

# Geo-soundings

NEWSLETTER - DECEMBER 1998

Editor: Mrs Rhonda Green  
Curtin University of Technology  
GPO Box U1987, Perth WA 6845

Prof Norm Uren, Head  
Department of Exploration Geophysics

Enquiries: Tel (08) 9266 3408/3565  
Fax (08) 9266 3407

Email [enq@geophy.curtin.edu.au](mailto:enq@geophy.curtin.edu.au)  
<http://www.curtin.edu.au/curtin/dept/geophy/>

## CONFERENCES

The Sixty-Eighth Annual Meeting of the Society of Exploration Geophysics was held in New Orleans, Louisiana from 13-18 September 1998. The title of the Conference was *Unmask the Depths*. Eight people attended and the booth was again a successful means of drawing attention to our Department and Curtin University. The winner of the competition for a decorated emu egg was Guy L Burge Jr. Papers were presented as follows:

**Hartley, B.M., Uren, N.F. and Lamont, M.G.**, 3D multiple moveout wavefield transformation for pre-conditioning data for the removal of water bottom multiples: 68th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Extracts, Vol II, 1252-1255.

**Li, R., Okoye, P.N., Uren, N.F., and McDonald, J.A.**, Analytic study of the short-spread moveout velocity estimation in a transversely isotropic medium: 68th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Extracts, Vol II, 1472-1475.

**Okoye, P.N., Uren, N.F., McDonald, J.A. and Waluyo, W.**, An experimental investigation of the small-offset P-wave NMO equation in transversely isotropic media: 68th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Extracts, Vol II, 1475-1478.

**Sherlock, D.H. and Evans, B.J.**, 1998, Observations of seismic reflections from variations in grain packing: 68th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Extracts, Vol II, 1049-1052.

**Urosevic, M., Evans, B.J., and Juhlin, C.**, 1998, Cross-hole imaging in a heterogeneous and anisotropic medium: 68th Ann. Internat. Mtg., Soc. Explor. Geophys., Expanded Extracts, Vol II, 330-333.

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Ruiping Li attended the SEG/CPS/EAGE Beijing '98 International Geophysical Conference and Exposition held 22-25 June 1998. Her paper was:

**Li, R.**, 1998, Review of the short-spread moveout velocity estimation in transversely isotropic media: SEG/EAGE/CPS Beijing '98 International Geophysical Conference and Exposition, Soc. Explor. Geophys., EAGE, Chinese Petroleum Society, Expanded Abstracts, 63-68.

## STAFF MATTERS

Congratulations to Norm Uren on being appointed to a personal Professorial Chair and also for being made an Honorary Member of the ASEG. I believe he is only the 14th Honorary Member in the history of the Society, so this is quite an honour.

Umesh Das, Jon Cocker and Levin Lee have all left the Department during second semester to take up other positions. We wish them well.

## PRIZES & AWARDS

The Royal Society of Western Australia has initiated a University Science Medal, to be awarded to the top undergraduate student enrolled in a scientific discipline, at each of the four public universities in Western Australia. The first Curtin winner is **Troy Alan Thompson**, who gained a Bachelor of Science (Geophysics) with Distinction in 1997. Congratulations to Troy, who is currently undertaking Honours in Petroleum Geophysics at Curtin. He was awarded the medal at the recent Annual General Meeting of the Society.

Two students received awards for their presentations at the Annual ASEG Student Presentation night.

**Damian Leslie** for his talk on *The effects of High-Velocity Layering on Seismic Wave Propagation*.

**Russell McChesney** for his talk on *Geophysics and diamond exploration in the North Kimberley*.

Other students who received a special mention for excellent presentations are: Bryn Bender, Shane Evans, Javier Peyriere, and Troy Thompson.

## CRGC ANNUAL MEETING

The Annual Sponsors Meeting of the Curtin Reservoir Geophysics Consortium was held on the Curtin campus on 5 November 1998. Twelve representatives of sponsoring, and potential sponsoring, companies attended the meeting. The morning was given over to reviewing the research carried out in 1998, and the afternoon to the research proposed for 1999. A new Curtin Geophysical Guidance committee was formed and Dr Andrew Long of PGS Seres was elected Chairman. Andrew's email address is: [andrew.long@prth.pgs.com](mailto:andrew.long@prth.pgs.com). The CRGC Proposal for 1999 can be found on the Curtin Geophysics home page above.

## AusIMM Accreditation

The four year BSc (Geophysics) has been declared a recognised course under the AusIMM's education initiative. Amongst the benefits of recognition is the availability of AusIMM Education Endowment Fund Scholarships and Bursaries from 1998.

