

LAST CALL FOR ABSTRACTS



SHIRMS 2008

**1st Southern Hemisphere International
Rock Mechanics Symposium**

16-19 September 2008
Sheraton Perth Hotel, Western Australia

The Australian Centre for Geomechanics (ACG), in collaboration with CSIRO Petroleum, The University of Western Australia and The University of Newcastle, looks forward to hosting the First Southern Hemisphere International Rock Mechanics Symposium (SHIRMS) to be held in Perth, Western Australia, 16 - 19 September 2008.

Following the model of "NARMS" (North American Rock Mechanics Symposium) recently re-badged the "Canada-US Rock Mechanics Symposium", we aim to create a similar forum in our part of the world, involving the very active South American, South African, Asian, New Zealand and Australian rock mechanics communities.

SHIRMS will feature four main technical streams.

- Mining rock mechanics
- Civil rock mechanics
- Fundamental rock mechanics
- Petroleum rock mechanics

Some other fascinating areas of rock mechanics currently emerging in our region, such as geosequestration and underground disposal of nuclear waste material, will also be in the technical programme.

AUSTRALIAN CENTRE FOR GEOMECHANICS

PO Box 3296 - Broadway
Nedlands, Western Australia, Australia 6009
Phone: +61 8 6488 3300 Fax: +61 8 6488 1130
acginfo@acg.uwa.edu.au
www.acg.uwa.edu.au

KEYNOTE SPEAKERS

Peter Cundall, Ted Brown, Maurice Dusseault and Boris Tarasov to present keynote addresses at SHIRMS

KEY DATES

Submission of Abstract	3 March 2008
Paper Submission	23 May 2008
Short Course/Workshop	14 - 15 September 2008
SHIRMS 2008	16 - 19 September 2008

PRE-SYMPOSIUM WORKSHOPS

FROM ROCK MASS TO ROCK MODEL

The ACG will present a pre-symposium workshop to be held at the Sheraton Perth Hotel, Perth, on Monday 15 September 2008 (see inside back page for more details).

PETROLEUM GEOMECHANICS IN THE VALUE CHAIN

A pre-symposium short course to be held on Sunday and Monday 14-15 September 2008 (see inside back page for more details).

SYMPOSIUM CHAIRS

Yves Potvin

Australian Centre for Geomechanics, Australia



Yves, originally from Quebec, Canada, commenced his position as research coordinator with the Australian Centre for Geomechanics in August 1998. From 1995 to July 1998, Yves was the mining research manager with Mount Isa Mines, Queensland, managing the mine's technical services in rock mechanics, blasting research, fill research, mine geophysics, mine automation and mine survey.

Yves' role as director of the ACG is focussed on the development of research projects for the mining industry in Australia. Yves possesses particular expertise in the areas of rock mechanics which has seen a focus of research activity in the underground geomechanics areas.

Rob Jeffrey

CSIRO Petroleum, Australia



After completing his degree at the University of Arizona, Dr Jeffrey joined Dowell Schlumberger and worked at their Tulsa R&D Laboratory. While there he worked on developing improved modeling methods directed at improving hydraulic fracture treatments in coalbed methane wells. He joined CSIRO in 1989 and over the next few years carried out nine small-scale fracturing tests near underground

coal mine sites in Australia which were eventually mined, with the propped fractures mapped. About 10 years ago, his group introduced hydraulic fracturing into mining for the purpose of inducing caving and preconditioning rock masses for caving. This technology is now being applied at several block caving mines around the world. He is currently working on a number of research topics that include hydraulic fracture growth in naturally fractured rock, modeling of T-shaped hydraulic fractures, stimulation of horizontal in-seam gas drainage holes by sand propped hydraulic fractures, and laboratory measurement of hydraulic fracture growth.

John Carter

The University of Newcastle, Australia



John Carter is Pro-Vice-Chancellor, Faculty of Engineering and Built Environment at the University of Newcastle and Consultant Director, Advanced Geomechanics Pty Ltd, a consultancy based in Perth, Western Australia. He was educated at the University of Sydney and Kings' College, London and he has held academic appointments at the University of Cambridge, University of Queensland, University of Sydney, Cornell

University, and Technical University of Graz. He is a former National Chair of the Australian Geomechanics Society, and is currently Vice-President of the International Society for Soil Mechanics and Geotechnical Engineering. He is a Fellow of the Australian Academy of Technological Sciences and Engineering and a Member of the Order of Australia.

