



The Australasian Wind Engineer

www.awes.org

Welcome Wind Engineers to the August 2009 edition of the AWES Newsletter.

Some of our members have recently attended conferences abroad such as 11ACWE and EACWE5, and David Henderson and Chris Letchford have filled us in on all the details.

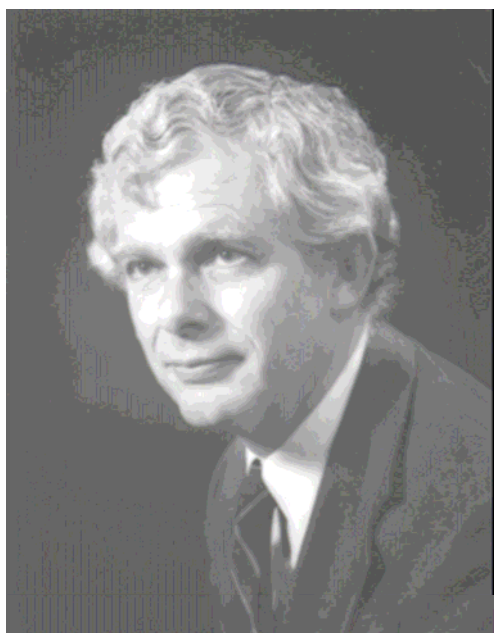
The HFFB Benchmark working group, setup following ICWE12 (which two of our members are on the committee, namely John Holmes as Director and Tim Tse as Secretary) has now commenced, and John has provided details of this study.

Following some significant storms in November 2008 the Cyclone Testing station at JCU have put together an interesting report on these events and the subsequent damage caused.

The minutes of the most recent AWES meeting (from December 2008) have also been published, and member's feedback on a number of items is most welcome.

Finally, it is with great sadness that a number of articles about two great wind engineers that have passed away recently, namely Alan. G. Davenport and Tom Lawson, are also included. George Walker has kindly written tribute to his close friend Alan.

Editor: Leighton Aurelius BMT Fluid Mechanics
Email: newsletter@awes.org



Alan. G. Davenport



Tom Lawson

Alan. G. Davenport and Tom Lawson, both pioneers in the field of wind engineering who passed away this year.



AWES Minutes

See below the minutes of the most recent AWES meeting held at University of Tasmania in Hobart on 5th of December, 2008.

1. Attendance & Apologies

Attending: C. Arthur, Leighton Aurelius, Peter Bourke, Paul Carpenter, Bob Cechet, Mick Chay, John Cheung, Michael Eaddy, John Ginger, Kenny Kwok, Chris Letchford, Matthew Mason, Leo Noicos, Peter Russell, Augusto Sanabria, Katrina Swalwell

Apologies: Mark Edwards, David Henderson, John Holmes, John Mores, George Walker

2. Minutes from previous meeting (January 30, 2008) accepted.

3. Business arising from minutes

- AWES meeting every 18 months. Winter works well or February (not December).
- Successful joint meeting with AMOS (15th AMOS/AWES, Geelong, 2008). AWES happy to hold another such meeting. Positive feedback from AMOS. Next annual AMOS meeting 2010.

4. Treasurer's Report

Assets Statement (Does not include all Hobart expenses or receipts \$7K sidelined for printing expenses from Geelong AMOS/AWES)

Current Assets	As at Jan 2008	As of Dec 2008
Term Deposits	\$75,953.47	\$80,751.93
Cheque Account (Melb)	\$4,860.29	\$5,862.03
Cheque Account (Syd)	\$5,263.18	\$14,479.79
Total Assets	\$86,076.94	\$101,093.75

Non-Current Assets (Shares)	Purchase	As at Jan 2008	As of Dec 2008
BHP Billiton (620)	\$4,835.88	\$24,000.20	\$18,538.00
Telstra (600)	\$3,956.99	\$2,748.00	\$2,430.00