### STUDENT SECTION (KEGS)

For the student section of the SEG, 1998 was a very successful year. Funds were raised from barbecues held fortnightly and these have contributed to an end of year boat cruise. Affiliation with the Curtin Student Guild was approved earlier in the year, which has also contributed to the running of the boat cruise. T-shirts with the Society's logo have been designed and can be a continuing feature for years to come. Many thanks to John McDonald for his support and advice this year. I would personally like to thank the Department for its support of our barbecues and also to the year representatives for their contribution.

Alister Forsyth  
1998 President

Curtin Exploration Geophysics Society

### NEW COURSE

**Geophysics and Reservoir Simulation.** A unit with this title is being run jointly for the first time by staff from Exploration Geophysics and staff from Petroleum Engineering. Initially it is being taught to petroleum engineering students and the aim is to move from a 3D seismic volume and to put the interpreted data into a reservoir simulator. The unit is very much an experiment for both staff and students.

### THIRD YEAR FIELD TRIP

A very successful week-long third year field project was held at Coolgardie in September. We are grateful to Newcrest Mining Limited for providing a most interesting area with a great variety of rock types and geological structure. Nineteen students acquired gravity, magnetics, EM and IP data which they have since processed, and interpreted. Each student presents a full report of the work completed which forms 30% of the final semester mark for the third year degree. Financial support was provided by CRCAMET, Newcrest Mining Limited and the Department of Exploration Geophysics.

### A MOST ATTRACTIVE DEGREE

Following upon our strong performance in attracting 38 students (7 females) to our BSc (Geophysics) degree in 1998, we are pleased to report that 41 students (7 female) have selected the degree as their first choice for 1999. This reflects on the work of all staff in both making the degree so popular and for informing the public.

### CENTRE OF EXCELLENCE

A Centre of Excellence in Exploration and Production Geophysics has been awarded to the Department of Exploration Geophysics by the WA State Government and will begin operation early next year. Initially the new centre will concentrate on reservoir geophysics for the petroleum industry, but a minerals component will also be established with the aim of creating a minerals consortium to support mineral geophysics research. The Department is developing a package of research proposals which it believes will interest a range of mining/exploration companies. The Centre's director, Professor John McDonald, said he hoped to have two permanent researchers, six post-doctoral researchers and six PhD students and an annual budget of

about \$1 million by 2003. The new Centre must be self-funded after the initial three-year grant from the State Government runs out.

### EXPOS

Once again we had a booth at the South West Careers Expo in Bunbury on 8/9 May 1998. Thanks to Dominic Howman, Norm Uren and Murray Hill for their help.

Dom Howman also attended the Kelmscott SHS Careers Expo on 29 July 1998.

### CRC-GET

An application for a new centre named the CRC for Geophysical Exploration Technologies (CRC GET) has been applied for as a successor to CRC AMET.

The core participants in the proposed centre are:

CSIRO Exploration and Mining,  
Macquarie University,  
Curtin University of Technology,  
Encom Technology Pty Ltd,  
Australian Geological Survey Organisation,  
MIM Holdings Ltd,  
World Geoscience Corp Ltd,  
Broken Hill Pty Ltd, and  
Australian Mineral Industries Research Association Ltd.

Four areas of research are proposed (project leaders listed in brackets):

1. Airborne Geophysical Systems (Mike Gladwin)
2. Geophysical Signatures of Orebodies (Peter Gunn)
3. Geophysical Modelling and Inversion (Jim Macnae)
4. Geophysical Software (Dave Pratt)

The new Centre's education and training program will build on the foundations established by CRC AMET, adding several innovative features which take advantage of modern communications technology.

Paul Wilkes will continue as Education Program Leader.

### MMET COURSES IN 1999

Three groups of two units are planned for 1999:

March 1-5      Seismic methods in mineral exploration  
venue:          Perth  
Leaders:        A/Prof Brian Evans  
                    Dr Peter Hatherly (CSIRO)

March 8-2      Structural Geology  
venue:          Kalgoorlie  
Leaders:        John Baxter and Dr Julian Vearncombe

July/August    Geographic information systems and mineral  
                    exploration  
                    Advanced electromagnetic methods  
                    (leaders Macnae and Asten)

November/December  
                    Regolith Geology  
                    Resistivity / induced polarisation

All these units are available as units within the Masters of Mineral Exploration Technologies degree program or as individual short courses.

For further information and enrolment details contact  
Deirdre Hollingsworth on T: 08 9266 3565, or  
Paul Wilkes on T: 08 9266 2330

*We wish everyone a Merry Christmas and  
Happy New Year*