



Annual Workshop of the
AUSTRALIA NEW ZEALAND AEROSOL ASSEMBLY (ANZAA)

4th – 5th August 2016

Venue: Queensland University of Technology, Gardens Point Campus,
2 George Street, Brisbane, Queensland, Australia

Program

THURSDAY, 4TH AUGUST 2016 (H BLOCK, LEVEL 1, ROOM 103)

8:45am-9:00am

WELCOME

Lidia Morawska, Director of the ILAQH, QUT

9:00am-10:45am

SESSION 1: SOUTHERN OCEAN

*Session Chairs: Zoran Ristovski (QUT), Melita Keywood (CSIRO)
Student Chairs: Joel Alroe (QUT)*

Southern Ocean Aerosol and Cloud Investigations: Rational and Activities to date. Melita Keywood

Contributions to Southern Ocean cloud condensation nuclei inferred from water uptake and volatility. Luke Cravigan, Zoran Ristovski, Joel Alroe, Marc Mallet, Branka Miljevic, P. Selleck, Melita Keywood, J. Ward, S. Molloy, R.S. Humphries

Atmospheric gradients of aerosol properties across the Antarctic Polar Front. R.S. Humphries, Melita Keywood, J. Ward, Luke Cravigan, Zoran Ristovski, Rohan Jayaratne

Neutral Cluster and Air Ion Spectrometer (NAIS) measurements during the passage across the southern polar front. Rohan Jayaratne, Luke Cravigan, Joel Alroe, Zoran Ristovski

RV Investigator Balloon radio-soundings over the Southern Ocean. R. Schofield, M. Hamilton, S. Kremser, D. Squire, Y. Huang, K. Liechke

DeepSouth / Southern Ocean aerosol-cloud interaction. Mike Harvey, Adrian McDonald, Olaf Morgenstern, Tony Bromley, Marwan Katurji

Discussion

10:45am-11:15am

MORNING TEA BREAK (SPONSORED BY THOMSON ENVIRONMENTAL)

11:15am-12:30pm

SESSION 2: REGIONAL AEROSOL

Session Chairs: Howard Bridgman (U Newcastle), Woodrow Pattinson (AirQuality Limited)

Student Chairs: Buddhi Pushpawela (QUT)

The Lower Hunter Dust Deposition Study. C. Whitburn, H. Bridgman, L. Ferrari, and A. Gilligan

The ‘APAD’ and ‘ASFID’ – Two New Long term Particulate Matter Databases from Sampling Sites Across the Greater Asia-Pacific Region. Armand J. Atanacio, David D. Cohen, Eduard Stelcer, Andreas Markwitz.

Airborne Survey of Ultrafine Particles over Eastern Australia. W. Junkermann, J.M. Hacker, D. Heinzeller, C.M. Ewenz

Airborne Particle Concentration in the Yangtze River Basin. Samart Porncharoen, Rohan Jayaratne, Jianmin Chen, Xingnan Ye, Chunlin Li, Lidia Morawska

Lower Hunter Particle Characterisation Study

Mark Hibberd, Melita Keywood, Paul W. Selleck, David D. Cohen, Ed Stelcer, Yvonne Scorgie, Lisa Chang

Discussion

12:30pm-1:30pm

LUNCH (SPONSORED BY KENELEC SCIENTIFIC)

LUNCH PRESENTATION: “PHYSICS OF RADIATION AND CLIMATE”. MICHAEL BOX

1:30pm-3:15pm

SESSION 3: URBAN AEROSOL

Session Chairs: Guy Coulson (NIWA), Ian Galbally (CSIRO)

Student Chairs: Andjelija Milic (QUT)

SESSION SPONSORED BY THE NATIONAL INSTITUTE OF WATER AND ATMOSPHERIC RESEARCH (NIWA)

