

AEES NEWSLETTER



July 2008

President's Report

Welcome and greetings to all our members and hope you find the newsletter informative of some of the action that has been happening recently in the earthquake community.

The AEES annual conference this year will be held in Ballarat on the weekend of 21-23 November and we hope that you can join us at our flagship event. We have received over 50 abstracts and have a number of invited speakers covering paleo-seismicity and geomorphology, Australian seismicity and hazard maps, engineering, historic buildings, insurance, post disaster management, damage reconnaissance studies from the Sichuan earthquake and a report on the World Earthquake Conference being held in Beijing in October. We are anticipating around 100 delegates to the weekend conference and hope you can join us for both the technical and social discussions; it will be a great event. Further details regarding registration are contained in this newsletter and on the AEES website.

The recent devastating Sichuan earthquake was a timely reminder of the massive destruction that can be caused by large events particularly in regions with vulnerable building stock. The official figures recorded some 70,000 people killed with a further 18,000 missing, 375,000 injured and 5 million homeless. The scale was colossal. A timely reminder was the number of school buildings that collapsed killing large numbers of children. The AEES and the Australian Government offered assistance with USAR teams and technical advice in assessing damaged building stock and the quake lakes that formed following landslides in the very rugged and steep terrain, however the Chinese Government appeared to be self-sufficient. Three post graduate students from the University of Melbourne and Swinburne University were able to join a team from the University of Hong Kong to visit the damaged area for 5 days in early July. The team is currently compiling a report which covers a range of damage from the severe ground shaking near the epicenter to the more moderate shaking experienced 50-80 kilometers from the epicenter, which was more

comparable with the shaking expected in a design event in Australia. This will be discussed further at the 2008 AEES Conference.

The updated Earthquake Loading Standard AS1170.4 (2007) has now been 'called up' in the BCA as part of the Building Regulations for 2008 and a number of AEES members are currently completing the accompanying Commentary to the Standard. There has been considerable interest from the consulting profession and workshops and seminars continue to be delivered.

FM Global hosted an Earthquake Hazard workshop this week in Sydney to begin the process of updating the current seismic hazard map for Australia which originates from the 1980s. A working group has been established to progress the development and a status update will be provided at the 2008 AEES Conference.

The AEES Melbourne Executive team is appreciative of your support and we look forward to seeing you at our conference later this year.

John Wilson
AEES President

The Committee

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Congratulations

We congratulate the following for their awards at the NZSEE AGM:

Life Members NZSEE

The following were inducted as Life members:

Howard Chapman, David Dowrick, Doug McKenzie, John Wood

Fellows

The following were inducted as Fellows:

Bruce Deam, Kevin Mc Manus, Mark Stirling

Vale – Dr Kiyoshi Kanai

Our President received the sad news from Hirokazu Iemura, Secretary General of IAEE, regarding the passing of Dr Kiyoshi Kanai.

Dr.Kiyoshi Kanai had been an Honorary Member of IAEE since 1996. He passed away on 13 April this year at the age of 100.

Dr Iemura stated that “Dr Kanai was one of the great pioneers of earthquake engineering not only in Japan but also in the world. He made significant contribution in the research of earthquake ground motion, especially he proposed the attenuation equation and the Kanai Spectra, which have been widely used for researches and practices.”

News from S.A. (David Love)



Hazard Mitigation in SA

Following on from COAG guidelines of previous years, SA has now appointed an Earthquake Hazard Leader. Leaders for flood, fire and other areas have previously been appointed. This position, taken on by DTEI (Transport, Energy and Infrastructure) entails reviewing the whole spectrum of areas related to earthquake hazard, reporting on the status of mitigation, preparation, response and recovery. The intention, over time, is to focus whatever is required on areas that are deficient. The position is not as easy as other hazards, where there is more recent history and better understanding. With earthquakes there is no recent history, so that groups that need to be involved have little understanding and reduced interest or resources. DTEI Engineer, Shane Turner, on behalf of Judith Carr, Earthquake

Hazard Leader, is busy interviewing stakeholders and people of interest.