John has more than 30 years experience in teaching, research and consulting in soil and rock mechanics and geotechnical engineering. His research interests include analytical and numerical modelling, soil-structure interaction, soft ground engineering, tunnelling and offshore foundations. He is the author of several hundred refereed technical papers covering a diverse range of topics from theoretical mechanics to experimental and geotechnical applications. He has consulted widely to industry on a range of projects including dam foundations, soft clay problems, offshore geotechnics, retaining walls, tunnels and buried structures.

Arcady Dyskin

The University of Western Australia, Australia



Arcady Dyskin is a Professor at the School of Civil and Resource Engineering of The University of Western Australia, Chair of the Computational Mechanics Discipline Group and Head of Rock Mechanics Group. Arcady has 30 years of research experience. His areas of expertise span the fields of rock mechanics, fracture mechanics and the mechanics of solids.

Arcady established a new research area in materials and structures based on topologically interlocking elements. His personal research has contributed to the areas of rock fracture mechanics, mechanics of heterogeneous materials and materials with microstructure and multiscale modelling.

Venue

Sheraton Perth Hotel
207 Adelaide Terrace
Perth, Western Australia, 6000
Phone: +61 8 9224 7777
Fax: +61 8 9224 7788

(Please refer to ACG's SHIRMS 2008 when making reservations).

Carparking

Undercover self-parking is available for day and overnight use (subject to availability) at a rate of A\$21.00 per vehicle, per day. Additional parking is available at the Perth Concert Hall and on the street (fees apply).

TECHNICAL STREAMS

MINING

Rock mechanics and ground control has become an important part of mining. It is the main tool used to control the geotechnical risks in mines, arguably one of the main risks as it affects profit and safety. In underground mines, these risks include rockfalls, rockbursts, collapses and loss of infrastructure. As Australian mining activities increasingly reach greater depths, the stress environments are generally higher and the geotechnical hazards are more elevated. In deep underground mines, the mining activities often proceed in failing ground. As a result, the rock surfaces exposed in the drives can become heavily fractured and large amounts of deformation can be experienced. When the rock mass is competent and stiff, mine induced seismicity and rockbursts can become a dominant issue. In open pit mines, slope failures can destroy the value of a mining project. The traditional methods to assess deep slope stability are arguably inadequate as the replication of complex stress driven slope failures are still poorly understood.

CIVIL

Civil engineers frequently encounter rock and rock masses in many of their day to day design and construction activities. Whatever the challenge and whatever the scale of the proposed operation, our knowledge of the behaviour of the rock is often the key to obtaining the most economical solution to the given problem. The challenge of producing such solutions is magnified by the fact that each rock mass is unique, so that although common principles may be applied in each case, accurate characterisation of the rocks and geological structures that nature has provided on any given project is essential. It is intended that this conference will bring together experts in the civil engineering applications of rock mechanics and rock engineering to share experiences and advance the state of knowledge in this key area of civil engineering endeavour.

FUNDAMENTAL

Fundamental Rock Mechanics plays an important role in addressing the issues of structural stability and the environmental effects of mining, petroleum, waste storage and geothermal projects. It provides understanding of deformation and failure phenomena in rock masses and is crucial in their control. Alongside failure prevention the Fundamental Rock Mechanics underpins the development of novel and optimisation of existing rock breaking and comminution techniques. While development of new experimental techniques and equipment is one of the directions in addressing these challenges, numerical simulation is now the method of choice. Accurate modelling of interaction between the openings, faults and other features is paramount to both ensure the safety of the structures and minimising the environmental impact. The symposium will provide a forum for exchanging ideas and reporting recent developments in these and adjacent areas of Rock Mechanics.

