The Combustion Institute
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Jennifer X. Wen

2024 Candidate Profile: The Combustion Institute Board of Directors

Reasons for Nomination

I joined The Combustion Institute in 1992 while working for British Gas on modelling laminar flames. Since returning to academia, my research has focused on the development and validation of numerical models to improve physical understanding of fire, spontaneous ignition, turbulent deflagration, and deflagration to detonation transition.

I have taken an active role in the combustion community for example as Colloquium Co-Chair for the "*39th International Symposium on Combustion*" and Associate Editor for the "Proceedings of The Combustion Institute".

Working closely with industry, my research has achieved significant impact on industrial practices in fire and explosion protection as well as addressing critical safety issues underpinning the decarbonisation strategies covering both hydrogen and electrification.
If elected as a Board Member, I would like to work closely with other Directors of the Board to promote activities that will increase the impact of our research.

During the early stages, I made career sacrifices to give quality time and care to my two sons. I resonate with those who are juggling career and care of a young family. I will contribute to Women in Combustion group; and would like to support and encourage those with significant family commitment of The Combustion Institute family.

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

Curriculum Vitae *Dr. Jennifer X Wen*

Current Position:

- Professor in Energy Resilience, University of Surrey (UOS)
- Lead for Energy and Environment Programme at Institute for Sustainability at UOS
- Head of Fire and Explosion Modelling Group at UOS

Education:

- PhD (1990): Heat transfer, Queen Mary and Westfield College, University of London
- BEng (1984): Shanghai Jiao Tong University, Shanghai, China

Selected Professional Honors, Awards, Fellowships, Visiting

- Associate Editor for the "Proceedings of The Combustion Institute"
- Colloquium Co-Chairs for the "*39th International Symposium on Combustion*" (2021-2022)
- Best Annual Paper Award, eTransportation (2023)
- Best Paper Award, International Conference on Hydrogen Safety (ICHS), Edinburgh (2021)
- Best paper award, 12th Int. Symp. on Hazards, Prevention and Mitigation of Industrial Explosions (ISHPMIE**),** USA, 2018
- Chair of the UK Explosion Liaison Group (UKELG), members include major international energy companies, Health and Safety Executive, and organizations from different industrial sectors and academics.
- Vice Chair for Research for the International Association for Fire Safety Sciences (IAFSS)
- Member/Task Force Leader for the European Commission's Hydrogen Safety Panel (EHSP)
- Fellow, Institution of Mechanical Engineers (IMechE) (since 2020)
- Guest Professor, State Key Laboratory of Fire Science (SKLFS), University of Science and Technology, China (2023-25) – Host: Prof. Naian Liu.
- Visiting Professor, Tsinghua University, China (2000)

Selected keynote speeches:

- *14th Int. Symp. on Fire Safety Science*, Tsukuba, Japan (2023)
- *12th Int. Symp. on Hazards, Prevention and Mitigation of Industrial Explosions*, USA (2018)
- *11th Asia-Oceania Symposium on Fire Science and Technology,* Taipei, Taiwan (2018)

Services for the Community

- Associate Editor for the "Proceedings of The Combustion Institute"
- Colloquium Co-Chairs for the "*39th International Symposium on Combustion*" (2021-2022)
- Silver Medal Committee of The Combustion Institute (2023)
- Management Committee, British Section of The Combustion Institute (CIBS) (2019-2022)
- Hinshelwood Award Committees for CIBS (2022-2023)

Scientific Records:

- Publications: 187 published in peer reviewed journals
- Scopus ID: h-index: 34; https://www.scopus.com
- Google Scholar: h-index: 40; https://scholar.google.com/citations?user=UZxvc-IAAAAJ&hl=en

Selected publications:

Shen, X., …Wen, J.X., Liu, H., Law, C.K, Strong flame acceleration and detonation limit of hydrogen-oxygen mixture at cryogenic temperature, *Proc. of The Combustion Institute*, 2023, 39(3).
B.P. Xu, J.X. Wen, Computational analysis of the mechanisms and characteristics for pulsating and uniform flame spread over liquid fuel at subflash temperatures. *Combustion and Flame, 2022, 238.*
C.M.R Vendra, A.V. Shelke … J.X. Wen, Numerical and experimental characterization of high energy density 21700 lithium-ion battery fires. *Process Safety and Environmental Protection, 2022, 160.*
B.P. Xu, J.X. Wen, The effect of convective motion within liquid fuel on the mass burning rates of pool fires – a numerical study. *Proc. of The Combustion Institute, 2021, 38 (3).*
F. Tang, … J.P. Zhang. and J.X. Wen, Effect of sidewall on the flame extension characteristics beneath a ceiling induced by carriage fire in a channel. *Combustion and Flame, 2021, 223.*