A number of councils east of Adelaide have banded together to do work in hazard awareness and mitigation. Various resources have been produced, and they are currently working on a first round map from existing information to show in a broad brush way what buildings and areas might be at risk. This will use some building information, but also demographic information on income, mobility, language etc.

<http://www.npsp.sa.gov.au/site/page.cfm?u=1450>

AEES AGM & Conference

The 2008 AEES conference will be held at Ballarat Uni in Ballarat, Victoria and will consist of three half-days (Friday a/noon, Saturday and Sunday mngs). The Sat afternoon is free for delegates to socialise and enjoy the township of Ballarat. There will be conference dinners on both Friday and Saturday evenings. For AEES members, the AEES AGM will also be held during the conference.

A flyer regarding the conference together with a registration form will be sent out to all members in the next few months. Should you have any queries in the meantime, please contact Sharon Anderson on 0414 492 210 or email srj@bigpond.net.au

The format will be similar to last year's with a blend of keynote speakers, oral presentations and poster presentations. Each poster presenter will be given the opportunity for a short oral presentation to the conference delegates together with a dedicated time in front of their poster for in depth discussion.

For those not familiar with Ballarat, it is one of the largest inland cities in Australia, with a population of over 88,000 within the municipality. It is approximately 110km north-west of Melbourne and is around a 75 minute drive. The city displays a rich variety of topology and natural environment which comprises rolling hills, granite outcrops, heavily forested areas and numerous bodies of water. The urban settlement patterns offer a diversity of living environments, including small villages and country towns, as well as the main cityscape of central Ballarat, which includes heritage architecture of national significance and international interest. Ballarat is also home to Sovereign Hill which brings the town's gold rush history to life.

Australian Earthquakes 1.08.2007 – 28.07.2008, M≥3.0

DATE	TIME UTC	LAT S	LON E	DEPTH KM	MAG	COMMENTS
August 07						
5	0712	33.18	117.65	16.5	3.8	N Smithton Tas
9	0304	34.5	148.61	1.7	3.1	W Tennant Ck NT
18	0357	34.38	150.38	17.8	3.4	E Walgett NSW
21	0305	37.88	146.12	11.7	4.8	Parachilna SA Felt
22	1024	34.09	150.25	6.6	3.0	Yerranderie NSW
25	0606	26.49	151.43	3.9	3.9	N Dalby Qld
26	0034	22.14	115.37	5.7	3.2	SE Onslow WA
28	1533	35.43	115.94	17.9	4.6	SE Augusta WA
September						
13	0829	19.75	133.87	10.0	3.7	Near Wyalkatchem WA
14	0906	29.85	148.63	10.0	3.5	Wyalkatchem WA.
16	2318	31.39	138.52	32.5	3.1	Port Pirie SA.
October						
6	0239	36.07	136.11	10.0	4.2	W Kangaroo Is SA
9	2358	33.956	117.50	0.0	4.8	S of Katanning WA
24	0101	19.64	133.85	10.0	3.1	W Tennant Ck NT
25	0128	23.77	114.67	18.7	3.5	NE Carnarvon WA
29	1844	19.61	134.02	9.2	3.1	W Tennant Ck NT
30	1226	33.37	138.51	12.9	3.1	E Georgetown SA
November						
4	1219	23.84	114.86	15.0	4.0	NE Carnarvon WA
5	0636	22.04	129.50	0.8	3.2	NE L Mackay NT
5	0641	22.39	129.67	0.0	3.4	E Lake Mackay NT
7	1910	23.83	114.93	0.0	4.4	NE Carnarvon WA
8	0510	23.29	152.63	10.0	3.2	Gladstone Qld
13	0659	37.67	140.1	10.0	3.9	W Millicent SA
19	2001	12.34	143.73	24.4	4.8	SE C York
26	1005	30.13	123.72	1.7	3.3	NE of Kalgoorlie WA
27	0248	23.22	115.05	10.0	3.7	SW Towera WA
December						
1	2058	22.29	129.66	10.0	3.4	E L Mackay NT
12	0836	40.37	144.66	0.0	3.5	NW Smithton Tas
13	0529	12.54	122.82	15.0	3.8	Ashmore Reef WA
26	1536	32.09	138.38	16.4	4.7	S Hawker SA
January 2008						
18	0042	32.06	138.329	10.0	3.4	NE Port Augusta SA
19	1224	33.02	122.13	0.0	3.2	S Norseman WA
24	0321	38.7	144.50	9.7	3.4	SE Anglesea Vic
28	1537	22.68	113.87	7.2	3.1	SW Learmonth WA
February						
6	0646	13.4	129.64	6.7	4.2	166 km SW Darwin NT
12	0012	32.88	138.35	10.0	3.2	Booloroo Centre SA
13	2157	27.55	146.65	0.0	4.2	112 km NE Cunnamulla Qld
17	1148	38.51	141.02	10.9	3.1	S Mt Gambier SA
22	0258	19.1	123.53	2.1	3.1	SE Broome WA

