a short course on

Ores in Magmatic Arcs

Indonesia

20 – 31 March 2017

CODES, ARC Centre of Excellence in Ore Deposits, University of Tasmania

TMVC, ARC Industrial Transformation Research Hub, University of Tasmania

CRICOS Provider Code 00586B
Ores in Magmatic Arcs is an intensive two-week field-based unit taught entirely in Indonesia. The unit involves many visits to world-class porphyry and epithermal deposits, and includes descriptions of the regional and local geology for the various districts visited, along with detailed evaluations of ore deposit characteristics, mineralisation styles and genetic models. Exploration techniques for porphyry and epithermal deposits are discussed and evaluated in terms of various genetic models.

Course fees include all accommodation and field transport, entry fees (Mt Ijen), course notes, field guide, and most meals. Travel to and from Indonesia are not included in the course fee and are the responsibility of each participant. A valid passport is required for entry into Indonesia.

### COURSE PRESENTERS

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

**Lejun Zhang** is a research fellow in the TMVC Research Hub, UTAS specialising in the application of alteration mineral chemistry for enhancing exploration in green rock and lithocap environments, and vectoring using SWIR and whole-rock geochemical data.

**Rachel Harrison** is an exploration geologist focusing on porphyry and epithermal Au-Cu exploration. For the past 7 years she has been based in Indonesia, initially at the Tujuh Bukit project during the discovery of the Tumpangpitu porphyry deposit, and more recently as an independent consultant geologist at projects in Indonesia and abroad. During this time she has also studied for her Masters and PhD at CODES.

**Iryanto Rompo** is a field-based geologist over 12 years experience in exploration epithermal Au-Ag, porphyry Cu-Au, VHMS and skarn deposits in Indonesia, Malaysia and Australia. Iryanto worked as Exploration Manager for Buena Group for over 5 years, overseeing their exploration in the lithocap environment on the island of Lombok, Indonesia.

### 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, the University of Western Australia and James Cook University, 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).

**Course content**

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

**For further information contact:**

Dr Robert Scott  
Masters Coordinator, CODES  
Private Bag 79, Hobart 7001, Australia  
Tel: +61 3 6226 2786; Fax: +61 3 6226 2547

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**TRAVEL, ACCOMMODATION AND CLOTHING**

A detailed course itinerary and accommodation details are provided separately. Land-based travel (including the Batu Hijau sea plane), accommodation and some meals are covered by the course fee. Travel to and from Indonesia are not included in the

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**Courses offered by CODES**

- KEA707 (KEA706) Ores in Magmatic Arcs (Indonesia) (20 – 31 March 2017)
- KEA708 (KEA703) Volcanology and Mineralisation in Volcanic Terrains (New Zealand, western Tasmania) (next offered 2018)
- KEA709 (KEA704) Ore Deposit Geochemistry, Hydrology and Geochronology (12 – 24 June 2017)
- KEA710 (KEA705) Exploration in Brownfield Terrains (next offered 2018)
- KEA711 (KEA702) Geometallurgy (23 October – 3 November 2017)
- KEA712 (KEA701) Ore Deposit Models and Exploration Strategies (17 – 28 October 2016)

**Fees**

UTAS tuition fees are approx. $2229 per unit (8 in total) for domestic students and $6625 (AUD) per unit for full-fees paying overseas students (FFPOS). Field-based courses have additional costs. Costs vary for units taught by other MGM partner institutions. International students should refer to [http://www.international.utas.edu.au/](http://www.international.utas.edu.au/) or contact the Masters Coordinator (details below) for more information.

**Entry Requirements**

A BSc (Hons), or a BSc (majoring in geoscience) with at least two years industry experience. English language proficiency requirements also apply.

Email: Robert.Scott@utas.edu.au  
PRELIMINARY PROGRAM

LEADERS: DAVID COOKE (CODES), LEJUN ZHANG (CODES)
CO-LEADERS: RACHEL HARRISON (CODES), IRYANTO ROMPO (Independent Consultant Geologist)

Sunday March 19 (Arrival in Bali, Indonesia)

Monday March 20
Student presentations (optional for industry participants)
Welcome and logistics meeting (all Participants)

Tuesday March 21
Introductory lectures: Porphyry Cu-Au deposits of Indonesia and the SW Pacific – Geology, alteration, mineralisation and exploration

Wednesday March 22
Fly to Banyuwangi via Surabaya, drive to Tujuh Bukit Project
Visit Pulau Merah porphyry island before sunset

Thursday March 23
Tujuh Bukit Project: Tumpangpitu porphyry and HSE deposits

Friday March 24
Tujuh Bukit Project: Walk /boat trip along southern coastline to examine diatreme breccia exposure
Drive to Mt Ijen, Early night to prepare for early morning hike to Mt Ijen

Saturday March 25
Start at 00:00, hike to Mt Ijen Peak and Crater Lake 2,148m (2 hours)
Descend to active fumaroles, steaming acid lake (gas/dust masks will be provided)
View “blue fire” from the fumaroles before sun rise
Observe exposures along the track of advanced argillic alteration and charcoal fragments
Fly to Lombok via Surabaya

Sunday March 26
Introductory lectures: Epithermal deposits and lithocaps of Indonesia and the SW Pacific – Geology, alteration, mineralisation and exploration

Monday March 27
Pangulu and Gunung Prabu lithocap and porphyry stockwork exposures, Lombok

Tuesday March 28
Sundancer lithocap - A transect of a complete lithocap profile from barren to mineralised HSE ledges and underlying porphyry Cu-Au prospect
Brambang porphyry Cu-Au prospect (drill core)

Wednesday March 29
HSE mineralisation at Pelangan/Mencanggah and porphyry mineralisation at Selodong (drill core)
Travel to Batu Hijau project in Sumbawa

Thursday March 30
Batu Hijau open pit tour
Anaconda mapping exercise in Batu Hijau Pit
Review drill core from Batu Hijau
Review drill core from Elang porphyry deposit

Friday March 31
Return to Bali

End of trip
Ores in Magmatic Arcs  
20—31 March 2017  
REGISTRATION FORM

University of Tasmania  
PERSONAL DETAILS

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

First Name: ..............................................................................................................

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

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

Position: .......................................................................................................................

Company / University: ..............................................................................................

Address: ....................................................................................................................

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

Phone (work): ........................................... Fax: .............................................

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

Email: .........................................................................................................................

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

Next of kin (name and contact details): ....................................................................

REGISTRATION FEES

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

MGM Master Students:
Total registration fee $3, 800 (Excludes airfares and UTAS tuition fee)
☐ Deposit (GST free): $1000.00
☐ Balance (GST free): $2800.00

Industry Participants:
Total course fee $6, 000 (Excludes airfares)
☐ Deposit (GST free): $1500.00
☐ Balance (GST free): $4500.00

Other Students:
Total course fee $3, 800 (Excludes airfares)
☐ Deposit (GST free): $1000.00
☐ Balance (GST free): $2800.00

Payment options (please tick boxes, where appropriate)

☐ 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

Invoice can be issued on request. Please specify name and address to whom the invoice is to be raised: .................................................................


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
Fax: +61 3 6226 2547
Email: Robert.Scott@utas.edu.au

ARC Centre of Excellence in Ore Deposits

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