High spatial resolution source apportionment of central Auckland aerosol. Guy Coulson, Ian Longley, Jane E. Clougherty, Jennifer Salmond, Brett Tunno, Leah Cambal, Courtney Roper, Lauren Chubb, Elizabeth Somervell, Sam Edwards, Gustavo Olivares, Sally Gray, Kim Dirks, David Welch, Daniel Shepherd, Stuart Grange, Georgia Miskell

Number Concentration and Size distribution of Airborne Particles in the Coastal-Urban Environment. Doreena Dominick, Stephen Wilson, Clare Paton-Walsh, Élise-Andrée Guérette, Ruhi Humphries, Melita Keywood, Ben Marwick, Perry K. Davy

Particles in Western Sydney: Model-observation Verification. Ian Galbally, Martin Cope, Kathryn Emmerson, Suzie Molloy, Erin Dunne, Melita Keywood and Michael Borgas

Uncertainty in biogenic emissions from Eucalypts: Implications for urban southeast Australia. Kathryn Emmerson, Ian Galbally, Alex Guenther, Clare Paton-Walsh, Martin Cope, Melita Keywood

The balance between charged and neutral particles and clusters in the Brisbane airshed. Buddhi Pushpawela, Rohan Jayaratne, Lidia Morawska

First Observations of New Particle Formation in Beijing using a Neutral Cluster and Air Ion Spectrometer (NAIS). Rohan Jayaratne, Buddhi Pushpawela, Congrong He, Lidia Morawska, Jian Gao

Discussion

3:15pm-3:45pm

AFTERNOON TEA BREAK (SPONSORED BY LEAR SIEGLER AUSTRALASIA)

3:45pm-5:15pm

[SESSION 4: TECHNOLOGIES AND METHODS](#)

Session Chairs: Clare Walter (PMCC), Stephen Wilson (U Wollongong)

Student Chairs: Marc Mallet (QUT)

Cleaner Air, Less Cancer. [Clare Walter](#)

Characterisation of urban dust samples using reflected light microscopy methods.

[Silvie Hartmann](#), G O'Brien, K Warren, G Krahenbuhl, M Hibberd

Efficiency of an Ionizer in Cleaning Airborne Particles. [Aline Nguy](#), Rohan Jayaratne, Buddhi Pushpawela, Lidia Morawska

Application of multi-monitoring approach to characterisation of particle emissions from nanotechnology and non-nanotechnology processes. [Peter McGarry](#), Sam Clifford, Luke D. Knibbs, Congrong He, Lidia Morawska

Experimental investigation on filtration efficiency of quartz fibrous filters in capturing soot aerosol particles. [Shokat Akbarnezhad](#), Ataollah Soltani, Lidia Morawska, Thomas Rainey

Monitoring above-ground airborne pollution using unmanned aerial vehicles. [Tommaso Villa](#), Rohan Jayaratne, Lidia Morawska, Felipe Gonzales

Discussion

7:00pm-9:30pm

WORKSHOP DINNER (SPONSORED BY THE DEPARTMENT OF SCIENCE, INFORMATION TECHNOLOGY AND INNOVATION)

LOCATION: 1-3 DORNOCH TERRACE, WEST END, QLD 4101. PH: (07) 3217 2617

[VISIT MAP](#)

FRIDAY, 5TH AUGUST 2016 (Z BLOCK, LEVEL 10, ROOM 1064 – GIBSON ROOM)

9:00am-10:30am

SESSION 5: SENSORS

Session Chairs: Lidia Morawska (QUT), Prashant Kumar (U Surrey)
Student Chairs: Tommaso Villa (QUT)

How variable are PM_{2.5} concentrations in Western Sydney? A possible application of low-cost sensors or a question best answered by satellite-based sensors? Clare Murphy (Paton-Walsh), Elise-A. Guerette, Stephen R. Wilson, Doreena Dominick, Jeremy Silver, Peter Rayner, Robyn Schofield, Richard Sinnott, Jane Heyworth, Melita Keywood, John Kirkwood, Matt Riley, Yvonne Scorgie, Prashant Kumar

