

Geo-soundings

NEWSLETTER - JUNE 2004

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WELCOME

Welcome to our second edition for 2004. Of great importance is the news that the **Curtin Reservoir Geophysics Consortium (CRGC)** is to be awarded the prestigious *'2004 SEG Distinguished Achievement Award'* which is a great honour (see further details below).

We also announce that the Founding Director of the CRGC and current Acting Head of Department – **Prof John McDonald** will be retiring on the 15th July. He and his wife Sally are moving to north Queensland to enjoy the warmer climate.

From the 15th July the newly appointed Head of Department will be **Dr. Anton Kepic**, who has been appointed for a term of 3 years.

Our Senior Technical Officer, **Dominic Howman** and his wife **Pam** have recently been blessed with the birth of their second daughter, Melissa Kate, who was born on Monday 17 June.

CONFERENCES PRESENTATIONS

This is the first year that the Department has participated as an exhibitor at the 66th EAGE Conference & Exhibition which was recently held in Paris, 7-10 June. Four academic staff (Boris Gurevich, Brian Evans, Bruce Hartley, and Milovan Urosevic) and two PhD students (Luke Brown and Alex Shepherd) attended and presented the following papers:

Muller, T., and Gurevich, B., 2004, Attenuation and dispersion of seismic waves in 3-D randomly inhomogeneous, Porous rocks.

Brajanovski, M., Gurevich, B., Lambert, G., and Schoenberg, M., 2004, Attenuation of P-wave rocks - theory and numerical experiment.

Galvin, R., Gurevich, B., and Sayers, C.M., 2004, Fluid-dependent shear-wave splitting in a poroelastic medium with conjugate fracture.

Evans, B., Luo, M., and Arihara, N., 2004, Fracture detection and analysis from a 3-D VSP survey in Ekofisk field.

Brown, L., and Gurevich, B., 2004, Frequency dependent anisotropy in porous rocks with penny-shaped cracks.

Ciz, R., Siggins, A.F., Dodds, K., Dewhurst, D.N., and Urosevic, M., 2004, Prediction of differential stresses based on seismic attributes.

Shepherd, A., and McDonald, J.A., 2004, Quantification of swell noise on seismic lines gathered in rough and calm sea.

Chambers, K., Gurevich, B., Urosevic, M., and Koster, K., 2004, Resolving ambiguity in fracture induced anisotropy interpreted from various data.

Ciz, R. and Gurevich, B., 2004, Scattering of seismic waves by a spherical inclusion in a porous rock and slow wave effects.

Amiri Besheli, S., Hendi, S.S., and Vali, J., 2004, LMR- A robust reservoir properties indicator in carbonate reservoirs.

As per our custom, we conducted a raffle at the EAGE conference and the three prize winners were – 1st **Phil Smith** from GX Technology; 2nd **Marcilio Matos** (*not pictured*); and 3rd **Christian Hobel** from Atos Origin. We extend our congratulations to each of the winners and trust they will enjoy their prizes.



Phil Smith – First Place Winner



Christian Hobel – Third Place Winner

PUBLIC PRESENTATIONS

Jayson Meyers and Anton Kepic both gave presentations at the **CRC-LEME Minerals Exploration Seminar**, entitled:

Meyers, J., 2004, Sub-audio magnetic (SAM) geophysical technology for mineral exploration and subsurface regolith mapping.

Kepic, A., 2004, EM torch.

Jayson Meyers also gave this presentation at a meeting of the **Association of Mining and Exploration Companies (AMEC)**.

AWARDS/PRIZES/SCHOLARSHIPS/GRANTS

Awards/Prizes:

PESA Elwood Horstman Prize for 2003

Amanda Davies received this award at the PESA Luncheon Meeting held in April. The award is presented to the 'best' full time honours student at Curtin, undertaking studies related to petroleum exploration. Amanda's thesis was entitled '*An analysis of seismic anisotropy in permit TL/2 - North West Shelf of WA*'. Amanda has since taken up a full time position with Troy-Ikoda P/L in Perth.

PESA Third Year Prize for 2003

Martin Burke was awarded the 'best third year Geophysics student' prize which is presented to the student who has shown the most potential in petroleum-related subjects in the last year of the BSc Geophysics course and who is likely to pursue a career in the petroleum industry. Martin is currently enrolled full time in the 'petroleum stream' of the BSc Geophysics Honours course.

AusIMM Prizes for Academic Excellence 2003

Three students have been awarded prizes for their academic excellence during 2003:

Paul Wellington (Best 1st Year Student)

Owen Davis (Best 2nd Year Student)

Martin Burke (Best 3rd Year Student)

The prize for each comprises an AusIMM Publication and Student Membership, accompanied by a certificate.

Prof. Boris Gurevich has been invited and has agreed to participate and serve on the Scientific Committee for the **3rd Centennial Biot Conference**. As a committee member, Boris will be expected to coordinate or to organize special sessions, and to review abstracts for this conference. The conference date is **May 24-27, 2005**, and venue is the University of Oklahoma, Norman, Oklahoma, USA.