5. Ideas for the society future

- Grow membership (currently ~50)
- Facilitate professional development courses – suggestion of holding in conjunction with workshop
- Society to examine developing a commentary for AS/NZS 1170.2 for SAA. Could use some financial reserves to facilitate this. Note there is pressure to change code earlier than standard due to concerns with climate change. Developing over next period for standard revision.
- Should we wish to bid for 8th Asia-Pacific Conference on Wind Engineering in mid 2013 the bid needs to be made by November 2009. (*Members views are welcome*)
- Canvassing views re: shares – is this appropriate for an engineering society. (*Members views are welcome*)
- Canvassing option of part of Engineers Australia. Will seek feedback from members. (*Members views are welcome*)
- Society to examine producing a commentary for the new edition of AS/NZW 1170.2 and using financial reserves to compensate contributors. (Note pressure to

update the code more regularly due to climate change)

- Target undergraduate students for new memberships
 - Vacation studentships
 - Potential topics for final year projects to be emailed to Chris Letchford who will email to other academics
 - Structural engineering should be more important in the society (and can be source of new members).
6. Amendment to constitution change “postal voting” to “email voting” unanimously carried.
 7. Proposal to carry out pressure calibration of dynes anemometers for gust wind speeds is waiting for confirmation of funding from the federal government.
 8. Next workshop to be hosted by Bob Cechet and Mark Edwards of Geoscience Australia at Canberra/Thredbo in June 2010.
 9. Paul Carpenter co-opted member of committee.
 10. Formal thanks for Chris Letchford for organising hosting the 2008 workshop.

HFFB Benchmark Study

Contributor: John Holmes

At an informal meeting held at the 12th International Conference on Wind Engineering (Cairns, Australia, July 2007), it was agreed that an International HFBB Comparison project should be initiated. One or more model tall buildings would be defined, and various participating laboratories would carry out the tests and subsequently present results for comparison. Laboratories would not be explicitly named in any reporting of the study.

In 2007-8 a working group agreed to a final set of specification for the study. To suit the range of

participants from newcomers to experienced laboratories, two buildings have been specified:

- An ‘advanced’ building specification for more experienced laboratories, denoted as **Building A**.
- A ‘basic’ test building intended primarily for as a benchmark for newer laboratories, denoted as **Building B**.

Although both buildings have a relatively simple geometry with rectangular cross-sections, the basic building has simple well-separated frequencies with linear mode shapes and uncoupled modes. The ‘advanced’ building has more complex coupled modes, with twist components.

When will the study take place?

The study started in early 2009. Results from participating groups should be submitted by 31st December 2010. The summary of the results and comparisons will be presented at the 13th International Conference on Wind Engineering (Netherlands) in 2011. The results may be later be published in a journal paper

Who is eligible to participate?

Any wind-tunnel laboratory group, or group with access to a suitable wind tunnel, may participate. Different groups from the same organization are free to participate as separate groups, or jointly as a single organization. However, all participating groups should register with the steering committee.

Where can I find the details of the study?

The details will shortly be posted on the web site of the International Association of Wind Engineering (www.iawe.org). They can also be obtained directly from Dr. Tim Tse (contact details are given below).

Who should we contact to register?

The contact person is:

Dr. Tim Tse,
Dept. of Building and Construction,
City University of Hong Kong,
Tat Chee Road, Kowloon, Hong Kong.
timtse@cityu.edu.hk
Phone : + 852-21942747
FAX + 852-27887612



Specification working group and steering committee:

Dr. John Holmes, JDH Consulting, Australia (Chair)
 Dr. Tim Tse, City University, Hong Kong, (Secretary)
 Dr. Eric Ho, University of Western Ontario, Canada
 Dr. Darryl Boggs, Cermak, Peterka and Petersen, United States

Other participating members:

Professor Yukio Tamura, Tokyo Polytechnic University and President IAWE
 Professor Kenny Kwok, University of Western Sydney, Australia
 Dr. Jiming Xie, Rowan Williams, Davies and Irwin, Canada
 Professor Richard Flay, University of Auckland, New Zealand

The study is supported by the International Association for Wind Engineering (IAWE).