Australian Earthquakes 1.08.2007 – 28.07.2008, M_≥3.0 (continued)

DATE	TIME UTC	LAT S	LON E	DEPTH KM	MAG	COMMENTS
March						
1	0024	36.15	144.678	10.0	3.7	SW Echuca Vic
9	0703	31.68	138.74	10.0	3.1	Pt Augusta SA
17	0656	25.97	137.43	10.0	3.7	Simpson Desert NT
18	0102	32.52	148.43	11.1	3.7	SW Dubbo NSW
19	0717	19.65	134.05	15.0	3.7	W Tennant Ck NT
20	0515	23.7	126.02	0.0	3.0	SW L Mackay WA
23	2000	33.42	138.31	10.0	3.5	Crystal Brook SA
24	1731	30.67	118.38	12.8	3.0	S Bonnie Rock WA
31	0827	27.67	112.33	17.7	4.4	SW Carnarvon WA
April						
2	0814	16.98	117.07	8.3	3.5	NW Pt Hedland WA
17	1822	18.71	122.52	10.0	3.2	S Broome WA
30	2111	30.21	141.62	0.0	3.6	N Broken Hill NSW
May						
3	2214	31.17	117.36	5.3	3.7	Near Wyalkatchem WA
7	0727	31.15	117.35	6.1	3.5	Wyalkatchem WA
12	1944	32.858	138.27	10.0	3.1	Pt Pirie SA
17	0036	30.12	116.97	0.0	3.4	NE Kalannie WA
17	1357	40.82	138.64	15.0	3.6	SW Mt Gambier SA
20	0825	23.36	129.619	0.0	3.6	SE Kintore NT
23	0916	36.39	149.82	2.4	3.1	W Bermagui NSW felt
28	0430	18.6	122.32	0.0	4.7	S Broome WA
28	0935	18.43	118.92	5.0	3.6	220km N Pt Hedland WA
29	0535	31.88	138.63	10.0	3.1	Pt Augusta SA felt
29	1005	31.62	138.53	10.0	3.1	Pt Augusta SA felt
June						
1	1214	24.21	113.51	10	3.1	N Carnarvon WA
9	0137	30.17	146.88	10.0	3.7	S Brewarrina NS
24	0702	38.74	140.61	10.0	3.5	Portland Vic
July						
1	0650	33.09	138.71	10.0	3.2	Mannanarie SA Felt
2	0240	30.74	121.47	0.0	3.3	N Kalgoorlie WA
9	2345	26.03	125.22	1.4	4.5	W Warburton WA
10	0005	26.03	125.32	9.2	3.6	W Warburton WA

This table shows the number of earthquakes of magnitude 3.0 or more in the Australian region from 1 August 2007 to 31 July 2008. The list was compiled using GA, ES&S, PIRSA, CQU and USGS data.

Restoration of a heritage-listed bridge in the ACT

After community consultation, the ACT government has changed its mind and decided to repair rather than replace the rotting timber-decked bridge spanning the Murrumbidgee River near Tharwa ACT. The Bridge is a four span Allan truss bridge (designed in 1894 by Percy Allan of the NSW Public Works Department). It was opened with much fanfare on 27 March 1895 and is the oldest surviving bridge in the Australian Capital Territory. The site where the bridge stands was apparently a traditional crossing point by Aboriginal people. Now it is a gateway, to Namadgi National Park for visitors from Canberra, and in the opposite direction, to Canberra for Tharwa residents.

