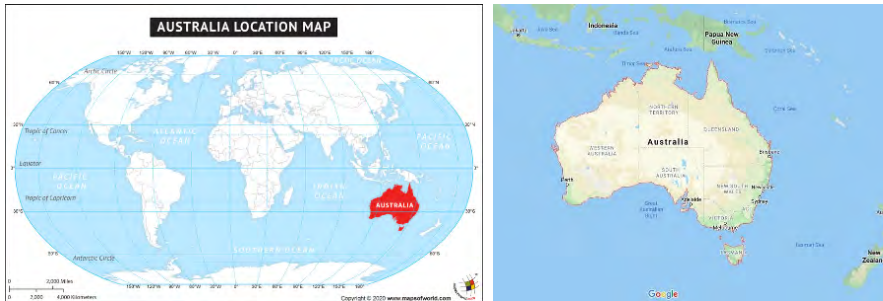


Australia Member of ICHMT, AIHTC, AUTSE (1) Overview

(Australia Standard Time: from UTC+8 to UTC+10, Population: 27.1 million)



1. Organizations

Engineers Australia is the national forum for the advancement of engineering and the professional development of our members. With more than 100,000 members embracing all disciplines of the engineering team, Engineers Australia is the largest and most diverse professional body for engineers in Australia.

The Heat and Mass Transfer and Thermal Fluid Mechanics community in Australia is represented by **Australasian Fluid and Thermal Engineering Society (AFTES)**. The general mission of the Society is to promote and foster the understanding and application of fluid mechanics, thermodynamics, heat and mass transfer and related subjects within Australasia to the general benefit of the community at large. The society publishes an occasional newsletter and runs conferences, workshops and seminars.

2. Major meetings

The Australasian Heat and Mass Transfer Conference (AHMTC) series, initiated in 1973, are organised under the auspices of the AFTES. It provides a research forum for disseminating new knowledge to the Heat and Mass Transfer research community and for networking and exchanging research ideas. The AHMTC series covers both fundamental and applied topics in broad areas of convection, conduction, radiation, turbulence, multi-phase flow, combustion, drying, heat exchangers, computational and experimental methods, and other significant thermal processes in built environment and in environmental and industrial processes.

Previous AHMTC conferences were held in Melbourne (1973, 1985, 2011, 2018), Sydney (1977, 1996), Christchurch (1989), Brisbane (1993, 2016), Townsville (2000) and Perth (2005). While the AHMTC is mainly based in Australia and New Zealand, the previous conferences have attracted high-profile international keynote and invited speakers and a significant number of international participants from US, Europe, China, Canada, Japan, Malaysia and Singapore etc. We welcome researchers from all over the world to participate in the conferences.

The 12th Australasian Heat and Mass Transfer Conference (AHMTC) will be held in Sydney on 30 June to 1 July 2022. Please visit the [AHMTC](#) website for further information.

In addition to the AHMTC series, the **Australasian Natural Convection Workshops (ANCW)** are held regularly for a focused interest group. The most recent one, the [11ANCW](#), was held in Sydney. AFTES members also actively participate in the biennial **Australasian Fluid Mechanics Conferences (AFMC)**. The next [AFMC](#) conference will also be held in Sydney.

3. Major Journals

- Australian Journal of Mechanical Engineering
- Australian Journal of Multi-disciplinary Engineering
- Australasian Journal of Engineering Education

4. Awards

The AFTES offers awards such as Best Student Presentation Award and Best Paper Award at the AHMTC and the ANCW.

5. Education (Undergraduate/Graduate)

- Primary School, 6 years; High School 6 years. Undergraduate Engineering University, 4 years.
- Each University's Engineering program is regularly accredited by the Engineers Australia Accreditation Board.
- Research-based Master's degree have a typical duration of 2 years, while Doctorate program (PhD) runs in average for 3.5 to 4 years to complete.

6. University system.

There are approximately 40 universities in Australia which are mostly publicly funded. Most Universities in Australia offer Engineering degrees and courses. The best-known Australian universities are the **Group of Eight Universities** comprising Australia's most research-intensive institutions including the University of Adelaide, the Australian National University, the University of Melbourne, Monash University, UNSW Sydney, the University of Queensland, the University of Sydney and the University of Western Australia.



