



The Combustion Institute

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Christian Hasse

2024 Candidate Profile: The Combustion Institute Board of Directors

Reasons for Nomination

Efforts to make the global energy system sustainable through renewable chemical energy carriers and fuels, including hydrogen, ammonia, SAF, e-fuels and metals, will bring unprecedented momentum to combustion science. As CI, we are in an excellent position to contribute. We can leverage our extensive knowledge, experimental, theoretical and numerical methods. A wide range of opportunities and new fundamental scientific questions will arise from increased collaboration with applied research.

To tackle these challenges, we must attract young researchers and support young scientists that are already in our community. In my experience, research on combustion in the context of energy transformation is particularly appealing to young scientists at all stages of their careers.



I have been a CI member for more than 20 years and would welcome the opportunity to participate in shaping the future by serving on the Board. My primary objectives will be:

1. Link fundamental and applied combustion research to advance science-guided development of future combustion systems.
2. Promote the close collaboration of numerical, theoretical, and experimental combustion research.
3. Attract young talents by increasing the visibility of combustion research as a critical building block in the energy transition.
4. Support young researchers in combustion science by developing new formats.

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

Christian HASSE

Main research fields: Advanced Modeling and Simulation of Turbulent Combustion, Multi-Phase Flows, Fundamentals of Laminar Flames: More Details [Link](#)

Academic Employment Record

2017 – Present Professor Technische Universität (Technical University) Darmstadt, Simulation of Reactive Thermo-Fluid Systems
2010 – 2017 Professor Technische Universität (Technical University) Bergakademie Freiberg, Numerical Thermo-Fluid Dynamics

Industry Employment Record

2004 – 2010 Engineer in Research and Development BMW Group Munich

Educational Background

2004 Dr.-Ing. Mechanical Engineering RWTH Aachen University
1997 Dipl.-Ing. Mechanical Engineering RWTH Aachen University and UC Davis, USA

Selected Honors, Awards and Fellowships

2024 ERC Advanced Grant, Aluminum STEAM combustion for clean energy (A-STEAM)
2024, 2020 ASME Turbo Expo Best Paper Award
2021 Fellow of The Combustion Institute for significant contributions to turbulent combustion, multi-phase flow and soot formation
2015 – Present Lecturer at von Karman Institute for Fluid Dynamics, Lecture Series Turbulent Combustion

Scientific Records:

Publications: **255** (published and/or in press) in peer-reviewed journals
Google Scholar: **h-index 43**; <https://scholar.google.de/citations?user=zOpvwwsAAAAJ&hl=en>
Researcher ID: **h-index 35**; <https://www.researcherid.com/rid/A-3587-2011>
Scopus: **h-index 38**; <https://www.scopus.com/authid/detail.uri?authorId=56379852500>
Communications at Int. Conf.: **>200**; Invited plenaries at Int. Conf.: **> 15**

Supervision of Doctoral Candidates and mentoring of Postdocs

2010 – Present 32 PhD Graduates (defended), currently supervising 22 doctoral candidates
2024 Mentoring 6 postdocs

Selected Academic and Institutional Service

2024 Hiroshi Tsuji Early Career Researcher Award selection committee
2023 Colloquium Chair Initial Review Committee (IRC) CI's 40th Int. Symposium
2021 – Present Co-Speaker Cluster **Clean Circles** - Iron as a sustainable energy carrier; more than 25 PIs
2020 – Present Associate Editor Proceedings of The Combustion Institute
2018 – Present Member of Editorial Board International Journal of Engine Research
2020 – Present Member of Editorial Board Applications in Energy and Combustion Science
2012 – Present Guest Editor Applied Energy (2023), Int. Journal of Heat and Fluid Flow (2021-2023, Flow, Turbulence and Combustion (2012)

Selected Organization of Workshops and Conferences

2019 – Present Co-Organizer Two-Day Meeting on Propulsion Simulations Using OpenFOAM Technology (biannually)
2018 – Present Member of the organization committee International Workshop on Measurement and Computation of Turbulent Flames (TNF)
2015 – Present Co-Organizer CSC –Workshop on Clean Solids Conversion, formerly known as CBC – Workshop on Measurement and Simulation of Coal and Biomass Conversion
2011 Co-Organizer ERCOFTAC Conference on Simulation of Multiphase Flows in Gasification and Combustion