .....

Address: .....

City: ..... State: ..... Postcode: ..... Country: .....

Phone (work): ..... Phone (home): ..... Phone (mobile / cell): .....

Email: .....

Dietary requirements / allergies / other health issues: .....

Next of kin (name, relationship and email/phone contact): .....

### REGISTRATION FEES

All fees are in Australia dollars (AUD). Please indicate

#### MGM Masters Students:

Total registration fee \$8,000 (Excludes airfares and UTAS tuition fee)\*

Deposit (GST free): \$2,000

Balance (GST free): \$6,000

#### Industry Participants:

Total course fee \$12,000 (Excludes airfares)\*

Deposit (GST free): \$4,000

Balance (GST free): \$8,000

#### Other Students:

Total course fee \$8,000 (Excludes airfares)\*

Deposit (GST free): \$2,000

Balance (GST free): \$6,000

*\*this price is the maximum registration cost and may be reduced pending finalisation of ground transportation and accommodation costs.*

**Please retain a copy of this form from your records and email or post original to Dr Robert Scott (contact details above).**

### PAYMENT

Registrations and deposit payments are due by 10<sup>th</sup> of September, 2019. Full payment must be received by 4<sup>th</sup> of October, 2019.

Preferred payment method. Please indicate

Credit Card

Upon receipt of your registration from you will be provided with a payment reference number and web address for online payments. Please note: Credit card details cannot be accepted by email.

Cheque or Bank Draft

Please make cheques and bank drafts payable to "The University of Tasmania". Bank drafts must be made out in Australian currency (AUD).

UTAS Purchase (for students with internal accounts only)

UTAS account number.....

Invoice

Name, address and email address for person responsible for payment of invoice: .....

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