Investigation of Performance of Housing in Brisbane Following Storms on 16 and 19 November 2008

Contributor: Cyclone Testing Station, JCU

The Bureau of Meteorology recorded a significant level of storm activity in the South-East part of Queensland during the period 16 to 20 November 2008. These storms caused damage to housing in many parts of Brisbane. Teams from the CTS conducted surveys of housing damage in The Gap and Redbank Plains from the 16 November storm, and in Paddington from the 19 November storm. The peak gust wind speed for both events were estimated to be less than the current design wind speed for Brisbane.

Street surveys performed on a sample of 97 houses in The Gap indicated that Post 1980 houses built after the introduction of the Queensland Government's "Appendix 4 to the Standard Building By-Laws (1975-1984)" performed better than Pre 1980 houses built earlier.

The most common types of damage observed were:

- A significant amount of damage was caused by falling trees.
- Water ingress, either through failed doors or windows, or very often water penetration

caused by differential pressure across doors or windows that had not failed.

- Water ingress through intact unsarked tiled roofs in Redbank Plains.
- Inadequate tie-down, with connection details that were not in accordance with AS1684.2.
- Flying debris breaking windward windows or doors causing a sudden increase in internal pressure, sometimes leading to subsequent failure.
- Some cases of windows or doors not being adequately fixed to their supporting structural members and allowing the complete door or window to fail.
- Reports of failures to skylights, either from hail or wind or a combination of both.

Based on the observations and analysis of this damage investigation, the main report recommendations include the following:

- Initiatives to better enable ground level wind speeds to be measured in extreme events
- Review the factors used to determine design wind speeds in AS4055 to be consistent with AS/NZS1170.2.
- Review AS 2047 to consider increasing the differential pressure limit across windows/doors at which they must remain water tight and to specify suitable fixing details to the supporting structure that are strong enough to resist the design wind loads.
- Investigate the need for requiring housing in non-cyclone areas be designed for higher internal pressure, unless the windows and doors are capable of resisting the applied wind loads and an appropriate level of flying debris impact loading..
- Review AS/NZS 4505 to ensure that design and installation specifications for garage doors are adequate.

The report also recommends that the BCA be reviewed to investigate possible amendments to the following areas:

- Weatherproofing requirements so as to minimize the loss of amenity caused by water penetration through windows and doors.
- Include appropriate requirements for roof lights to resist both wind and hail loading.
- Specify that tile roofs constructed in all wind areas be required to have sarking installed.

Finally the report recommends a study to investigate the extent of housing connection details not being constructed in accordance with the relevant standards.



AWES Welcomes new Wind Engineer to Sydney University

Dr. Steve Cochard has recently joined the School of Civil Engineering at Sydney University as a Lecturer as well as being in charge of the boundary layer wind tunnel.

The AWES welcomes him to our part of the world and wishes him all the best in this role.

Conference Report: 11ACWE

Contributor: David Henderson

The 11th Americas Conference on Wind Engineering was held in San Juan in Puerto Rico in June. The conference ran three streams, and unlike past experience, there was a plethora of papers (enough for two parallel streams) over the three days on low rise buildings, vulnerability, damage investigations, boundary layer investigations, full scale loading of housing components, water ingress, wind driven debris and less on high rise building dynamics, vibration of cable stays and CFD. From my obviously biased point of view, the conference was quite relevant to research, design and codification areas of interest here in (northern) Australia. Some of the highlights of the sessions I found myself in are reported here.

The opening keynote talk by Mark Powell, presented a strong case for the scrapping of the current Hurricane classification system and moving to a scale based on the integrated kinetic energy of the storm. He proposed the classification of a cyclone would be based on the integration of its wind field over an area and not just on the estimated peak wind speed. Therefore the scale would incorporate diameter, surge, wave, and duration.