The bridge is 181.5m long, its deck 12m above water level, higher than the highest recorded flood level prior to 1895. It has not yet been overtopped. The 100 year flood is predicted to be well above deck level, despite the upstream Tantangara Dam built in 1962 trapping some 50% of the once majestic river.



Tharwa Bridge, an iconic entrance to Namadgi National Park (photo Sabine Friedrich)

At construction time Allan Truss bridges attracted international interest because of their innovative design and the Tharwa Bridge is not only the oldest surviving Allan Truss bridge but also the only four-span Allan Truss bridge built in Australia. It has been nominated by Engineers Australia as a major engineering heritage structure.

One of the unknowns is the condition of its foundations, the concrete piers are underlain by timber piles through 5m of river sand, at least they were in 1895. According to Tony Gill, Director of Roads ACT, the design life of the refurbished bridge is 25 years and a risk analysis for flood and bushfire will be undertaken. The effects of earthquakes on the foundations will also be considered in the risk analysis. What, I wonder, would be an acceptable level of risk for such a structure? It is normally taken as 10% chance of exceedance for a *normal* building with an assumed lifetime of 50 years. Both the level of acceptable risk and the adopted lifetime are needed to compute a design earthquake (nearly 500 years for our example).

Major Earthquake Rocks Macquarie Island Region

www.chinaview.cn

2008-04-12 14:37:17

BEIJING, April 12 (Xinhua) -- An earthquake measuring 7.1 on the Richter scale jolted Australia's Macquarie Island region Saturday morning, according to China's Seismological Forecast Network.

The quake hit the region at 08:30 Beijing Time and the epicenter was initially determined to be 55.6 degrees south latitude and 158.4 degrees east longitude, according to the Chinese network.

There are no immediate reports of casualties or damages.

An earlier report by Xinhua's Wellington bureau said the U.S. Geological Survey also measured the quake at 7.1 magnitude and no tsunami warning has been issued by the Pacific Tsunami Warning Center.

The quake was centered beneath open ocean, 112 km southwest of Macquarie Island, and 755 km southwest of New Zealand's Auckland Island, according to the report.

From our Members (Michael Turnbull)

CQU registers with world earthquake peak body

Published on 01 May, 2008

Central Queensland University has welcomed its acceptance as a Foreign Affiliate Member (FAM) of the Incorporated Research Institutions for Seismology.. (IRIS).

It is now among a select group of only 3 Australian universities to be FAMS. The only other Australian universities on the membership list at <http://www.iris.edu/about/members.htm> are Australian National University and the University of Queensland.



Michael Turnbull

CQU Adjunct Research Fellow Mike Turnbull said that he and his research colleague, Adjunct Professor Kevin McCue, had started the application process more than a year ago.

Mr Turnbull is leader of the Central Queensland Seismology Research Group (CQSRG), based at Bundaberg Campus, and also a research assistant based at the Centre for Process Engineering and Light Metals (PELM) at Gladstone Campus. Professor McCue is Director, Australian Seismological Centre Pty Ltd, based in Canberra.

"CQU becoming a member attests to the national and international high standing in which the CQU seismology staffing and research output is held," Mr Turnbull said.

"The most immediate and obvious benefit that CQU receives from the membership is international accreditation of the seismology research being carried out through CQSRG, under the auspice of CQU.

"This recognition provides opportunities for collaborative research with numerous fellow member organisations throughout the world by providing an assurance of our credentials.

"The membership provides unrestricted access to the world's largest database of seismic data, and an unlimited and secure data archival repository, including free data management software.

"All seismic data created by CQSRG in the past and in the future can be transferred to the repository and kept secure for future research. That data can be recovered by all cooperating IRIS members, including CQU, at any time.

"The membership also provides CQSRG with competitive access to a huge warehouse of expensive and state-of-the-art seismology research instrumentation and other facilities."

Mr Turnbull said requirements for admission to IRIS were quite strict and included:

- * Examination of the applicant's qualifications and recent research output by the IRIS committee, which includes a panel of international experts.