The academic positions are lecturer, senior lecturer, associate professor and professor. Further information about Australian universities may be found on the [Universities Australia](#) web site.

7. Common Scientific Research Funding Agencies

- Australian Research Council (ARC)
- National Health and Medical Research Council (NHMRC)
- Australian Renewable Energy Agency (ARENA)
- Cooperative Research Centres (CRC)

8. Major Federal Public Research Institutes

- Commonwealth Scientific and Industrial Research Organization (CSIRO)
- Defense Science and Technology Group (DSTG)

by Victoria Timchenko (ICHMT, AIHTC) and Chengwang Lei (AUTSE)

Australia, Member of ICHMT, AIHTC, AUTSE (2)

1. Report on the 12th Australasian Heat and Mass Transfer Conference (12AHMTC)

Chengwang Lei

1. Report on the 12th Australasian Heat and Mass Transfer Conference (12AHMTC)**Chengwang Lei**

Chair of the 12AHMTC

School of Civil Engineering, The University of Sydney

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The *Australasian Heat and Mass Transfer Conference* (AHMTC) is typically a bi-annual research forum in Australia and New Zealand organised under the auspices of the **Australasian Fluid and Thermal Engineering Society** (AFTES) for disseminating new knowledge to the Heat and Mass Transfer research community. This conference series covers both fundamental and applied topics in the broad areas of convection, conduction, radiation, turbulence, multi-phase flow, combustion, drying, heat exchangers, computational methods, experimental methods, and other significant thermal processes in environmental and industrial settings.

The 12th Australasian Heat and Mass Transfer Conference (12AHMTC, <https://12ahmtc-eng.sydney.edu.au/>) was initially planned for July 2021. Due to the COVID-19 pandemic and lockdown in Sydney, it was postponed to 2022. Thanks to the improved pandemic situation in Australia and globally, the 12AHMTC was successfully held in person on 30 June – 1 July 2022 at The University of Sydney, New South Wales. For many of the participants, the 12AHMTC was the first in-person conference for more than two years. The 12AHMTC attracted significant interest from researchers and research students. In total 80+ abstracts and 60+ full papers were received. Among them, 42 papers were accepted for presentation over the two-day conference. In addition, there were 4 keynote and invited lectures given by high-calibre researchers including

- **Prof Atsuki Komiya** (Tohoku University), *Possibility of Mass Diffusion Control: Effect of Pore Size of Separated Membrane*
- **Prof Gary Rosengarten** (RMIT University), *When Surfaces Matter: Using Nano-scaled Surface Features to Control Macro-scale Transport*
- **Prof Emilie Sauret** (Queensland University of Technology), *Hybrid Lattice Boltzmann Method for Viscoelastic Fluid Flow Instabilities and Elastic Turbulence*
- **Dr Nicholas Williamson** (The University of Sydney), *Turbulent Vertical Natural Convection Boundary Layers – Insights Gained from DNS up to $Gr_d = 1.8 \times 10^8$*

The 12AHMTC was attended by over 50 participants. A significant number of the participants were research students. The conference presented two Best Student Presentation Awards, judged by an Award Committee. The winners of the Best Student Presentation Awards at the 12AHMTC are

- **Ms Sneha Murali**, Monash University
- **Mr Bihai Sun**, Monash University

The success of the 12AHMTC is a result of the combined efforts of the many involved. Primarily I wish to acknowledge the deep commitment from the Local Organising Committee members: Professors Steven Armfield and John Patterson, Associate Professor Michael Kirkpatrick, Dr Kapil Chauhan, Associate Professor Victoria Timchenko and Professor Guan Yeoh. I also gratefully acknowledge the participation by the keynote and invited speakers and thank them for their outstanding presentations, and further extend my thanks to all the other authors who presented their work, without whom we would not have the conference.

The next AHMTC conference (13AHMTC) will be hosted by Curtin University in 2025.