Peter Irwin, another keynote speaker, presented his views on the research needs of the wind engineering community. Of his many valid points he went into some detail on requiring better interpretation of wind tunnel tests on Reynolds number sensitive building shapes and a need to re-examine traditional boundary layer assumptions and to simulate more wind phenomena such as thunderstorm downbursts.

Several papers were presented on aspects of boundary profiles in cyclones, thunderstorms and tornados. They ranged from numerical and wind tunnel simulations through to field measurements.

Forrest Masters introduced the Digital Hurricane Consortium with its goal of coordinating in-field data acquisition, from diverse teams (eg UF, TTU, LSU etc), of land falling hurricanes and being able to in real time provide useful information to government disaster mitigation agencies as well as use the data for research.

In determining site-specific design wind speeds from meteorological records, Melissa Burton presented a method and analysis of anemometer records. She highlighted the problems associated with not knowing the anemometer type and exposure characteristics, or the averaging time of the wind speeds, and carrying out an assessment using only one meteorological site, and the associated alarming variations in a design wind speed.

A comparison of wind driven rain (WDR) loading parameters (intensity hitting building facade) derived from both empirical studies and CFD was presented by Bert Blocken. He showed the European Standard Draft for WDR assessment underestimated the WDR intensity for the corners of buildings, which was mainly due to the Standard neglecting the buildings width.

The analysis and full scale loading of buildings and components was well represented with papers from UWO, UF, Concordia, UA, Tokyo Poly, (and of course JCU). Eri Iizumi (UWO) presented a detailed study on the fluctuating wind loading of glass with the recommendations to the design of glass for buildings. Zhuzhao Liu (IBHS and UF) amazed us all with details of the full scale wind tunnel capable of subjecting two storey structures to hurricane winds, wind driven rain and hail. The facility is scheduled to commence in 2010.

One of the conference discussion panels presented proposed revisions to ASCE7-10. These included;

- A re-evaluation of hurricane design wind speeds with the current research indicating current design winds speeds were generally conservative,
- Provisions for terrain roughness to be classified by using GIS data, images from Google Maps, etc, and
- Tighter limits on reductions in design pressures derived from wind tunnel tests.

The panellists noted that there were criticisms of the proposed standard still not having enough building shapes and only having limited wind driven debris criteria.



All sessions seemed well attended even though Puerto Rico turned on perfect weather with clear skies, a flat blue ocean, warm weather and the conference satchels included several small bottles of flavoured rums.

Although our hosts, Rolando Vega and Hector Cruzado, were somewhat apologetic for having to suggest taking more than the usual care with personal property while sight seeing and exploring San Juan they also added where not to go and to travel in groups of three or more... Well with the conference camaraderie and convivial atmosphere it was certainly a pleasure to be in groups of three or more.

I would like to thank AWES for providing a \$2000 student travel stipend to help me attend 11ACWE.



David Henderson, Chris Letchford and John Holmes at 11ACWE

Conference Report: 5EACWE

Contributor: Chris Letchford

Chris Letchford was invited to give a keynote lecture at the 5th European and African Conference on Wind Engineering held in Florence, Italy from July 19-23, 2009. Having been allocated the theme, Wind and the Environment, Chris chose to speak on “*Wind, Waves and Surface Drag*” based on the work of recent PhD students, Dejiang Chen and Brian Zachry at Texas Tech University. Other keynote themes were Wind and Tall Buildings: Yukio Tamura, Wind and Risk: Emil Simiu, Wind and Comfort, Ted Stathopoulos and perhaps the most entertaining Wind and Music from Udo Peil. Udo certainly had the audience captivated with demonstrations that involved modulated flames in a long vented tube! Needless to say the

Conference Chair had to arrange a special lecture theatre at the University of Florence’s Prato Campus for Udo.

123 papers were presented over the 3.5 day conference with a new twist on generic wind tunnel testing CAARC project of many years ago being: BARC = Benchmark on the Aerodynamics of a Rectangular 5:1 Cylinder. This project seems to be a largely European initiative. The highlight of the conference was the outdoors dinner in a medieval Medici palace, cum monastery, cum private girl’s school and the gasp from the audience as the da Vinci-like helium inflated lighted balloons rose from behind the garden terrace wall to light the evening’s activities was magical. Well done Claudio Borri and his organizers for a memorable Wind Engineering Conference and venue.