- * Recommendations from current international and compatriot IRIS member organisations regarding suitable peer standing of the applicant organisation and its seismic research staff.

- * The acceptance by IRIS of a commitment by the applicant organisation to maintain the IRIS mission statement, to:

- Facilitate and conduct geophysical investigation of seismic sources and earth properties using seismic and geophysical methods.

- Promote exchange of geophysical data and knowledge, both through use of standards for network operations, data formats and exchange protocols, and through pursuing policies of free and unrestricted data access.

- Foster cooperation among IRIS members, affiliates and other organisations in order to advance geophysical research and convey benefits from geophysical progress to all of humanity.

From our Members (Col Lynam)

On the spatio-temporal distribution of M 7.0+ worldwide seismicity with a non-parametric statistics

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Abstract

The aim of this paper is to provide some constraints on the time behaviour of earthquake generation mechanism, through the usage of a non-parametric statistics that leads up to the empirical estimation of the hazard function. The results indicate that the most characterizing temporal feature for large (M 7.0+) worldwide shallow earthquake occurrence is a clustering lasting few years, indicating that the probability of earthquake occurrence is higher immediately after the occurrence of an event. After that, the process becomes almost time independent, as in a Poisson process. Remarkably, this time clustering is very similar to what previously found for different spatio-magnitude windows, and it does not seem to depend on the tectonic style of the region. This may support the hypothesis of an universal law for earthquake occurrence.

Keywords: Earthquake spatio-temporal distribution; World Wide Seismicity; Temporal cluster. Corresponding author. Istituto Nazionale di Geofisica e Vulcanologia Via di Vigna Nurata 605, 00143, Roma. Tel.: +39 06 51860608; fax: +39 06 51860507.

“QUAKELine”

MCEER (Buffalo Uni, USA) has upgraded its bibliographic database search engine “QUAKELine”. (see an explanatory tutorial on search processes on http://mceer.buffalo.edu/infoservice/QKLN_tutorial/tutorial.asp)

Industry partnership to meet increasing demand for geotechnical engineers

The University of Queensland has announced a \$1.5 million partnership with Golder Associates Pty Ltd to address skills shortages and research needs in the growing field of geotechnical engineering.

The five-year partnership with Golder Associates, a leading international ground engineering and environmental services consultancy, will increase the number of UQ graduates specialising in geotechnical engineering and promote applied research in geomechanics to meet industry needs.

The partnership will see the appointment of Professor David Williams to the Golder Chair in Geomechanics, and the creation of a new Golder Geomechanics Centre.

Geomechanics is the study of the behaviour of soil and rock that underpins the branch of engineering known as geotechnical engineering, which is vital to the design and delivery of civil infrastructure and mining development. It combines the disciplines of soil mechanics, rock mechanics and engineering geology.

Professor Williams, who has a long-established research and teaching career at UQ, will take on the role of Director of the Centre, which will conduct undergraduate teaching and cutting-edge research in the geomechanics field.

Executive Dean of UQ's Faculty of Engineering, Physical Sciences and Architecture Professor Stephen Walker welcomed the partnership and said it would ensure quality outcomes for both organisations and industry in general.

“The UQ-Golder partnership will greatly expand the University's capacity to provide industry with graduates specialising in geomechanics, and research outcomes that will in turn support the unprecedented level of development at the local, national and international scales,” Professor Walker said.

Engineers with geomechanics knowledge will play an ever-increasing role as growing populations force new development onto less stable ground such as low-lying, soft estuarine deposits, onto challenging topographies, and beneath cities in the form of transportation tunnels and underground space.

As mining activity continues to expand, engineers skilled in geomechanics will be required to meet the challenges of ever-deeper open pits and underground operations, in high stress environments, and the management of escalating mining and processing wastes and mine site rehabilitation.

Managing Director of Golder Associates, Mr Darren Watt, said that it was up to industry and consultancies to take the initiative to increase the number of graduates specialising in geomechanics and promote research to the levels needed in today's economy.

“As a leading provider of geotechnical engineering, the future of our business depends on attracting graduates with a strong interest in geotechnical engineering and a good understanding of the fundamentals of geomechanics,” Mr Watt said.

