



The 22nd Australasian Wind Engineering Society Workshop Townsville 2024

	WEDNESDAY 19 June	
18:00	Welcome Reception (and registration)	
	THURSDAY 20 June	
8:30	Registration Opens	
9:00	Conference Opening and Acknowledgement of Country	P. Driscoll
	Welcome	Vice Chancellor
9:30	Keynote talk 1 and questions:	Chair: G. Boughton
	Cyclone Tracy: Silver Linings and Unfinished Business	G. Walker
10:10	Morning Tea	
10:30	Session 1: Community	Chair: J. Aldridge
10:30	Lessons in Resilience from Tropical Cyclone Ilsa	G. Boughton
10:45	Where to next for Wind Engineering and Building Resilience: A view from inside an operations centre	J. Sexton
11:00	Recent engineering guides (PoR, Strong Rooms, Shelter)	D. Henderson
11:15	Hazard versus perception of risk: why people interpret risk differently	C. McShane
11:30	Keynote talk 2 and questions	Chair: J. Holmes
	How wind engineers can promote mitigation and reduce losses due to wind and other natural hazards	M. Morrison
12:10	lunch	
13:00	Session 2: Wind loading on Solar Panels	Chair: G. Woods
13:15	Comparison of wind loads on parallel roof-mounted PV systems	P. Enshaei
13:30	Full-Scale wind load measurements on solar arrays	V. Rego
14:00	Wind loads and response of an aeroelastic solar tracker model	J. Zaracho
14:15	Wind actions on roofs with flush mounted solar panels	S. Ingham
14:30	Generating synthetic aerodynamic wind loads for the preliminary stage of tall building design	M. Salenhinejad
14:45	Afternoon tea	
15:00	Session 3: Wind loading on Buildings and Towers	Chair: M. Mason
15:15	Generating synthetic time-series: some application and observations for wind-induced fatigue assessment	P. Veaeghe
15:30	Dynamic response of recessed balcony facades to wind loading	M. Glanville
15:45	The ESWL/Multi-Sector combination for wind loading of lattice towers	J. Holmes
16:00	Internal pressures due to wall edge openings	J. Ginger
16:15	Scaling parameters for wall pressure zones on low-rise and high-rise buildings	K. Parackal
16:30	Wind power ramp identification based on continuous wavelet transform	S. Vijayaragh
16:45	AWES best practice guides	T. Rofial
17:00	AWES Annual General Meeting	L. Cochran
19:00	Dinner in the city at Townsville Yacht Club	

	FRIDAY 21 June	
8:00	Registration Opens	
8:25	2 nd day starts	
8:30	Keynote talk 3 and questions:	Chair: L. Cochran
	Performance to Resilience-Based Wind Design	M. Burton
9:30	Session 4: Wind	Chair: S. Bekele
9:30	Further validation of a synthetic tropical cyclone climatology for Australia	B. Harper
9:45	A new SW WA tropical cyclone climatology and implication for cyclone risk management	J. Aldridge
10:00	SWIRLnet observations during Tropical Cyclones Jasper and Kirrily	M. Mason
10:15	Deep learning assisted classification of wind exposure categories	P. Kodali
10:30	Morning Tea	
11:00	Session 5: Wind	Chair: K. Parackal
11:00	Predicting transient wind pressure over a tall building using machine learning	D. Mohotti
11:15	Pedestrian level wind extent of assessment area	S. Bekele
11:30	Wind loads on sunshade elements	N. Truong
11:45	Harmonizing wind comfort: comparative analysis of pedestrian assessments using open jet and closed working section wind tunnels for urban development	A. Choudhry
12:00	Stratified ABL effects on urban winds	B. Malin
12:15	Assessment methodology for CFD simulations of wind-driven building exhaust emissions	E. Cullity
12:30	Lunch	
13:20	TOUR CTS – water ingress rig, debris rig, cladding rig, wind tunnel	S. Ingham
	(10 min to walk, 50 min tour, 10 min to walk back)	
14:20	Afternoon tea	
15:00	Conference Closing & Finish	D. Henderson

INFORMATION

WELCOME VENUE (6pm 19th June)

JCU Douglas Campus (not the campus in the CBD)
The Roof Garden Sky-Lounge, JCU Halls of Residence. (Next to EIP)
Mount Stuart St, Douglas, 4814.
(-19.325 146.759)

WORKSHOP VENUE (20-21st June)

JCU Douglas Campus (not the campus in the CBD)
Engineering Innovation Precinct (EIP) Building 506, room 117.
Mount Stuart St, Douglas, 4814.
(-19.325 146.759)

