



**The Combustion Institute**

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**Keith R. McManus**

*Candidate, 2016 CI Board of Directors*

**Reasons for Nomination**

I would like to serve on the Board of Directors to help enable a better link between the industrial combustion community and the Combustion Institute. I believe this link could be strengthened by developing new forums within the CI that would help draw more interest from industry groups. Focusing on current major industrial combustion research and technology initiatives will help us generate a list of new topic areas to offer for CI meetings and conferences. Increasing the number of application specific research topics and conference sessions would be attractive to industry participants. These types of sessions would be a great addition to the traditional portfolio of basic research topics that have been the hallmark of the CI and its meetings. The inclusion of more applied sessions will be important in drawing more industry participants to the Section meetings and to the International Combustion Symposia. I believe that my industry-based career and my extensive involvement in other professional societies, with strong ties to our field, give me a unique perspective and the ability to help grow the CI in this space.



*Keith R. McManus*

*See next page(s) for candidate's curriculum vitae.*

## **DR. KEITH R. McMANUS**

Manager – Emissions and Fuel Flexibility Lab  
Aero-Thermal & Mechanical Systems  
GE Global Research Center  
Niskayuna, NY 12309 USA

Dr. McManus received his B.S. in Mechanical Engineering from Cornell University (1982). While working as an Analytical Engineer in the Combustion Technology Group at Pratt and Whitney Aircraft (1982-1985), he earned an M.S.M.E. from Rensselaer Polytechnic Institute. At Pratt and Whitney, Dr. McManus worked with a research group developing aerothermal modeling codes for gas turbine combustors. He received his Ph.D. degree (1990) in Mechanical Engineering from Stanford University under the supervision of Prof. Craig T. Bowman. His dissertation concerned an experimental study of active control of vortex formation for improving mixing in combustion systems. Dr. McManus continued to work in the area of active control of thermo-fluid systems during a 2-year post-doctoral visit to the C.N.R.S. combustion research laboratory in Paris.

Dr. McManus worked at Physical Sciences Inc. from 1992 - 1999 and worked on various experimental combustion projects and made extensive use of laser-based diagnostics and optical measurements. He has been at the GE Global Research Center since November 1999 and has conducted and directed experimental research on low-emissions gas turbine combustors. Since 2011 he has managed the Emissions and Fuel Flexibility lab in the Combustion Systems Organization. Dr. McManus has approximately 30 years of experience in propulsion and combustion research and is an internationally recognized contributor to fundamental research studies of advanced combustor and flow control techniques. He has authored over 65 articles in the area of combustion research and holds 9 invention patents.

Dr. McManus has been a member of the Combustion Institute since 1987 and from 2001 to 2009 he was a member of the Eastern States Section Executive Committee. He is a Fellow of the ASME and serves on their Combustion and Fuels Technical Committee. He is an Associate Fellow of the AIAA and has served as Chair of their Propellants and Combustion Technical Committee. He also chaired the AIAA Joint Propulsion Conference Steering Committee. Dr. McManus serves as a reviewer for several technical publications. These include the AIAA Journal, AIAA Journal of Propulsion and Power, Combustion and Flame, The International Combustion Symposium (proceedings), Combustion Science and Technology and the ASME Journal of Engineering for Gas Turbines and Power.

### External Activities

- 2009-present ASME Combustion and Fuels Technical Committee member
- 2007-2012 - Chair - AIAA Joint Propulsion Conference Steering Committee
- 2001 – 2009 Member of The Combustion Institute and Eastern States Section Executive Committee
- 2006-2012 – member of Penn State Propulsion Engineering Research Center Policy Advisory Board
- 2006-2008 - Chair - AIAA Propellants and Combustion Technical Committee
- 2007 Invited speaker at ES Combustion Institute Conference