Program overview

Day 1 Monday 14th December 2015	
8.30 am	Coffee and registration
9.15 am	Opening and welcome
9.30 am	Keynote 1
10.30 am	Morning Tea
11.00 am	Session 1 (5 presentations)
12.30 pm	Lunch
1.30 pm	Session 2 (5 presentations)
3.00 pm	Afternoon Tea
3.30 pm	Session 3 (4 presentations)
4.42 pm	Break
5.00 pm	Open discussion
5.30 pm	Free Time
6.00 pm	Dinner

Day 2 Tuesday 15th December 2015	
8.30 am	Coffee
9.00 am	Keynote 2
10.00 am	Morning Tea
10.30 am	Session 4 (5 presentations)
12.00 pm	Lunch
1.00 am	Session 5 (4 presentations)
2.12 pm	Afternoon Tea
2.40 pm	Session 6 (3 presentations)
3.34 pm	Break
4.00 pm	Open discussion
4.30 pm	Closing and socialising

Keynote speakers

Professor Ross W. Griffiths
Research School of Earth Sciences
ANU College of Physical & Mathematical Sciences
The Australian National University, Canberra, ACT, Australia
Email: ross.griffiths@anu.edu.au
Website: rses.anu.edu.au/people/ross-griffiths

Professor Griffiths' main research interests are currently the role of buoyancy, convection and turbulent mixing in the global ocean circulation. His work has previously ranged from ocean circulation to mantle convection and physical volcanology. He has a PhD in geophysical fluid dynamics from ANU in 1979, and held Postdoctoral positions in the Department of Applied Mathematics and Theoretical Physics, University of Cambridge, 1979-1981, and the Institute of Mechanics, University of Grenoble and CNRS, 1982. He returned to ANU, Research School of Earth Sciences, in 1983. He was awarded a Postdoctoral Fellowship at the Woods Hole Oceanographic Institute Geophysical Fluid Dynamics Program in 1980, the Priestley Medal of the Australian Meteorological and Oceanographic Society in 1991, and a JSPS Invitation Fellowship to Hokkaido University in 1997. He served as Interim Director of the Research School of Earth Sciences in 2006 and head of the Earth Physics section of the School 2006-2010. He was elected Fellow of the Australian Institute of Physics in 1991, the American Geophysical Union in 2001, the Australian Academy of Science 2001, the Australasian Fluid Mechanics Society in 2011, and the American Physical Society 2014. He is Associate Editor of the Journal of Fluid Mechanics and became Emeritus Professor at ANU in 2014.

Keynote speakers

Professor John Patterson
Director of Centre for Wind, Waves and Water
School of Civil Engineering
Faculty of Engineering & Information Technology
The University of Sydney, Sydney, NSW, Australia
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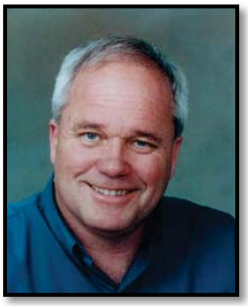

John graduated with 1st Class Honours in Applied Mathematics (1971) and a PhD in Applied Mechanics (1975) from the University of Queensland. He then moved to UWA as Postdoctoral Fellow, took up and academic post in the Department Civil Engineering, and eventually became Head of the new School of Environmental Engineering. He then moved to James Cook University in Townsville in 1997, and became the foundation head of the merged School of Engineering. In 2009, he moved to the School of Civil Engineering at the University of Sydney, became Director of the Wind Waves and Water Centre, head of the Fluid Mechanics group. In 2011 he was appointed Associate Dean Research for the Faculty of Engineering and IT at the University of Sydney, in which role he is responsible for development of research policy for the faculty, and for management of graduate research students.

John has served on a number of journal editorial boards, and has been a member of ARC assessment panels, including what is now called the College of Experts, Centre of Excellence selection panels, and an ERA Evaluation Committee. He has held visiting research appointments in Canada, Germany, UK, and the USA. He has published over 120 articles in the international journal literature, and around 80 refereed conference papers. He has generated in excess of $7M in ARC Discovery or equivalent research grants (Category 1) .

John's research interests are historically in mixing and transport in lakes and reservoirs and the implications for water quality, and more recently, in natural convection flows, with environmental and industrial applications. His research encompasses theoretical, experimental and numerical investigations.