In a wonderful historical twist the 5th conference in the home of Galileo in the 400th year since his telescopic discoveries of the moons of Jupiter will be followed by the 6th EACWE in Cambridge, England, the home of Sir Isaac Newton in 2013. Good luck to John Owen from Nottingham University who will organize the event, which will also commemorate the 50th anniversary of the first international conference on wind engineering, held at Teddington, England in 1963.



Tom Lawson: 1925 – 2009.

A “reminiscence” by Nicholas Cook

My direct interaction with Tom Lawson in the Aero department at Bristol University lasted just 6 years – my final undergraduate year, three years as his PhD student and two as his research assistant. The first thing he ever said to me was

'my name is not "sir", its Tom'. Looking back, I find it hard to believe how lucky I was and that so much happened from 1966 to 1973.

I'm not sure when Tom's interest in industrial aerodynamics started but, together with Alan Simpson, he introduced an industrial aerodynamics option into the 1996-7 third year Aero course. Tom had already solved the problem of the Re-transition galloping of the Severn Crossing power line and Alan was working on the twin-conductor galloping problem for CEGB. My 3rd year project was to determine the lift and drag coefficients of each conductor of the pair, for various spacings and angles, and Tom was my supervisor. Then Tom organised a PhD project funded by the CEGB research labs at Leatherhead and set me to work investigating the effect of turbulence scale on the flow around tall buildings. Then, as his research assistant, I worked on ABL simulation development in short wind tunnels. Finally, I worked directly for him on consultancy contracts, the last being the redevelopment of Victoria Street. I remember the Westminster Council representative withdrawing his objection to a particularly windy spot when Tom demonstrated it was caused by the Council's own tower block on the opposite side of the street. Even now, walking down Victoria Street, I sometimes imagine that a huge hot-wire probe might descend from the clouds.

Tom established a relationship with the Department of Architecture, which led him to advise architects on environmental winds and master-planning. He wrote technical notes for the Architects Journal. When the Department of Architecture decided it was time to hold a course for architects and advertised this as "Some aspects of the built environment" it attracted only 4 enquiries, well short of the 20 or so needed to break even. Tom took over, re-advertised exactly the same course as "Wind effects on buildings" and we had a full house. Architects who came to Tom instructed their consulting engineers to do the same and, gradually, this grew into a consultancy practice. Tom developed a particular rapport with Ken Anthony at Arup, which drove the development of analysis and reporting.

This was Tom's great gift: whatever preconceptions a client had, Tom would analyse the essential problem, tell him what was really needed and then get it done.

When Tom started serious wind engineering, we were measuring mean and RMS values using a mixture of digital and analogue meters. First

attempts and obtaining maxima were by measuring traces on a storage oscilloscope. We located a Solatron analogue computer which had been used to solve differential flight equations. It had a good frequency response and included a number of multiplier units so, before long, we were using this to measure twopoint correlations. Frequency analysis was done by playing back signals recorded on a FM data tape recorder at 100 times speed through a band-pass filter set. The tape recorder worked in both directions: so on the audio track we would say "zero" and "calibration" at the beginning of each run, followed by "nusharbilac" and "warez" at the end. Wind engineers of today have it so easy!

The data analysis breakthrough came when Tom obtained SRC funding to purchase a Hewlett Packard digital computer. We trundled this monster down the lab to the hatch for hoisting it up into the mezzanine space above. When the hoist ran out of travel, the wheels of the computer were still a foot below mezzanine level. "Time for lunch, I think" said Tom, "I'm sure the technicians can manage the last bit". And so, with £25k of electronics hanging from the ceiling we went for a Senior Common Room lunch. When we got back, sure enough, the monster was sitting in its appointed place.