DINNER VENUE (7pm 20th June)

Townsville Yacht Club
1 Plume St, South Townsville QLD 4810.
(-19.256, 146.827)

WIFI

Log into the JCUGuest wifi
Username: EIP@event.com.au
Password: 138202

PARKING

Across the road from EIP in gravel car park – look for the AWES parking sign



DOWNLOAD PRESENTED PAPERS:

<https://www.jcu.edu.au/cyclone-testing-station/education/awes/awes-papers>

ON ARRIVAL

Please check in at the registration desk, where you will:

- Receive a name tag
- Event information & Other essential details
- Confirm any dietary requirements as per your registration
- Notify if you are a postgrad student

INSTRUCTIONS FOR SPEAKERS

Please bring your USB & upload your presentation in the break before the session you are speaking in

- 15 minutes slots have been allowed
- 12 minutes for talk
- 2 minutes for questions
- 1 minute for change over
- The chairperson will provide a warning at 10 minutes.

KEYNOTE SPEAKERS

George Walker

George was born and educated in New Zealand obtaining a PhD in earthquake engineering from Auckland University in 1966. From 1968 to 1989 he was an academic at James Cook University where he first became involved with wind engineering through being involved in the investigation of damage in Townsville from Cyclone Althea in December 1971. Following the damage to Darwin from Cyclone Tracy in December 1974 he was engaged by the Commonwealth Government to lead the investigation of the damage. His working life since then has been dominated by the consequences of this. For the remainder of his time at James Cook University he was involved in research and development related to the implementation of the recommendations of the Cyclone Tracy report, including its implementation in standards and building regulations. In 1994, following a 5-year stint as Assistant Chief of the then CSIRO Division of Building Construction and Engineering, he joined the Australian arm of a reinsurance broking company that now operates as a subsidiary of Aon where he became one of the pioneers in the implementation of catastrophe insurance loss risk modelling in Australia and Asia. He remained with them for the remainder of his working life. Throughout this latter period, he retained his connection with wind engineering through involvement with the Cyclone Testing Station at James Cook University, of which he was one of the founders. In recent years, resulting from an ISO activity in which was involved, he has become a strong advocate for taking community disaster resilience into account in building design. In 2013 he was admitted to Engineers Australia Queensland's Engineering Hall of Fame.

Murray Morrison

Dr. Murray Morrison is the Managing Director of Research at the Insurance Institute for Business & Home Safety. Dr. Morrison leads the IBHS research team to better understand how perils, such as wind, wind-driven rain, hail and wildfire impact the built environment and how buildings and products can better withstand these hazards to reduce damage to both homes and businesses. Dr. Morrison has a background in mechanical and civil engineering with over 15 years of full-scale structural testing focused on better understanding wind loads on buildings and building material failure modes to wind, hail and fire.

Melissa Burton

Melissa, a professional engineer, is a Principal in Arup. She currently serves in the role of Operations Director for Canada. In this role she leads diverse project teams and supports clients in developing innovative multidisciplinary solutions tailored to specific projects, sites and operational needs.

Through her work in the field of wind engineering and complex air flow modelling she has had the opportunity to work and collaborate on some of the world's most iconic infrastructure. Melissa has worked as senior technical expert on a large number of international projects and has extensive experience in investigating wind issues such as wind comfort, wind loading and dynamic response for high-rise buildings, stadiums, pedestrian and long-span bridges and long-span roof structures. She is also experienced in wind hazard quantification and wind resilience. She has worked in the world's leading aeronautical and boundary layer wind tunnels and has a keen understanding of physical and numerical model testing, replicating flow regimes at scale, and conducting aerodynamic optimization workshops. Her technical expertise extends to beyond code approaches using advanced analytical tools to quantify and reduce design risk.

Melissa has been involved in developing design codes for more than a decade and has recently been funded by the Charles Pankow Foundation to write guidelines on performance-based wind design and support NIST in assessing wind reliability. She has both lived and worked in the UK, Asia, and North America and has a global portfolio of project work.

The AWES Workshop committee greatly appreciates the support from Insurance Council of Australia, GeoScience Australia and JCU in making the workshop happen



**Insurance Council
of Australia**



Australian Government

Geoscience Australia



22AWES Workshop Committee

David Henderson, Dot Cunningham, Pat Driscoll, Geoff Boughton, John Ginger – CTS, JCU
Leighton Cochran – MEL Consulting
Peter Russell – Russell Consulting
Korah Parackal – Insurance Institute for Business and Home Safety