PETROLEUM

Petroleum geomechanics forms a basis for design and construction of petroleum wells and in stimulation of the reservoir. Geomechanics is being increasingly used to achieve better, sustainable reservoir production performance and to address reservoir subsidence during production. Current prices for oil and gas have dramatically increased well completion activities in recent years, resulting in a corresponding increase in demand for petroleum geomechanics solutions. In response to these demands, research and development in the field of petroleum geomechanics has emphasized issues such as wellbore stability, in situ stress measurement, drilling mechanics and bit-rock interactions, poro-thermoelasticity, sand stabilization methods, stimulation of naturally fractured reservoirs, hydraulic fracturing of low-cohesive sands, shale stability, reservoir compaction during production, and integration of new monitoring methods into drilling, stimulation, and production operations.

TOPICS

- New trends in data collection and 3-D ground/ deformation characterisation
- Rock mass classification, characterisation and behaviour
- Numerical modelling – continuum and discontinuum
- Numerical modelling – brittle fracture and damage
- Non-linear, brittle fracture and damage mechanics
- In situ stress and stress measurement
- Laboratory testing and coupled behaviour
- Natural and engineered slopes
- Dams and hydroelectric projects
- Tunnels and deep underground excavations
- Open pit mining
- Underground mining
- Rock support, ground control and blasting
- Petroleum and borehole geomechanics
- Emerging technologies
- Environmental geomechanics
- Hydraulic fracturing/stimulation
- Perforating
- Waste re-injection (drill cuttings and waste water)
- Reservoir compaction/subsidence
- Reservoir response to injection and production (naturally fractured reservoirs, fault reactivation, oil sands, monitoring)
- Sand production/sand control
- Wellbore stability and shale mechanics
- Drilling mechanics

Sponsorship

The symposium is an excellent platform to enhance your presence in the market and position your organisation as one of the leaders in the industry. Benefits include:

- Direct access to a niche target audience.
- Increased brand awareness.
- Achieving a high profile association with an innovative and credible industry event.

Event Changes

The Australian Centre for Geomechanics (The University of Western Australia) reserves the right to make changes to programmes and speakers, or to cancel events if enrolment criteria are not met or when conditions beyond their control prevail. Every effort will be made to contact each delegate if the event(s) is cancelled. Should the event(s) not be held for any reason, our liability is limited to the event fee



THE UNIVERSITY OF
WESTERN AUSTRALIA



CSIRO | Curtin University | University of WA
Joint Venture

INTERNATIONAL ORGANISING COMMITTEE & KEYNOTE SPEAKERS

KEYNOTE SPEAKERS

Peter Cundall

Independent consultant

Dr Cundall performed his doctoral work at Imperial College, London. In addition to being an independent consultant, he worked for Dames and Moore, was a faculty member at the University of Minnesota, and is now Principal at Itasca Consulting Group in Minneapolis. Dr Cundall is the original author of many computer codes, including TRUBAL, FLAC, UDEC, 3DEC and PFC, which all enjoy widespread use. His main interest is in applied computer modeling, particularly in the areas of micromechanics, dynamics, plasticity, fracture damage, localization and coupled problems.

Ted Brown

Golder Associates, Australia

Emeritus Professor ET (Ted) Brown is a graduate of the Universities of Melbourne (BE, MEngSc), Queensland (PhD) and London (DSc(Eng)). His major career appointments have been as Professor of Rock Mechanics at Imperial College, London, and as Senior Deputy-Vice-Chancellor of the University of Queensland, Australia. Since retiring from that position in 2001, he has worked as a Senior Consultant to Golder Associates, a research consultant with the University's Sustainable Minerals Institute, and a company director.

Maurice Dusseault

University of Waterloo, Canada

Maurice is a professor of Geological Engineering in the Earth Sciences Department, University of Waterloo. He does research in petroleum geomechanics (drilling, hydraulic fracturing, reservoir geomechanics), new production methods, and deep waste disposal. He has co-authored two textbooks and over 400 professional articles in conferences and journals, and works with industry as an advisor and instructor.

Boris Tarasov

The University of Western Australia, Australia

Boris Tarasov graduated initially as a mechanical engineer with a particular interest in rocket engine technology (Russia, 1974). Since 1976 he is involved in rock mechanics. He spent twelve years working for Geomechanical Institute and the next 10 years for Mining University in Saint Petersburg, Russia. Boris came to Australia in 1998. His professional interest is experimental physics and rock mechanics, especially hard rock behaviour at conditions of great depth. He designed many unique testing apparatus to study this subject.