Tom and I would go regularly to the industrial aerodynamics research meetings at NPL. Tom would barrel up the A4 in his Citroen DS and, later, a Jaguar. The sun always came up near Marlborough. Somehow, we were never late, but sometimes it was close. NPL was the centre for wind engineering research at that time: Kit Scruton, Roger Whitbread, Peter Bearman & Barry Vickery would be there and POAL Davies would come up bringing students from Southampton. Although Tom was interested in the latest research, he was more interested in its potential usefulness for the construction industry.

One day, just before his retirement, Prof. Collar tapped me on the shoulder and said "Time to go out into the big wide world, my boy." Tom was influential in arranging for me to interview BRE to see if it was a suitable employer and they passed. So I went off to build a wind tunnel for BRE and Tom got to concentrate almost full time on his consultancy. My contact with Tom in later years was sporadic, but always welcome. Initially, there were the NPL research meetings, which later moved to BRE, then became the core of the Wind Engineering Society. Tom also chaired the regular ESDU Wind Engineering panel meetings to which



other WES luminaries, like Tom Wyatt and Brian Smith would also contribute. For obvious reasons, Tom championed the 'TVL' formula relating tributary area to gust duration, but his greatest and lasting influence was in the field of environmental winds. First with Westminster Council and then with the Docklands Development Agency he developed a simple pragmatic set of criteria for acceptability, coining some new terms for pedestrian activities – “leisure walking” and “business walking”. These were widely adopted by other councils and are still the industry standard for environmental impact assessments in the UK. Tom’s achievements were recognised by his election to a Fellowship of the Royal Academy of Engineers.

Tom worked on at Bristol with a number of assistants: first his long-suffering technician Tom Everett, Gordon Breeze and Wayne Pearce. In 1999 Tom decided it was time to retire properly. Wayne continued the consultancy virtually single-handedly and I was co-opted in, part time, to develop it. Eventually it was clear that we needed better facilities than Bristol could provide and so we needed to move elsewhere. Telling Tom was the hard part, but he assured me that he understood and approved our reasons, and that he wished us every success. Tom’s consultancy now thrives as part of RWDI Anemos, but it is certain that all the other Wind Engineering consultancies now practising in the UK are firmly founded on Tom’s pioneering development of this field.

The title of “Father of Wind Engineering” is already taken: it was first given to Martin Jensen by Alan Davenport, and then passed back to Alan Davenport by the IAWE in 1997. The memory of Kit Scruton is kept alive by the UK WES Scruton lecture series. How, then, shall we remember Tom Lawson? You could remember him as the “Father of Wind Consultancy”, or you could just remember: TV/L ~ 4.5.

(Ed: Thanks to UKWES for providing this.)

Alan G. Davenport: 1932 – 2009.

Alan Garnett Davenport passed away on July 19, 2009, in London, Ontario. Alan, who was 77 years old, died of complications resulting from Parkinson's Disease. All of his immediate family were with him - Sheila, his remarkable wife of 52 years, his daughters Anna and Clare and his sons Andrew and Tom.

Alan's extraordinary Journey began in Madras (now Chennai) India, in 1932, where he was born to English tea planters. Alan was sent off at a young age to South Africa, where under the supervision of aunts and uncles, he attended Michaelhouse. There he displayed an aptitude for math and sciences, a love of sports (a good tennis and squash player; average at cricket) and a strong and Independent mind. Alan left South Africa to attend Cambridge, where after some activities ~ (sports, piano playing and editor of the sports journal) he discovered engineering; completing his B.A. in 1954. His engineering passion took him to Canada, but it was there he quickly found his great love, Sheila Smith - and by 1958 he was married and had a MA in Civil Engineering. Alan returned to the UK to complete his PHD at the University of Bristol, England in 1961, studying the effects of turbulent wind on long bridges and tall buildings. He and Sheila (and their first of four children) then returned to Canada – this time for good - where he joined a small but promising engineering faculty at the University of Western Ontario, and never left.