“Through funding the Centre and via active participation in undergraduate teaching and research, we hope to assist the University to build a centre that is recognised for its excellence in geomechanics teaching and research,” he said.

Professor Williams said that his appointment was a fantastic opportunity and a privilege, and that he looked forward to providing academic leadership in geomechanics teaching, research and service. “This will give me an opportunity to make a difference and give something back in the growing area of geomechanics,” Professor Williams said.

The UQ-Golder initiative will provide for additional academic and post-doctoral appointments, broadening the University's geomechanics capability, as well as undergraduate and postgraduate scholarships.

The new Golder Geomechanics Centre will work closely with existing geomechanics academics within Mining Engineering and Earth Sciences and within the Sustainable Minerals Institute at the University.

Further information:

UQ: Professor David Williams, Ph: (07) 3365 3642 or email d.williams@uq.edu.au or Kim Jensen, School of Engineering, Ph: (07) 3346 9976 or email k.jensen@uq.edu.au.

Golder: Scott Fidler, Principal, Ph: (07) 3721 5400 or email or Sally Wilkes, National Communications Coordinator, Ph: (07) 3721 5404 or email: swilkes@golder.com.au.

Obituary – Father Laurie Drake

Col writes: “Father (Dr) Laurie Drake was the last Jesuit Seismologist at Riverview Observatory, Sydney and a Senior Lecturer at Macquarie University. He retired to the San Calixto Observatory at La Paz Bolivia becoming that Observatory's third director in 1993. Ill health forced his return to Australia where he died on 28 April 2007. He was a geophysical advisor to a number of important global Jesuit seismograph observatories. Riverview Observatory was established in 1909 and was important for capturing the early seismological data for Australian Earthquakes and larger global events.

The author of the Obituary (in Seismological Research Letters Vol 178, No 3, May/June 2007,(Seismological Society of America)) Fr Augustin Udias, has just published an interesting book on the involvement of the Jesuits in global observatory science, which can be reviewed on <http://www.buchhandel.de/detailansicht.aspx?isbn=978-1-4020-1189-4>

A Colleague worthy of our thoughts.”

\$15M grant the hot ticket to pollution-free energy

Harnessing an untapped energy source which has the capacity to power Australia for 6000 years will be the focus of a new centre at The University of Queensland (UQ).

Queensland Premier Anna Bligh has announced a \$15 million five-year contribution to a new research and development centre for “hot rocks” - the Queensland Geothermal Energy Centre of Excellence.

Welcoming the announcement, UQ Senior Deputy Vice-Chancellor, [Professor Paul Greenfield](#), said it could lead to abundant zero-emission baseload electricity. “Geothermal energy has unique potential in that it creates no greenhouse gas and could be a reliable source of baseload power, so it will satisfy industry, householders and the growing demand for “green” energy,” Professor Greenfield said.

“It will become cost-competitive when the expense of mitigating greenhouse gas emissions from fossil fuels is factored in. “This energy source is often called “hot rocks” because it is based on fractured granites, heated to up to 250°C, which are at least 3km below the Earth's surface,” Professor Greenfield said.

UQ Deputy Vice-Chancellor (Research), [Professor David Siddle](#), said: “The Cooper and Eromanga Basins beneath Queensland and South Australia are believed to be among the best and hottest in the world, and hold enough water to supply the needs of a hot rocks power plant, without depleting the natural aquifer.”

Queensland's geothermal energy resource is equivalent to that needed to supply Australia's current demands for 6000 years. “In the shorter term, we estimate that 4000MW of geothermal power could be generated by 2030 without any carbon dioxide emissions,” Professor Siddle said.

There would be three main steps to the process:

- Water would be forced downwards through natural rock fractures, where it would be heated and then rise through other fractures to above-ground heat exchangers;
- The heat exchangers would heat a working fluid to drive a turbine-generator set, to produce electricity with no greenhouse emissions;
- Meanwhile, the water which had been thrust to the surface by the hot rocks would be recycled back into the earth to be reheated, forming a closed water circuit.