Challenges and opportunities from outdoor air pollution sensing in cities. Prashant Kumar

Laboratory assessment of external factors influence on Low-cost PM sensors readings. Adrien Mabon, Xiaoting Liu, Akwasi Bonsu Asumadu-Sakyi, Mawutorli Nyarku, Rohan Jayaratne, Lidia Morawska, Matthew Dunbabin

Analysis of low cost particle monitoring devices for implementation in a high density air quality network. Kyle Alberti, Geoff Henshaw, Lita Lee, David Williams

Testing of a PM1.0 mini-cyclone for application with a low-cost particle sensor. Woodrow Pattinson, Olivia Spratt, Brett Wells, David Williams

Experimental evaluation of low cost PM sensor for urban air quality monitoring.

Xiaoting Liu, Adrien Mabon, Akwasi Bonsu Asumadu-Sakyi, Mawutorli Nyarku, Mandana Mazaheri, Rohan Jayaratne, Lidia Morawska, Matthew Dunbabin

Discussion

10:30am-11:00am

MORNING TEA BREAK (SPONSORED BY THOMSON ENVIRONMENTAL)

11:00am-12:30pm

SESSION 6: COMBUSTION EMISSIONS AND THEIR IMPACTS

Session Chairs: David Wainwright (DSITI), Clare Murphy (U of Wollongong)
Student Chairs: Luke Cravigan (QUT)

Local ozone formation and depletion from vehicle emissions in an isolated urban environment. L.F. Weissert, J.A. Salmond, G. Miskell, M. Alavi-Shoshtari, S.K. Grange, G. Henshaw, D.E. Williams

Preliminary characterization of emission from burning waste paper briquettes and other commercial fuels. Meng Xiu, Md Mostafizur Rahman, Ali Mohammad Pourkhesalian, Hien Nguyen, Svetlana Stevanovic, Lidia Morawska, Phong K. Thai

Assessing impacts of coal-laden trains on ambient air quality along the rail corridor in South East Queensland. Don Neale, Rhiannon Tooker, Steven Torr, Ronald Musenze, Brian Davis, Russell Harper, Dan Harvest, Esther O'Brien, Gavin Shaw

Assessing the impacts of shipping emissions on air quality in Queensland, Australia. Robin Smit, Phil Kingston

Variability of airborne particle metrics in urban area. V. Rizza, L. Stabile, G. Buonanno, L. Morawska

Discussion

12:30pm-1:30pm

LUNCH (SPONSORED BY ECOTECH)

1:30pm-3:00pm

SESSION 7: REMOTE SENSING / LUR

Session Chairs: Jane Heyworth (UWA), Luke Knibbs (UQ)

Student Chairs: Bijan Yeganeh (QUT)

Aerosol Optical Depth at Cape Grim, Tasmania 1978 – 2014. Stephen R. Wilson, Bruce W. Forgan, Michael Milner

Modelling chemistry and aerosols over the Sydney airshed: experience with WRF-CHEM and CMAQ.

Steven Utembe, Jeremy Silver, Peter Rayner

The application of remote sensing technology in air quality modelling.
Bijan Yeganeh

Short technical presentations by:

Jane Heyworth

Dylan Gration

Luke Knibbs

Sam Clifford

Md Mahmudur Rahman

Short presentation from each participating group on their programs and activities related to remote sensing and modelling, in particular, LUR.

Discussion

3:00pm-3:30pm

AFTERNOON TEA BREAK

3:30pm-5:00pm

SESSION 8: REMOTE SENSING / LUR CONTINUATION

Panel Members: Luke Knibbs (UQ), Jane Heyworth (UWA), Dylan Gration (UWA), Lidia Morawska (QUT), Md Mahmudur Rahman (PhD student, QUT)

Facilitated discussion on...

- Priorities for research in this area*
- How we can improve the data quality*
- Treatment of uncertainties*
- Validation of the models*
- How might satellite data be blended with CTM data?*
- How we might all work together*