



The Combustion Institute

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Evatt R. Hawkes

2022 Candidate Profile: The Combustion Institute Board of Directors

Reasons for Nomination

I feel privileged to have a career in combustion research. It is such a wonderful topic that is both incredibly important to society and incredibly rich from an academic perspective. I strongly believe that combustion will retain this importance and interest.

Nonetheless, the Combustion Institute (CI) faces some challenges going forwards. Foremost is the growing perception that combustion-based energy is in decline, as renewables now offer a credible alternative in some applications. The second is a long-standing need to improve the connections to industry. Finally, while the CI has progressed in encouraging diversity and supporting the career development of early and mid-career combustion researchers, more can be done. As a member of the Board I would initiate and support efforts to address these challenges, by a combination of improved outreach, engagement, and mechanisms to provide recognition.



In my role on the Board of the Australia and New Zealand section, I led submissions from the section advising the Australian government, enhanced membership by reaching out to fire and hypersonic combustion communities, served on the section's committee to identify and nominate CI Fellows, initiated in collaboration with the chair the establishment of an early-career prize for members of our section.

See the next page for the candidate's curriculum vitae.

Evatt R. HAWKES C.V.

Positions

2016-present: Professor, **The University of New South Wales, Sydney**

2007-2015: Senior Lecturer, Associate Professor, **The University of New South Wales, Sydney**

2002-2007: Basic Energy Sciences Postdoctoral Research Fellow, Combustion Research Facility, **Sandia National Laboratories**

Education

1996-2001: Ph.D., **University of Cambridge**

(Packer Cambridge Australia Scholar & European Gas Turbines Research Student)

1990-1995: B.Sc. (Hons) & B.Eng. (Hons), **University of Western Australia**

Research Interests

- Modelling of turbulent combustion, with DNS, LES and RANS
- Reciprocating and gas-turbine engine combustion, fires, thermochemical energy systems

Selected Awards and Honours

2021: Elected as Fellow of the Australasian Fluid Mechanics Society

2018: Elected among the inaugural class of Fellows of the Combustion Institute (youngest by PhD year)

2011: Australian Research Council Future Fellowship

2008: David Warren Travelling Fellowship (ANZ Section of the CI)

Contributions to the Combustion Institute (CI)

- Colloquium Co-chair, 39th International Symposium on Combustion, Turbulent Flames Colloquium, 2022
- Board Member and Treasurer, Australia and New Zealand Section of the CI, 2011-present
- Associate Editor, Proceedings of the Combustion Institute, 2018-present
- Colloquium Co-chair, 38th International Symposium on Combustion, Turbulent Flames Colloquium, 2020
- Colloquium Co-chair, 36th International Symposium on Combustion, Turbulent Flames Colloquium, 2016
- Co-organiser, 1st Australian Combustion Summer School, Sydney, 2018
- Co-organiser, 11th Asia Pacific Conference on Combustion (ASPACC), Sydney, 2017
- Reviewer for Combust. Flame, Proc. Combust. Inst., since 2004
- Technical paper review committee, 9th, 10th, 11th ASPACC, 2011-present
- Technical paper review committee, Australian Combustion Symposia, 2007-present
- Member of the Combustion Institute, 2000-present

Other Contributions to Combustion Research

- Advisory Editor, Flow, Turbulence and Combustion, 2013-present
- Session organiser for comparisons between models and experiments in ignition and flame-structure, Engine Combustion Network Workshop 2011, 2012, 2015, 2017
- Session organiser for DNS session at the TNF Workshop 2006, 2014, 2018 (combined PTF session)
- Reviewer for all good combustion and fluid mechanics journals, particularly: Combustion Theory and Modelling; Combustion Science and Technology; Progress in Energy and Combustion Science, Journal of Fluid Mechanics; Physics of Fluids; SAE conferences and journals

Publication & Citation Overview

- 133 journal articles in total, including in CI journals:
 - 39 in Proceedings of the Combustion Institute
 - 34 in Combustion and Flame
 - Globally 32nd amongst authors by number contributions to CI journals
- Scopus H-index 42, 6232 citations

Recent Plenary Addresses

1. **Hawkes, E.R.**, (2019), Unravelling engine combustion using large-scale computations, *12th Asia-Pacific Conference on Combustion*, 1-5 July, Fukuoka, Japan.
2. **Hawkes, E.R.**, (2019), Using DNS to advance transported probability density function models of turbulent combustion, *17th International Conference on Numerical Combustion*, May 6-8, Aachen, Germany.
3. **Hawkes, E.R.**, (2015), Petascale direct numerical simulations of laboratory flames, *2015 Australian Combustion Symposium*, 7-9 Dec., Melbourne, Australia.
4. **Hawkes, E.R.**, (2012), Petascale numerical simulations of combustion, *18th Australian Fluid Mechanics Conference*, 3-7 Dec., Launceston, Tasmania, Australia.