Professor Greenfield said that the centre of excellence was an investment in research and development, as well as in the expansion of technical expertise. "We need these investments to make large-scale geothermal power generation a sustainable reality," he said. "Ideally geothermal should become part of a mix of energy sources which would include clean coal and gas, and established renewables."

In addition to the \$15 million from the Queensland Government, UQ will provide in-kind contributions valued at \$3.28 million over five years and a further \$2.05 million will be raised from external sponsors. The centre will be the biggest of its type in the nation and will make Queensland and Australia a leading technology provider in the growing geothermal energy sector, through research and development. UQ will work with institutions in the USA – where Massachusetts Institute of Technology (MIT) will be a partner – and Iceland, as well as relevant Australian collaborators.

Brisbane-based company, Geodynamics Ltd, is one of about 16 companies active in geothermal power generation in Australia. Geodynamics Ltd initiated Australia's first underground heat exchanger in the Cooper Basin in late 2002.

Professor Greenfield said the new centre would not have been possible without expertise provided by UQ researchers including Professor Hal Gurgenci (School of Engineering); Professor Victor Rudolph (School of Engineering); Professor Max Lu (Australian Institute for Bioengineering and Nanotechnology); and Professor Tapan Saha (School of Information Technology and Electrical Engineering).

Media inquiries: Fiona Kennedy (07 3365 1088, 0413 380 012 fiona.kennedy@uq.edu.au).

Know your Earthquake Engineer/Seismologist

Can you put a name to these faces?? And more importantly..... what's with all the empty glasses?!
(Answers on back page)



Other Conferences

1st Southern Hemisphere International Rock Mechanics Symposium

Date: September 2008
Venue: Perth
Website: www.acg.uwa.edu.au/_data/page/2168/ShirmsFlyer3.pdf

The Australian Centre for Geomechanics will present the 1st Southern Hemisphere International Rock Mechanics Symposium in Perth in September 2008. Following the model of "NARMS" (North American Rock Mechanic Symposium) recently re-badged the "Canada US Rock Mechanic Symposium", the ACG aims to create a similar forum in our part of the world, involving the very active South American, South African, Asian and Australian Rock Mechanics communities.

NZ Geotechnical Society Geotechnical Symposium 2008

Date: 4-5 September, 2008
Venue: Auckland, New Zealand
Website: www.nzgeotechsoc.org.nz/2008-Symposium.cfm

The theme for this Symposium is "Soil-Structure Interaction – From Rules of thumb to Reality". The objective of this conference is to allow geotechnical practitioners the opportunity to keep abreast with the latest in soil-structure interaction. Soil-structure interaction covers a wide field and

for this reason, the program will be divided into 8 areas.

Professor John Atkinson of City University, London will be the Keynote Speaker and a one-day pre-conference workshop on "Seismic Design" is planned. This follows on from the 2006 NZGS Symposium on "Earthquakes and Urban Development" and the findings of the NZGS sub-committee looking into seismic design.

For further information please visit the website.

The 14th World Conference of Earthquake Engineering, 2008

Date: 12-17 October, 2008
Venue: Beijing
Website: www.14wcee.org
Email: asec2008@meetingplanners.com.au

This is an event of the International Association of Earthquake Engineering (IAEE) For further details please visit their website.

International Conference on Performance-Based Design in Earthquake Geotechnical Engineering

Date: 15-17 June, 2009
Venue: Tokyo, Japan
Website: www.comp.tmu.ac.jp/IS-Tokyo/
Email: ytsoil@rs.noda.tus.ac.jp

This conference will cover a range of topics associated with performance-based design in earthquake geotechnical engineering.

Answers

The famous faces from our picture are:

L-R: Ian Ripper, Sonja Lenz, Dianne Ripper, Kevin McCue, Russell Cuthbertson and Col Lynam.

And, in answer to the question as to why so many empty glasses, Kevin McCue tells us it must have been his shout!!

If any members have any interesting photos or articles they would like to have included in future newsletters please contact Sharon at email srj@bigpond.net.au or via the AEES postal address.

Seismicity of Australia, August 2007 to July 2008. Provided by Dr Clive Collins, Geoscience Australia.