Who Should Attend

This event has been extensively researched and designed for all mining, civil and petroleum rock mechanics practitioners, including operation and consulting personnel, scientists involved in rock mechanics research in their respective field of applications will be particularly interested in this symposium.

INTERNATIONAL ORGANISING COMMITTEE

Yves Potvin (Mining Chair) Australian Centre for Geomechanics, Australia

John Carter (Civil Chair) The University of Newcastle, Australia

Arcady Dyskin (Fundamental Chair) The University of Western Australia, Australia

Rob Jeffrey (Petroleum Chair) CSIRO Petroleum, Australia

Younane Abouseliman University of Oklahoma, USA

Will Bawden University of Toronto, Canada

David Beck Beck Arndt Engineering Pty Ltd, Australia

Robert Bertuzzi Pells Sullivan Meynink Pty Ltd, Australia

Barry Brady Condamine Engineering Consultants, Australia

Andrew Bunger CSIRO Petroleum, Australia

Oliver Buzzi The University of Newcastle, Australia

Alan Bye Sustainable Minerals Institute, Australia

Emmanuel Detournay University of Minnesota, USA

Phillip Dight Coffey Mining Pty Ltd, Australia

John Dudley Shell International Exploration and Production B.V., The Netherlands

Maurice Dusseault University of Waterloo, Canada

Andrey Eremenko Institute of Mining, Siberia Branch, Russia

Stephen Fityus The University of Newcastle, Australia

Anna Giacomini The University of Newcastle, Australia

Klaus Gessner The University of Western Australia, Australia

Chris Haberfield Golder Associates Pty Ltd, Australia

John Hadjigeorgiou Université Laval, Canada

Bruce Hebblewhite The University of New South Wales, Australia

Buddhima Indraratna The University of Wollongong, Australia

Antonio Karzulovic A. Karzulovic & Assoc. Ltda, Chile

Stanislaw Lasocki AGH University of Science and Technology, Poland

Peter Lilly CSIRO Exploration & Mining, Australia

Derek Martin The University of Alberta, Canada

Anthony Meyers Rocktest Consulting, Australia

Peter Mikula Mikula Geotechnics Pty Ltd, Australia

Shamil Mukhamediev Russia Academy of Sciences, Russia

John Napier CSIR, South Africa

Alison Ord CSIRO Exploration & Mining, Australia

Zhihua Ouyang Wuhan University of Science and Technology, China

Elena Pasternak The University of Western Australia, Australia

John Read CSIRO Exploration & Mining, Australia

Klaus Regenauer-Lieb The University of Western Australia & CSIRO, Australia

Cameron Schubert BHP Billiton, Australia

Daichao Sheng The University of Newcastle, Australia

Scott Sloan The University of Newcastle, Australia

Dick Stacey The University of the Witwatersrand, South Africa

Iain Thin BHP Billiton, Australia

Jody Todd BHP Billiton, Australia

Gerhard van Aswegen ISS International Ltd, South Africa

Michel Van Sint Jan Pontificia Universidad Católica de Chile, Chile

Terry Wiles Mine Modelling Pty Ltd, Australia

David Williams The University of Queensland, Australia

Robert Zimmerman Royal Institute of Technology, Sweden

Networking

This ACG international event will attract some of Australia's most influential decision makers in the mining industry, research and government. This event provides ideal opportunities to network, such as morning and afternoon breaks and the symposium dinner.



THE UNIVERSITY OF
WESTERN AUSTRALIA



CSIRO | Curtin University | University of WA
Joint Venture

SHORT COURSE/WORKSHOP

FROM ROCK MASS TO ROCK MODEL

A pre-symposium workshop on rock mass modelling for geotechnical design

Monday 15 September 2008, Sheraton Perth Hotel, Western Australia

The ACG will present a pre-symposium workshop that will provide a forum for discussing the issue of the modelling of rock mass behaviour for the purpose of design. With this workshop, the ACG aims to provide a platform to critically examine the current state of practice and highlight shortcomings in the state of the art. The workshop will take the form of introductory presentations and open floor discussions on several topics, including:

- >> Model parameters from field and laboratory work.
- >> Strengths and weaknesses of different methods.
- >> Scale dependence of methods, models and parameters.
- >> Method dependence of parameters.
- >> Time dependence of rock mass behaviour.
- >> Model dependence of failure mechanisms.
- >> Mechanism dependence of model calibration.