Program schedule

Day 1, Monday 14th December 2015 Morning session	
8.30 am	Coffee and registration
9.15 am	Opening and welcome
Keynote 1 Chair: Gregory J. Sheard (Monash University)	
9.30 am [ANC-07]	Maintaining turbulent convection ***Ross Griffiths***, The Australian National University, Australia
10.30 am	Morning Tea
Session 1 Chair: Kapil Chauhan (The University of Sydney)	
11.00 am [ANC-12]	Natural and controlled transitions of natural convection boundary layers ***Chengwang Lei***, The University of Sydney, Australia
11.18 am [ANC-24]	Scaling of horizontal convection at high Rayleigh number ***TzeKih Tsai***, Monash University, Australia
11.36 am [ANC-17]	Bulk scaling in homogeneous horizontal convection ***Chong Shen Ng***, The University of Melbourne, Australia
11.54 am [ANC-25]	One-dimensional linear stability analysis of duct flow under a transverse magnetic field and a heated wall ***Tony Vo***, Monash University, Australia
12.12 pm [ANC-28]	Instability of sheared stratified flows in weakly thermal convective flow environment ***Yuan Xiao***, James Cook University, Australia
12.30 pm	Lunch

Day 1, Monday 14th December 2015 Afternoon session	
Session 2 Chair: Kamel Hooman (The University of Queensland)	
1.30 pm [ANC-01]	PIV Analysis of Natural Convection in a Partly Open Enclosure ***Timothy Anderson***, Auckland University of Technology, New Zealand
1.48 pm [ANC-23]	Effect of top boundary heat loss on turbulent flow in a rectangular cavity ***Svetlana Tkachenko***, The University of New South Wales, Australia
2.06 pm [ANC-08]	Experiments on condensation heat transfer of helium or air and steam mixtures supporting Venus aerostat study ***Alison Herbert***, RMIT University, Australia
2.24 pm [ANC-04]	Solving two complicated inverse heat radiation problems employing intelligent technique based solutions ***Ley Chen***, The University of Adelaide, Australia
2.42 pm [ANC-05]	Some experiments on electrically heated helium and air filled balloons ***Graham Dorrington***, RMIT University, Australia
3.00 pm	Afternoon Tea
Session 3 Chair: Daniel Chung (The University of Melbourne)	
3.30 pm [ANC-06]	Unsteady mixed and natural convection in a non-uniformly heated vertical open-ended channel ***Stéphanie Giroux-Julien***, University of Lyon, France
3.48 pm [ANC-09]	Stability of rotating cylinder driven by radial horizontal convection ***Wisam Hussam***, Monash University, Australia
4.06 pm [ANC-22]	Numerical study of natural convection in a combined vertical and inclined open-ended channel ***Oksana Tkachenko***, University of New South Wales, Australia
4.24 pm [ANC-26]	Rotating Horizontal Convection in a Rectangular Basin ***Catherine Vreugdenhil,*** The Australian National University, Australia
4.42 pm	Break
5.00 pm	Open Discussion
5.30 pm	Free Time
6.00 pm	Dinner Venue: Monash Club

Day 2, Tuesday 15th December 2015 Morning session	
8.30 am	Coffee
Keynote 2 Chair: Gregory J. Sheard (Monash University)	
9.00 am [ANC-19]	Transport and mixing mechanisms in littoral waters induced by the absorption of solar radiation ***John Patterson***, The University of Sydney, Australia
10.00 am	Morning Tea
Session 4 Chair: Nicholas Williamson (The University of Sydney)	
10.30 am [ANC-02]	Three-dimensional transition in inclined differentially heated cavities ***Steven Armfield***, The University of Sydney, Australia
10.48 am [ANC-21]	Optimized nozzle configuration for inlet air pre-cooling for natural draft dry cooling towers ***Yubiao Sun***, The University of Queensland, Australia
11.06 am [ANC-11]	Evaluation of the boundary layer of the turbulent natural convection in square cavity with radiation effect ***Takuma Kogawa***, Tohoku University, Japan
11.24 am [ANC-03]	The effect of buoyancy on flow field around a circular foam covered cylinder ***Iman Ashtiani Abdi***, The University of Queensland, Australia
11.42 pm [ANC-27]	Optimization of the single nozzle arrangement in a natural draft dry cooling tower ***Lin Xia***, The University of Queensland, Australia
12.00 pm	Lunch

Day 2, Tuesday 15th December 2015 Afternoon session	
Session 5 Chair: Steven Armfield (The University of Sydney)	
1.00 pm [ANC-14]	The turbulent wall plume from the dissolution of a vertical ice face ***Craig McConnochie***, The Australian National University, Australia
1.18 pm [ANC-16]	Numerical investigation of naturally-driven phase change phenomena ***Nima Nadim***, Curtin University, Australia
1.36 pm [ANC-15]	Simulation of dissolving ice-shelves in saline water ***Mainak Mondal***, The Australian National University, Australia
1.54 pm [ANC-20]	Heat transfer enhancement in a baffled attic-shaped space ***Suvash Saha***, Queensland University of Technology, Australia
2.12 pm	Afternoon Tea
Session 6 Chair: Timothy Anderson (Auckland University of Technology)	
2.40 pm [ANC-13]	CFD simulation of a small natural draft dry cooling tower ***Xiaoxiao Li***, The University of Queensland, Australia
2.58 pm [ANC-10]	Natural convection heat transfer in non-partitioned and partitioned cavity ***Mehdi Khatamifar***, James Cook University, Australia
3.16 pm [ANC-18]	A CFD model of natural convection in a partially open enclosure ***Stuart Norris***, University of Auckland, New Zealand
3.34 pm	Break
4.00 pm	Open Discussion
4.30 pm	Closing and Socialising