

AEES 2009

Australian Earthquake Engineering Society Conference

11-13 December 2009

Crowne Plaza Hotel
Newcastle, NSW, Australia



WELCOME

The local organising committee looks forward to welcoming you to Newcastle to attend the 2009 Australian Earthquake Engineering Society Conference. The conference will be held at the Crowne Plaza Hotel over three half-days (Friday afternoon, Saturday and Sunday mornings). There will be conference dinners on both Friday evening (at the Maritime Centre) and Saturday evening (at the Newcastle Club). The AEES AGM will be held during the conference also.

This year we are marking the 20th anniversary of the 1989 Newcastle earthquake and the theme for the conference is "Newcastle Earthquake – 20 Years On". In addition to papers related to aspects of the 1989 Newcastle earthquake, we have also received in excess of 60 papers related to earthquake engineering, engineering seismology and the related extreme event topics including blast, tsunami, critical infrastructure protection, disaster response, emergency management and insurance.

Our keynote speakers this year are:

Dr John Adams	Geological Survey of Canada, Natural Resources Canada
Mr Rod Caldwell	Engineering Heritage Australia, Newcastle
Prof Rob Melchers	University of Newcastle
Dr Paul Somerville	URS Corporation, Risk Frontiers-Macquarie University, Sydney
Dr Mark Stirling	GNS Science – New Zealand

We will have 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 delegates and will be asked to attend their poster during breaks. All abstracts will be published in the conference proceedings and full papers will be provided to each participant on CD.

We look forward to seeing you in Newcastle!

Kevin McCue, AEES President

KEYNOTE SPEAKERS

Dr John Adams - Geological Survey of Canada, Natural Resources Canada

John has been employed by the Geological Survey of Canada for 28 years, and has been involved with all aspects of the earthquake program, from running field aftershock surveys to creating national seismic hazard maps and participating in post-earthquake engineering reconnaissance visits. Johns' research interests include the seismotectonics of Canadian earthquakes, evidence for paleo-earthquakes, and the crustal stresses driving the neotectonics and geomorphology, and how these can, and can not, be used for improving seismic hazard estimates.

John has been the lead seismologist in the development of the seismic hazard maps used in the latest edition of the National Building Code of Canada. In addition, he provides general advice on seismic hazards, participation in the Canadian Standing Committee on Earthquake Design for input into the earthquake provisions of the next building code, and participation in various Canadian Standards Association committees dealing with earthquake provisions to critical structures such as nuclear power plants. He is involved with the regulatory assessment of seismic hazard reports for important facilities, such as nuclear power plants, LNG plants, dams, and pipelines, and has completed screening analyses for Canadian embassies abroad. John is currently treasurer of the Canadian Association for Earthquake Engineering.

Mr Rod Caldwell – Engineering Heritage Australia, Newcastle

Rod gained professional qualifications in Science and Engineering (Electrical) at Sydney University. After several years industrial experience, he was selected to carry out research into the high voltage behaviour of electrical insulation at the University of Queensland, gaining a Masters degree in Engineering Science.

This experience began a 35-year career as an engineer/manager in the electricity supply industry. The peak of this career was reached in the role of senior engineer with responsibility for the supply of bulk electricity & development of the NSW electricity HV grid in the northern half of NSW from 1987 until 1996. Throughout this career he carried out research on the development of high voltage earthing equipment as a member, and Chairman for many years, of TransGrid's HV Safety Equipment Committee.

In 1986 he changed career course to pursue his love of heritage and became CEO of the Hunter Wetlands Centre, based in Newcastle. Taking a more industrial direction, he subsequently took up the position of Curator of the Fort Scratchley Historical Society in Newcastle. His engineering background facilitated the winning of grants for restoration of armaments and fortress equipment at this heritage place over a period of six years. He continued to assist both these and other community/heritage groups as advisor, including membership of Sydney's North Head Quarantine Station Consultative Committee.

In 2000 he won a Britain-Australian Bicentennial Fellowship for the study of heritage at the prestigious Ironbridge Gorge Institute and subsequently gained an MA in Heritage Management from Birmingham University.

More recently, he rejoined Engineers Australia and has become Chairman of Engineering Heritage (Newcastle). He is a member of the Board of Engineering Heritage Australia and contributes his experience in industrial heritage interpretation to the Board's Engineering Heritage Recognition Committee.

KEYNOTE SPEAKERS

Prof Rob Melchers – The University of Newcastle

Rob has held the Chair of Civil Engineering at The University of Newcastle, Australia since 1986. He is a Fellow of the Australian Academy of Technological Sciences and Engineering, Fellow, Institution of Engineers, Australia and Fellow, Institution of Civil Engineers, London. In late 2008 he was awarded a second 5-year Australian Research Council Professorial Fellowship. In 2003 and 2007 he held an EPSRC Visiting Research Fellowship to the UK.

He was the Task Force leader for the IEAust Report to the NSW government on implications for building regulations following the Newcastle earthquake. He is a member of the Nuclear Safety Committee, Australian Radiation Protection and Nuclear Safety Authority (Federal Government regulator) and has been involved in risk analyses for the OPAL reactor, the Collins Class submarines, the High-Voltage cable between Victoria and Tasmania, the Sorell bridge in Tasmania and for the liquefied petroleum gas industry.

