Geometallurgy

19–30 March 2012
**Geometallurgy** involves a quantified and comprehensive approach to ore characterization in terms of critical processing attributes: including blasting, crushing, grinding, liberation, recovery and environmental management. Key outcomes of improved geometallurgical knowledge are improved forecasting, reduced technical risk, enhanced economic optimization of mineral production, and improved sustainability.

The course introduces a range of techniques to enhance the information that geologists produce in the mine environment, and which are relevant to mining engineers and metallurgists. The program includes lectures, practical exercises and a range of computer-based modelling exercises.

Course fees cover the cost of course notes, transport and accommodation for Rosebery Zn-Cu-Pb-Ag-Au mine visit, and some meals. Travel to, and accommodation in, Hobart is the responsibility of each participant.

Geometallurgy is offered as a unit of the Master of Economic Geology [MEconGeol] and Master of Exploration Geoscience [MSc (Exploration Geoscience)] programs.

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**COURSE PRESENTERS**

**Dr Julie Hunt** (Senior Research Fellow, CODES). Julie Hunt has been working on geometallurgy as part of the AMIRA P843 and P843A team since 2006. She has over 15 years experience in mapping and mineral deposit studies and is involved in education and training programs for the AMIRA P843A geometallurgy project and CRCare.

**Ron Berry** (Assoc. Professor, CODES). Ron Berry has been working on geometallurgy as part of the AMIRA P843 and P843A team since 2005. He has expertise in automated mineralogy, image processing and numerical methods.

**Bernd Lottermoser** (New Star Professor in Environmental Geochemistry, CODES). Prof. Lottermoser is an international expert in environmental geochemistry. He is the author of a major textbook on mine waste. His research focuses on the origin and behaviour of inorganic substances (particularly metals) in the near-surface environment. He is a key scientist in the CRCore.

**Toni Kojovic** (Research Consultant, JKMRC). Toni is a mechanical engineer specialising in comminution technology. Over the past two decades he has worked with numerous operations in crushing, grinding and mine-mill optimization. He is co-author of the JKMRC Comminution Monograph, co-editor of Wills’ Mineral Processing Technology book and has authored more than 60 papers on mineral processing technologies.

**Dee Bradshaw** (Professorial Research Fellow, JKMRC). Dee graduated in Chemical Engineering and specialised in flotation chemistry. For the last 2 years she has worked on small-scale testing relevant to geometallurgy.

**Dave Lawie** (Managing Director, ioGlobal). Dave has expertise in all aspects of geochemistry, from greenfields exploration through to production, and extensive experience in software and workflow design.

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**NATIONAL MINERALS GEOSCIENCE MASTERS PROGRAM**

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

This coursework Masters program is for geoscientists who want to gain a thorough up-date on advances across the spectrum of economic geology applied to mineral exploration. The course is offered jointly by the University of Tasmania (CODES), the University of Western Australia (CET), James Cook University (EGRU) and Curtin University of Technology (WASM).

**Course structure**

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

**Option 1** requires the completion of six units of coursework and a minor research thesis. Four of the units must be completed at CODES, 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: 12–18 months full time; up to 30 months part time (flexible in recognition of industry participants).

For intending International students, detailed information on UTAS courses, campuses, facilities, fees, refund policy, rules of admission and assessment, the ESOS Framework and an overview of the local Tasmanian environment, please visit the UTAS International Students website on: http://www.international.utas.edu.au

**Course content**

Each of the participating universities offers up to six courses in rotation over a two-year period. Each course is of two weeks duration.

**Courses offered by CODES**

- Volcanology and mineralisation in volcanic terrains (New Zealand, western Tasmania)
- Geometallurgy
- Exploration in brownfield terrains
- Ore deposit models and exploration strategies
- Ore deposits of South America (Chile, Peru)
- Ore deposit geochemistry, hydrology and geochemistry

**Fees**

For information on tuition fees for MGM courses taught by UTAS, Domestic students should consult the UTAS website http://www.utas.edu.au/ and follow the links: Postgraduate students → Coursework → Science, Engineering & Technology → Economic Geology. International students should refer to http://www国际化.utas.edu.au/ and follow the links: Courses → Masters Programs offered by Coursework → Programs offered by Distance → Master of Economic Geology. Note that field-based courses (KEA703, KEA706) or courses with a field component (KEA702) have additional fees (for more information contact the Masters Coordinator, details below). Overseas students wishing to complete the Master of Economic Geology in Tasmania on a full-time basis should also contact the Masters Coordinator. Fees for courses taught by other MGM partner institutions will vary.