Although still in his early thirties Alan quickly established himself as wind engineering expert pioneering the use of wind tunnels in the design of tall (and long) structures. In 1965 he founded the Boundary Layer Wind Tunnel Laboratory at Western. In the years since this time the Laboratory has tested many of the world's tallest and most challenging buildings and bridges from an engineering perspective. The Laboratory has been the primary engineering advisor for such prominent structures from the Sears Tower in Chicago, to the World Trade Center in NYC, to Toronto's CN Tower, to the Tsing Ma Bridge in Hong Kong. Beyond these applications he also has contributed to the fields of meteorology, environmental loads, structural dynamics and earthquake loading. He developed the world's first statistically based seismic zoning map for Canada. He has authored over 200 papers on these various subjects and has lectured extensively around the world. He also led and or served on a wide variety of professional and government committees. Following the United Nations resolution in November 1987 declaring 1990-2000 as the International Decade for Natural Hazard Reduction, Alan became a member of an ad hoc Advisory Committee, chaired by Dr. Press, MAE, to assist in the planning. In Oct. 1993 he was appointed Chairman for the newly formed Canadian National Committee for the International Decade for Natural Disaster Reduction under the auspices of the Royal Society



of Canada and The Canadian Academy of Engineering. He is a member of the Canadian Construction Research Board (NRC) and on the board of Directors of the Canadian Society for Civil Engineering and the International Council for Tall Buildings and Urban Habitat. In January 1988, Alan was appointed to the Scientific Committee of the Canadian Meteorological and Oceanographic Society for a 3 year term, ending June 30, 1991. Dr. Davenport became a founding member in 1989 of the Centre for Studies in Construction at UWO. In May 1999 a partnership with the University of Western Ontario and the Insurance Bureau of Canada announced the establishment of Institute for Catastrophic Loss Reduction, a world-leading research centre dedicated to reducing the impact of natural disasters. Alan served as the Institute's Research Director.

In learned journals, Alan was the founding editor of the Canadian Journal of Civil Engineering and has been on the editorial board of six others. Alan was elected to the Royal Society of Canada in 1972. In March 1987 he became a Foreign Associate in the National Academy of Engineering. In November 1987, Dr. Davenport was elected a Foreign Member of the Fellowship of Engineering in England. Also in 1967 he became a founding member of the Canadian Academy of Engineering. In 1991, he became Vice-President of the Canadian Academy of Engineering and on June 2, 1992 he was elected President.

Dr. Davenport received numerous awards and distinctions throughout his career in recognition of outstanding service to the profession and for noteworthy contributions to the science of engineering. On May 1, 2002, Dr. Davenport received Canada's highest honour for lifetime achievement, when he was appointed a Member of the Order of Canada. The investiture took place on November 30th, 2002.

Dr. Davenport was also awarded Honorary degrees from the University of Western Ontario (2001), Carleton (1996), Guelph (1993), University of Toronto (1989), Waterloo (1986), McGill (1984), as well as the University of La Plata in Argentina (1993), the University of Bristol (1998), the Technical University of Denmark (1983), and the University of Louvain, Belgium (1979).

Alan is survived by his wife Sheila, his four children Tom (Gail), Anna (Dirk), Andrew

(Tanya) and Clare (John), his brother Rodney (Betty) along with nine grandchildren (Ryan, Locke, Larkin, Sidney, Liam, Tate, Tucker, Thomas and Gemma).

His innate curiosity, his modesty, his humour and his warmth will be greatly missed.

Contributions can be made to the Alan G. Davenport award established for a full time international graduate student from a developing country conducting research in civil and environmental engineering.

The address is:

Alan G. Davenport Award,
School of Graduate and Postdoctoral Studies,
UWO,
London, Ontario, N6A 5B9.

A Personal Tribute to Alan Davenport, by George Walker

I first met Alan Davenport in 1974 while on my way to England to spend my first sabbatical leave at the Building Research Establishment learning the fundamentals of wind engineering. It set the scene for a relationship with him, which continued to grow right up to his death.

