



## The Combustion Institute

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## Michael E. Mueller

*2024 Candidate Profile: The Combustion Institute Board of Directors*

### Reasons for Nomination

I have been a devoted servant to The Combustion Institute at section, national, and international levels. These experiences have given me a broad perspective on the challenges facing our community and opportunities for expanding our scope, reach, and impact. Among other challenges, a crisis in our community surrounds messaging: combustion energy conversion is not the **problem** but the **solution** to the climate crisis. Sustainable and decarbonized fuels will be critical for our future and bring extraordinarily interesting scientific **and** engineering research challenges. Combustion also plays a central role in responding to the consequences of climate change: increased frequency and severity of wildfires and their spread to urbanized areas. These are exciting research **and** technology opportunities that need to be trumpeted to the world! Additionally, the combustion community has been the **leader** in developing laser diagnostics and sophisticated computational models for multi-physics phenomena. These developments could and should make major impacts also in other fields, and opportunities are needed to share these developments across disciplinary boundaries. New cross-disciplinary forums for diffusion (pun most certainly intended...) of knowledge should be a priority of The Combustion Institute to push our achievements into other fields **and** pull the achievements of other fields into combustion.



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

# Michael E. Mueller

## **CURRENT APPOINTMENTS**

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*Princeton University*: Associate Department Chair and Professor, Department of Mechanical and Aerospace Engineering (Professor since 2022; Associate Professor 2018-2022; Assistant Professor 2012-2018)

*National Renewable Energy Laboratory*: Faculty Researcher, High Performance Algorithms and Complex Fluids Group, Computational Science Center (since 2020)

## **EDUCATION**

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PhD, Mechanical Engineering, Stanford University, 2012

MS, Mechanical Engineering, Stanford University, 2009

BS, Mechanical Engineering, The University of Texas at Austin, 2007

## **SELECTED AWARDS AND HONORS**

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Best Paper, High-Speed Air-Breathing Propulsion, American Institute of Aeronautics and Astronautics, 2023

Fellow, American Society of Mechanical Engineers, 2023

***Hiroshi Tsuji Early Career Researcher Award, The Combustion Institute, 2022***

Associate Fellow, American Institute of Aeronautics and Astronautics, 2022

***Early Career Combustion Investigator Award, United States Sections of The Combustion Institute, 2021***

***Research Excellence Award, The Combustion Institute, 2020***

Young Investigator Program (YIP) Award, Army Research Office, 2017

Princeton University Graduate Mentoring Award, 2015

12x (2013-2023) Princeton Engineering Commendation List for Outstanding Teaching (“Engines”, Numerical Methods, CFD, Turbulent Reacting Flows)

## **PUBLICATION REOCR**

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51 Publications in Combustion Institute Journals (27 CNF, 21 PROCI, 3 CTM)

Google Scholar Profile: [https://scholar.google.com/citations?user=a\\_y92MoAAAAJ&hl=en](https://scholar.google.com/citations?user=a_y92MoAAAAJ&hl=en)

## **CURRENT SERVICE TO THE COMBUSTION INSTITUTE**

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Chair and Executive Board Member, Eastern States Section of The Combustion Institute

Executive Board Member, United States Section of The Combustion Institute

Associate Editor, Proceedings of The Combustion Institute

Editorial Board, Combustion and Flame

Colloquium Coordinator (Numerical Combustion), 40<sup>th</sup> International Symposium on Combustion

Organizing Committee, International Workshop on the Measurement and Computation of Reacting Flows with Carbon Nanoparticles

Co-Organizer, Princeton-Combustion Institute Summer School on Combustion and the Environment

## **WEBSITES AND SOCIAL MEDIA**

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Research Website (Computational Turbulent Reacting Flow Laboratory): <https://ctrfl.princeton.edu>

Faculty Profile: <https://mae.princeton.edu/people/faculty/mueller>

LinkedIn: <https://www.linkedin.com/in/michael-e-mueller/>