



The Combustion Institute

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Epaminondas Mastorakos

2022 Candidate Profile: The Combustion Institute Board of Directors

Reasons for Nomination

I have worked within the Combustion Institute family since my PhD. I have always enjoyed the collegiate atmosphere and focus on interactions and depth of the science produced. I have had the privilege of working with many younger and older colleagues, in a quite wide range of topics, and of interacting closely with industry. In contrast to other engineering fields, in combustion those who build the engines have to get them working right before the underlying science has been developed, using inaccurate theories and tools. The usual noises we hear about “knowledge transfer”, “innovation”, “university-industry interactions” and other such generalities mean different things in combustion, with the information transfer very often being in both directions.



The CI could invest more in how it interacts with industry and sponsoring agencies. Many members are very experienced working with these, but the CI’s voice could be louder. The importance of combustion science in the future energy landscape must be promoted to governments and funding agencies. A series of position papers, authored by the CI, could be produced. Good efforts have been made lately to include industry in our Symposia and such activities must be promoted further. As a Director I would like to contribute to all of these efforts.

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

Epaminondas Mastorakos, MInstP, CEng, FIMechE, FCI

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Summary biographical information

Research Topics: fluid mechanics experiments, computational fluid dynamics, turbulent reacting flow experimentation and modelling, ignition and extinction of flames, spray flames, gas turbine and diesel engine combustion, natural gas engine ignition mechanisms, chemical mechanism reduction, and combustion in porous media. Atmospheric chemistry, aerosols, dispersion of pollutants, the fluid mechanics of shale oil and gas, and airborne disease dispersion.

Education: BEng in Mechanical Engineering from Imperial College (1987); Masters from Cornell (1990); PhD from Imperial in 1993.

Positions: Post-doc in Japan, France and Greece; Lecturer at Cambridge in 2000, Professor in 2009. Consultant to various industries in the engines and energy area. Combustion Research Coordinator in the Rolls-Royce / Cambridge University Gas Turbine Partnership.

Publications and bibliometrics: 177 archival publications, three of which are invited review papers in major journals, *h-index* of 47 (Web of Science). Patents on syngas production, radiant burners, and low-emission gas turbine combustors. Co-author of a textbook on turbulent reacting flows and co-editor of a research collection. Full publication list: <https://orcid.org/0000-0001-8245-5188>

Editorial responsibilities: Associate Editor of "*Combustion and Flame*"; member of the Editorial Boards of "*Combustion Theory and Modelling*", "*Flow Turbulence and Combustion*", and "*Progress in Energy and Combustion Science*".

Recognition: Various paper prizes (twice the Gaydon Prize and once the Sugden Prize from the British Section; two Distinguished Paper awards for papers in International Symposia on Combustion; Best Paper award by ASME Turbo Expo). Plenary lectures in regional conferences and a Topical Review in the 35th Int. Symposium. Elected Fellow of the Combustion Institute in February 2018 and Fellow of the UK Institution of Mechanical Engineers in November 2019.

Contributions to the Combustion Institute

Co-founder of the Greek Section of the Combustion Institute in 1996; member of the Committee of the British Section. Colloquium Co-Chair (36th, 37th, 39th) and Colloquium Coordinator (32nd) for International Symposia and contributions to the organisation of regional meetings (MCS series).