I was a relatively late starter to wind engineering. Although I began my research career in 1960 with a masters degree measuring turbulence using an early hot film anemometer, the apparent intractability of the basic underlying mathematics put me off continuing in this field and I switched to the newly emerging field of earthquake engineering to do my PhD. I began my academic career in Townsville primarily on the basis of this work and my subsequent professional structural design experience.

It was not until 1972 that I started my involvement in wind engineering - as a result of my involvement in the investigation of the damage to Townsville from Cyclone Althea. Even then my primary interest was the structural design of houses to resist cyclonic winds and not wind loads on structures, which is the core of wind engineering. This was a far cry from the already well established wind tunnel based studies being led by Alan at the University of Western Ontario focussed on the design of some of the world's most exciting tall buildings and towers, and long span bridges, at that time.

My visit to UWO had been facilitated by Bill Melbourne on whose recommendation I made the



visit. I had known of Alan for over 10 years having read his classic paper based on his PhD studies while undertaking my own PhD thinking it might have some application to earthquakes and held him in awe. I went in considerable fear and trembling as Alan had asked me to make a presentation during my visit. I knew very little about the fundamentals of wind engineering - addressing this was the purpose of my sabbatical - and here I was being asked to demonstrate my expertise in the court of the King!

However I soon found my fears were groundless. He welcomed me as a fellow traveller, listened attentively to my presentation on some relatively basic work I had done on structural failure probabilities under wind, asked some pertinent questions, and encouraged me to continue my wind engineering studies. I suspect there are many others who had a similar experience. His achievements in wind engineering have ensured he will be remembered as one of the greatest wind engineers, but there will be many like me that consider his greatest gift was this ability to befriend, encourage and inspire young researchers in the field.

Because my area of work was so different from his I did not develop the close relationship with him that many of those more closely involved with him did until many years later, although he was always encouraging whenever we met at conferences. The catalyst for a change in this situation was my increasing interest in the application of wind engineering to insurance. When I began this work it was an even more fringe wind engineering activity that the design of wind resistant houses had been, but Alan was very supportive. He not only encouraged me in my involvement with the insurance industry but also became very involved with the insurance industry himself. It brought us closer together in his latter years in a friendship that I will always cherish.

Not long before he died I was very privileged to spend some time with him talking about a whole range of subjects from wind engineering to cosmology to his early undergraduate life at Cambridge University. In the course of these discussions he told me how he initially enrolled at Cambridge in actuarial science, transferring to engineering after two years of study. And I began to wonder. Was this the beginning of his interest in risk. Probability and statistics underpinned his studies at Bristol University under the master of structural engineering risk Sir Alfred Pugsley which were to form the basis of his subsequent

career. Throughout his career he continued to investigate wind risk in one form or another. And in his latter years he turned his interest again to the insurance world. If so I am indeed very privileged to have shared with him much more in common than I had realised.

Regrettably there will be no more conversations with him. I shall not forget them. I, like many others I am sure, count myself very privileged to have had the benefit of his wise counsel, generous encouragement and good friendship in shaping my own life.

Upcoming Conferences and Information

AAEE (Australasian Association for Engineering Education):

December 6 – 9, 2009.
The University of Adelaide, SA.
www.aeee.com.au

AWES: The next workshop is scheduled for July 2010 in Canberra. Further details will be released as times / dates are confirmed.

CWE2010, Fifth International Symposium on Computational Wind Engineering:

May 23-27, 2010
Chapel Hill, North Carolina, USA
Call for Papers (500 word abstract): Oct 1st 2009
www.cwe2010.org

ICWE 13:

July 10-15, 2011.
Amsterdam, The Netherlands.
Submission open for 4-5 page abstracts is early 2010
www.icwel3.org

Well, that's it for this edition of the AWES Newsletter. Many thanks must go to our contributors.

As always, a newsletter cannot exist without news, so any stories, photos or information on upcoming events will always be appreciated.

Cheers,

Leighton Aurelius
AWES Newsletter Editor.

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