Rob is the editor of the Australian Journal of Structural Engineering and on the editorial board of seven international journals, author of the text *Structural Reliability Analysis and Prediction* (1986, 1999) and co-author of several others. He has authored over 400 refereed journal and conference papers. He has been awarded a number of research awards and given more than 20 keynote lectures. His main research interests are structural engineering risk and reliability analyses, risk-based decision-making, and deterioration modelling focussing on steel corrosion in marine environments.

Dr Paul Somerville – URS Corporation, Risk Frontiers-Macquarie University, Sydney

Dr Somerville is Principal Engineering Seismologist, URS Corporation, and Deputy Director, Risk Frontiers, Macquarie University, Sydney. His current interests include seismic hazard analysis, developing earthquake source models for strong ground motion simulation, developing earthquake ground motion prediction models based on strong ground motion simulation, earthquake loss modeling, and earthquake forecasting.

Dr Mark Stirling – GNS Science, New Zealand

Dr Stirling is New Zealand's leading scientist in multi disciplinary seismic hazard analysis. His work includes leading the development of the national seismic hazard model for New Zealand, and numerous seismic hazard studies nationally and internationally. He for instance had a key role in the most recent seismic hazard analysis of the Lucas Heights research nuclear reactor. His particular interests are in developing methods to validate seismic hazard models for long return periods (e.g. Yucca Mountain). He obtained his undergraduate and masters degrees from the University of Otago, and his PhD from the University of Nevada.

SOCIAL EVENTS

Friday 11 December – The Maritime Centre



The Newcastle Maritime Museum was established in the 1970's by the Newcastle Maritime Museum Society. They say that from the beginning of spoken time, storytellers have celebrated the past and shared it with others and that when storytellers become collectors, museums are born. Newcastle is a community which has been shaped by its relationship with the port and coast and the Society wanted to see that the stories around this were not lost.

The Maritime Centre and its stunning surrounds promises to provide a wonderful backdrop for our dinner.

We have been extremely fortunate in obtaining the services of Mr Murray Flannigan to provide a wine tasting for us during the evening. Murray is the very popular, long serving cellar door manager at Tyrrell's in the Hunter Valley. He is described by Tyrrell's as the most "senior cellar-door salesperson in the country" and as Bruce Tyrrell states "he is personable, memorable, likeable. He has the knack for taking people who like a glass of wine and turning them into someone who has a burning passion for wine".

So come along and be entertained by this charismatic Scotsman whilst sampling the best Tyrrells has to offer together with some wonderful canapes from locally renowned Feast Catering.

Saturday 12 December – The Newcastle Club

Arguably Newcastle's finest venue, established in 1885, The Newcastle Club is an oasis in the middle of Newcastle which offers a unique opportunity to experience old world hospitality in an atmosphere of sophisticated elegance. The Club is situated in the heart of Newcastle yet still affords beautiful views across Newcastle Harbour. Whilst it is a private club, the doors will be opening to the AEES and its members for what promises to be an evening to remember. So dress up and come wine and dine in style....

COMMUNITY FORUM

A community forum will be held on the theme 'Newcastle Earthquake, 20 years on' in the Christ Church Cathedral, the building subject to the largest earthquake retrofit job in Australia, at 3.30pm on the Saturday afternoon. We are delighted that Professor Trevor Waring, Chancellor of Newcastle University, has agreed to act as the moderator for the forum. There will be a panel of experts discussing the impact of the earthquake on Newcastle and the surrounding region and taking questions from the audience.

Following the forum there will be a presentation describing the conservation and restoration of the church. There will also be a 20 year commemorative community service. The Cathedral is located next door to the Newcastle Club, so those who would like to attend both the forum and the community service can then proceed straight to the Club for dinner.

TRAVEL & ACCOMMODATION

Newcastle is a city that reaches out to the sea. It is bounded by pristine beaches and an active working harbour. A 2 hour drive north of Sydney, Newcastle is accessible via car, rail, air or bus. Newcastle Airport is located 30 minutes from Newcastle city centre and receives direct flights from Melbourne, Brisbane, Sydney, Norfolk Island, the Gold Coast and Canberra. Flights from all other international and national cities arrive into Sydney airport.

We have negotiated special AEES Conference rates at the following properties and encourage you to book early! (see registration form for rates)

Crowne Plaza (also the conference venue)

Cnr Merewether Street & Wharf Road, Newcastle

Tel. 02 4907 5058 Fax. 02 4907 5080 www.crowneplaza.com.au



Quest Apartments Newcastle

575 Hunter Street, Newcastle

Tel. 02 4928 8000 Fax. 02 4927 8441 www.questnewcastle.com.au



The Travelodge

12 Steel Street, Newcastle

Tel. 02 4926 3777 Fax. 02 4926 4379

Ibis Newcastle

700 Hunter Street

Street, Newcastle

Tel. 02 4925 2266 Fax. 02 4925 3377

Quality Hotel Apollo International

290 Pacific Highway, Charlestown

Tel. 02 4943 6733 Fax 02 4942 1149

Quality Hotel Noah's On The Beach

Cnr Shortland Esplanade & Zaara

Tel. 02 4929 5181 Fax 01 4926 5208