Congratulations are extended to **Fanmin Zhang, Fatkan, and Miroslav Brajanovski** on being awarded their **Doctorates** during this quarter. Their theses titles are:

- **Zhang, F.**, *Explicit anisotropic P-wave ray velocity functions, anisotropic semblance analysis and NMO corrections for long offset data.*
- **Fatkan**, *The modelling of elastic-wave amplitudes in anisotropic media.*
- **Brajanovski, M.**, *Effects of fractures on seismic waves in poroelastic formations.*

Curtin Reservoir Geophysics Consortium (CRGC) is to be awarded the Society of Exploration Geophysicists (SEG) '**2004 Distinguished Achievement Award**'. This award is offered '*in recognition of its research in areas that are highly beneficial to the exploration geophysics industry, including signal processing, multi-component and rock physics*' and will be presented at the forthcoming SEG Conference in Denver, Colorado in October 2004.

Grants:

ASEG WA – ASEG-PESA 2004 Conference Subsidy

Jill Slater has been chosen by the ASEG WA Branch to receive this grant of \$1,100, which will assist her to attend the ASEG-PESA 2004 Conference in Sydney. Free registration is also part of the Conference subsidy.

EXPOS

Both Staff and PhD students have again been busy this year, attending as many Career Expos as possible in an endeavour to ensure that student numbers are maintained and increase in 2006. Our sincere thanks to all those who donated their time to assist at these events and industry sponsors who continue to donate financial support. Several more expos are scheduled for the July-September quarter. Those attended to-date are as follows:

South West Careers Expo – Bunbury - 12-13 May.

The winner of the competition to identify the drilling locations for oil was **Claire Blankendaal** from Bunbury High School.

Careers and Education Expo – Claremont - 14-16 May

The winner of the competition to identify the correct metal in the box was **Katherine Mackay** from John Curtin College of the Arts.

Swan Education District Career Expo – Midland - 25-27 May.

The winner of the competition was **Tegan Clarke** from Nagle Catholic College.

APPEA School Information Program – ARRC Visits – 18 & 24 May, sponsored by The Petroleum Club of WA and APPEA.

Students and teachers from **Sacred Heart College** and **Rossmoyne Senior High School** attended. Anton Kepic gave a presentation and a tour of the Department's facilities and the students were given the opportunity to participate in a seismic experiment.

INNOVATIVE RESEARCH

Paul Wilkes and PhD candidate **Simon Abbott** have been carrying out ground surveys in the wheat belt to map paleochannels as part of the **Rural Towns Project**.

Recent drilling of a HoistEM conductor at the **Woodie Woodie Manganese Mine** has led to the discovery of another large tonnage of manganese ore deposit under cover near the old Radio Hill pit. This target was selected as part of an ongoing research project sponsored by Consolidated Minerals. The Chris D deposit was discovered below a paleochannel in the early stages of this project. It is the largest deposit discovered in the Woodie Woodie corridor to date, and is beginning to be mined in open cut.

The **Songvang Gold Deposit**, which was the subject of an intensive geophysical study by **Jayson Meyers** and Honours student **Nigel Cantwell** has been given approval for mining by the WA State Government. The Songvang deposit is located in the goldfields near Agnew, and was discovered by Goldfields Limited. The geophysical study over the deposit has greatly assisted the resource drilling campaign, as this deposit sits below thick transported regolith and is blind to geochemical anomalism at the surface. Targeting on geophysical anomalies has helped to fast track resource drilling and expand the resource size in a short amount of time.

Honours student **Michael Whitford** will be drill testing shallow geophysical responses associated with regolith development at the St. Ives gold mine in the next 2 weeks. The **CRC-LEME** and **Goldfields Limited** have sponsored Mike's project, which employs a number of high-definition geophysical methods along a transect near Lake LeFroy, where he also has multichannel seismic reflection data collected as part of a Curtin Geophysics research project on seismic studies across gold mining corridors.

ESCWA

The Earth Science Consortium of WA was formed in 2003 as a geoscience and research alliance between CSIRO, Curtin University of Technology, The University of Western Australia and the Western Australian Museum. ESCWA has two main goals: a) to ensure that the geosciences continue their major contribution to the sustainability and growth of the State's economy and b) establish WA as a World leader in geoscience education, training and research. ESCWA is now seeking funds to start operations.

WA ERA

The Western Australian Energy Research Alliance has been formed between Curtin, UWA and CSIRO Petroleum. The mission of the alliance is to create in Perth a World class Energy Technology Centre which will provide premium quality research, development and education services. WA ERA has over 190 research staff and about 100 PhDs. It has significant capabilities in all aspects of hydrocarbon exploration and production. At the launch of WA ERA on 19th April 2004, Woodside pledged \$20 million as partial matching funds.

COLLABORATION @ ARRC



Left to right: **Benson Singer** (CSIRO), **Kevin Dodds** (CSIRO), **Radim Ciz** (CSIRO), **Milovan Urosevic** (Curtin), **Mike Schoenberg** (CSIRO/Curtin), **Don Sherlock** (CSIRO), **John McDonald** (Curtin), **Boris Gurevich** (Curtin/CSIRO), **Tony Siggins** (CSIRO)

This picture shows the well developed cooperation between the geophysics groups from CSIRO & Curtin in the Australian Resources Research Centre.