Welcome to the 3rd edition of Geo-soundings for 2004. This edition clearly shows that all members of the Department have been very busy during this past quarter, presenting 18 papers at 3 international conferences/workshops, 4 public presentations, with more in the planning stage. The proposal to establish a new Centre of Excellence in High Definition Geophysics has passed stage 1 and we provide some news about patents and an appearance on the ABCs ‘Catalyst’.

You will notice that there is a new logo shown at the top of this newsletter CO2CRC. Involvement with the Cooperative Research Centre for Greenhouse Gases Technologies commenced on the 1st July following the conclusion of the APCRC.

We hope you enjoy the news items provided in this newsletter and we welcome any feedback.

The Department submitted an expression of interest (EOI) to the Department of the Premier and Cabinet for a ‘Centre of Excellence in High Definition Geophysics’. We have received advise that it has passed the first stage and a consultant will now be employed by Curtin University to develop a formal proposal with submission at the end of 2004. The EOI was based on the recently successful work done for MERIWA project 363 “Feasibility of seismic methods for imaging gold deposits in WA”, and also development of EM sensors, low cost MT equipment, electrokinetic seismic systems, NMR methods for water and sub-audible magnetice survey experiments for high-resolution, magnetic methods for mineral exploration.

We are pleased to advise that after a long wait, approval has finally been received for USA Patent Application No. 10/366007, in the name of Curtin University of Technology, entitled “Method of producing continuous, orthogonal signals and method of their use for examining and for detecting changes in a body”. This application was originally lodged by Dr Bruce Hartley in 2002.

Professor Brian Evans has developed a new method for imaging beneath karst topography. It has the potential to open up areas for exploration and monitoring of producing fields wherever imaging is a problem. The method is called “Sub-Karst Imaging”. A provisional patent is expected to be approved by the end of September, after which we can share the method with you. Watch this space!
During the conference, minerals staff and students also attended the *Airborne Gravity, Inversion, and Salinity Workshops*, as well as the AMIRA P407b Sponsors Meeting. Greg Street convened the Salinity workshop.

**11TH INTERNATIONAL WORKSHOP ON SEISMIC ANISTROPY (IWSA), ST JOHNS, CANADA, 25-30 JULY:**

Li, R., Zhang, F. and Urosevic, M., 2004, Determination of anisotropic parameters from long offset movement correction.

**2004 SEG/EAGE SUMMER RESEARCH WORKSHOP ON CHARACTERISATION OF FRACTURED RESERVOIRS, VANCOUVER, CANADA, 1-5 AUGUST:**

**PUBLIC PRESENTATIONS**

Dr. Jayson Meyers, through the *Australian Institute of Geoscientists* (AIG), organised and convened a 1 day seminar on “Leading edge geophysical technologies for mineral exploration geologists”. This seminar was held on September 6th at the Perth Zoo, with approximately 200 mineral explorers and miners attending. There were 14 oral presentations and 1 poster session and topics ranged from SQUID sensors for EM to seismic reflection surveying at St. Ives Gold Mine. A lively discussion was held at the end of the day, followed by drinks sponsored by Fugro.

There papers were presented by the following staff members:
- *Urosevic, M.* and Stolz, N., 2004, *Reflection seismic surveys for mine scale geology at the St Ives Gold Mine, WA.*

The following presentation was given at an ASEG WA Branch Technical Evening, held on the 15th September at The Irish Club of WA:

**EXPOS**

Career and Education Expo – Burswood Dome
We are happy to report that the Department again participated in this expo on the 6th and 7th August, and extend a grateful thank you to all staff and senior students as well as ASEG members, who helped promote geophysics to the next generation on both the Corporate and the ASEG booths.

**Curtin Open Day**
Curtin Open Day was held at the Bentley campus on Sunday the 8th August. The day offered an excellent opportunity to display our technology. Interactive demonstrations ran inside all day while a field exercise showing the operation of ground penetrating radar and seismic refraction ran outside. Thank you to all staff and students who helped out at this event.

**APPEA School Visits to ARRC**
We extend our appreciation to:
- *Brett Harris* and *Justin Vermeulen* who spoke to visiting school students from ‘Carine SHS’ on the 19th August and gave them a tour of the Geophysics Department.
- *Dominic Howman* who spoke to students from ‘Corpus Christi’ who visited the Department on the 31st August.

**DEPARTMENT NEWS**


**AWARDS/PRIZES/SCHOLARSHIPS/GRANTS**

Congratulations are extended to Jason McKenna whose PhD was executive approved on the 13 August. His thesis entitled “Seismic response to CO2 storage in a saline aquifer” received two ‘A’ grades from his examiners and was recommended for a commendation by the Chancellor. We wish Jason every success in his future career.

John McDonald has been awarded the ASEG Service Certificate from the Australian Society of Exploration Geophysicists at the ASEG-PESA Conference held in Sydney during August. The award is in recognition of John’s distinguished service to the ASEG, through his long involvement with the WA State Branch, his activities representing the ASEG with the SEG and SEGI, and his work with students.

Simon Abbott has obtained HoistEM survey data surrounding Esperance, and has begun processing and interpreting the data in collaboration with Greg Street, Jayson Meyers, and Anousha Hashemi. His project is supported by CALM, the CRC-LEME, and GeoAg Pty Ltd.

**3RD YEAR FIELD TRIP**

This year the 3rd year Project Geophysics field trip has been sponsored by *Agincourt Resources Limited* at their Gold Mine situated at Wiluna. Field trip leaders, Paul Wilkes, Anton Kepic and Dominic Howman accompanied 7 students in order to assist them to undertake their final year field project work. We are very grateful to the sponsorship provided by Agincourt Resources.

L-R: Paul Wilkes, Heika Bredhauer, Thomas Lee, Jacob Paggi, Alan Nanini, Kabilan Krishnamurthy, Fumihito Watanabe, Cameron Jones, Anton Kepic and Dominic Howman in the foreground.

**CRC NEWS**

The ABC-TV program ‘Catalyst’ spent half a day filming and interviewing Professor Brian Evans during August about his pressure vessel. He explained that fluids could be injected into physical reservoir models and how ultrasonic reflection data could provide an image of the fluid’s movement during pressure variations. This has application in reservoir management in terms of understanding fluid migration properties and as a result, changes to rock properties. The program focused on the pressure chamber’s application to CO2 injection monitoring studies, and was aired on the 9th September, along with other ongoing research within CO2CRC.

**UPCOMING EVENTS**

The CRC-LEME Perth Symposium will be held at Curtin University on the 18th & 19th of November.

The ASEG Student Night is scheduled for the 13th October.

The CRGC Annual General Meeting will be held at the Rottnest Island Lodge on the 2nd and 3rd December.