**Entry qualifications**

BSc (Hons) or BSc with at least two years industry experience.

For further information contact Robert Scott, Masters Coordinator, CODES, Private Bag 126, Hobart 7001, Australia.

Tel: + 61 3 6226 2786, Fax: + 61 3 6226 7662, E-mail: Robert.Scott@utas.edu.au

Website: www.codes.utas.edu.au/masters
PRELIMINARY PROGRAM

Monday March 19
  Introduction to geometallurgy, small scale tools (rock properties), mineralogy & tools
Tuesday March 20
  Small scale tools (rock properties), mineralogy & tools
Wednesday March 21
  Sample selection, foundations of statistics
Thursday March 22
  Comminution – foundations & testing methods
Friday March 23
  Data analysis and modelling
Saturday March 24
  Mineral processing – foundations & testing methods
Sunday March 25
  Field trip to Rosebery (Zn-Cu-Pb-Ag-Au) mine processing plant
Monday March 26
  Rosebery mine processing plant
Tuesday March 27
  Study day
Wednesday March 28
  Environmental aspects of geometallurgy, calculating mineralogy from assay, work on project
Thursday March 29
  Economics/big picture, work on project
Friday March 30
  Student presentations
REGISTRATION FORM

PERSONAL DETAILS

Title – Please circle (Prof / Dr / Mr / Mrs / Ms / Miss)

First Name .................................................. ..........................................................

Last Name ..................................................................................................................

Preferred Name .................................................. ..................................................

Position ....................................................................................................................

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

Address ....................................................................................................................

..................................................................................................................................

City .......................................................... State ..........................................

Postcode ..................................................................................................................

Country ....................................................................................................................

Email ....................................................................................................................... 

Mobile .....................................................................................................................

Telephone ............................................................................................................... 

Facsimile ................................................................................................................ 

Special requirements (diet, health, physical ability) .............................................

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REGISTRATION FEES

All fees are in Australian dollars and include 10% GST

Please indicate ✓

☐ MGM Masters students $ 300

☐ Industry participants (whole course) $ 5500

or ____ days at $1100 per day Total $ __________

☐ CODES staff/students $ 300

☐ Non-MGM postgrad. students, not from UTAS $ 300

This cost does not include travel to or from Tasmania, or accommodation in Hobart.
This cost includes transport, accommodation and some meals for the Rosebery mine visit, and a set of course notes.

Please note: A maximum of 25 places are available on this course. If over-subscribed, priority will be given to enrolled MGM students and industry participants who attend the entire course.

PAYMENTS

For industry participants a deposit of $1000 must accompany registration. Final payment is due by 9 March 2012. For all others, full payment is required with registration. Deposits are not refundable after 15 February 2012.

Please tick payment option ✓

☐ Cheque

Cheques or bank drafts should be made payable to "The University of Tasmania". Bank drafts should be made out in Australian currency.

☐ Invoice

Please issue an invoice to me or my company:

TOTAL AMOUNT __________

Please notify <Robert.Scott@utas.edu.au> the name and address of person/company to whom invoice should be sent.

☐ UTAS account number ________________________

☐ Online credit card payments

Please email completed registration form (do not provide credit card details) to <Robert.Scott@utas.edu.au>. You will be provided with a payment reference number and the web address needed for on-line payment.

☐ Credit card payments (fax or mail only)

Please do not send your credit card details by email. Either fax or mail the completed form to Dr Robert Scott or email this form to <Robert.Scott@utas.edu.au> without your credit card details, and provide these to Robert Scott by phone in office hours (GMT +11 hrs) on +61 3 6226 2786.

TOTAL AMOUNT __________

Card type: Visa ☐ Mastercard ☐

Card No. __________

Expiry date : __________

Card Verification Value* (CVV): __________

*Final three digits of number printed on signature strip on the back of the card.

Signature : __________________________________

Print name of card holder ____________________________

MGM MASTERS STUDENTS: THIS FORM DOES NOT CONSTITUTE AN OFFICIAL UNIVERSITY ENROLMENT - YOU STILL NEED TO ENROL AT YOUR HOME INSTITUTION.