CONTRIBUTING SPEAKERS INCLUDE:

Peter Cundall, Chief developer of all Itasca software products.

Philip Pells, Principal of Pells Sullivan Meynink, Adjunct Professor of Civil Engineering University of NSW.

Garry Mostyn, Principal of Pells Sullivan Meynink.

Steve Spottiswoode, Mine seismologist at the CSIR South Africa.

David Beck, Principal engineer of Beck Arndt Engineering.

PETROLEUM GEOMECHANICS IN THE VALUE CHAIN

A pre-symposium short course on Petroleum Geomechanics

Sunday and Monday 14 - 15 September 2008

Course Leader: Maurice Dusseault

The course is intended for engineers, geoscientists, and technologists involved in reservoir exploitation, but those involved in drilling and exploration and other upstream activity will also benefit. For those with a geomechanics (rock and soil mechanics) background, the course will serve as an introduction to typical geomechanics issues arising in oil and gas development. The basic aspects of rock mechanics processes on reservoir development and management are presented in a simple, clear manner, without complex equations. Case histories from around the world are used to illustrate the discussions.

The 2-day course will provide you with a much better understanding of how rock mechanics knowledge can improve reservoir management decisions. A great deal of material will be provided to you as notes and on electronic media, far more that can be covered in two days. You will be given a CD containing all the PowerPoint presentations and a great deal of additional material covering a wide range of petroleum geomechanics topics. The rewards from this knowledge will come to you and your company through reduced costs, problem avoidance, and even some new ideas in areas such as sand control and fracturing.

ROCK MECHANICS LAB TOUR OF THE UNIVERSITY OF WESTERN AUSTRALIA AND CSIRO PETROLEUM

Monday 15 September 2008

A free half-day laboratory tour has been organized that includes both the UWA and CSIRO Petroleum facilities. Mini-buses will leave from the main conference venue. The tour will include visits to the UWA labs to see the centrifuge, stiff high-pressure triaxial static-dynamic loading frame and a blast simulator.

At the CSIRO site, located about 20 minutes drive from UWA, triaxial shale characterization and drilling mechanics projects will be highlighted. Refreshments will be served at CSIRO before the mini-buses return to the main conference venue. The tour will be limited to about 20 participants.

www.shirms.com

PERTH



Perth is a beautiful place to visit for business or pleasure. Delegates and their families may take time out to visit Kings Park for a panoramic view of the city or perhaps stroll into the city's vibrant shopping district. For the more adventurous, a trip to Perth's famous Indian Ocean, 15 minutes by car from the city centre, will be more enticing.

If golf or driving are more your style, the hotel can recommend a range of championship golf courses close by, or arrange for you to hire a car and cruise along the coast and café strips. There is plenty to see and do north to Hillarys and Mindarie Keys, or south to Cottesloe Beach, and the historic and exciting Port City of Fremantle, only 25 minutes away. A variety of tours depart daily from your hotel, or delegates can take advantage of the complimentary courtesy shuttle that departs from the hotel at regular intervals on weekdays and travels down St Georges Terrace to West Perth and returns to the hotel. Free public transport is also available on your doorstep. The ferry terminal is 1 km away where daily tours depart for river cruises, wineries, whale watching and Rottnest Island.



NOTE TO PROSPECTIVE AUTHORS

The language of the symposium will be English. Only abstracts written in publishable English will be considered. Abstracts will be selected based on technical merit and relevance to the symposium topics.

SHIRMS 2008 Expression of Interest

- Attendee
 Speaker
 Sponsor/Exhibitor

Name: _____

Position: _____

Organisation: _____

Address: _____

Country: _____

Phone: _____

Fax: _____

Email: _____

Please submit your expression of interest to:

Josephine Ruddle
SHIRMS 2008 Event Manager
Australian Centre for Geomechanics
PO Box 3296 – Broadway
NEDLANDS WA AUSTRALIA 6009
Phone: +61 8 6488 3300
Fax: +61 8 6488 1130
acg@acg.uwa.edu.au
www.acg.uwa.edu.au