



**The Combustion Institute**

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**Christopher R. Shaddix**

*Candidate, 2016 CI Board of Directors*

**Reasons for Nomination**

As a researcher on topics as varied as soot formation, coal and biomass combustion, laser diagnostics, chemical kinetics, and oxy-fuel combustion, I have a deep appreciation for the wide interests and expertise in the combustion research community. I have actively collaborated with researchers from Europe, Asia, Australia, and Colombia, and thus understand the strong international nature of combustion research. I have served on the Combustion Institute's Western States Section board and US Section board and understand the issues associated with CI activities. More recently, I led the local organization for the 35th International Combustion Symposium, so I have a thorough understanding of the work associated with organizing the Symposium. The combustion research community, and through it, the Combustion Institute, is experiencing rapid changes. The Institute is working to adapt modern, web-based information handling to streamline procedures for organizing and participating in conferences and to update its web presence. I fully support these efforts and also would like to see stronger administrative support of the many topical workshops held in association with CI conferences. After devoting so much of my professional life to activities associated with combustion, it would be a great privilege to serve on the CI Board of Directors.



*Christopher R. Shaddix*

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

## CURRICULUM VITAE

### Christopher R. Shaddix

Combustion Research Facility  
Sandia National Laboratories  
7011 East Avenue  
Livermore, CA 94551 USA  
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crshadd@sandia.gov

#### Education

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|------|--------------|---|
| 1988 | <b>B.S.</b>  | University of California at Davis, highest honors<br>Department of Mechanical Engineering |
| 1993 | <b>Ph.D.</b> | Princeton University<br>Department of Mechanical and Aerospace Engineering                |

#### Research Experience

##### **Combustion Research Facility, Sandia National Laboratories, Livermore CA**

1995 – present *Technical Staff and Manager*

Principal Investigator on projects involving combustion and gasification of coal and biomass, soot formation and radiation in laminar and turbulent diffusion flames, autoignition of electrolytic solvents in advanced batteries, tunable diode laser measurements of soot, temperature, and gas species in fires, swirl burner combustion of syngas in diluted oxygen, alkali volatilization in glass melting furnaces, and particle diagnostics for pulp mill recovery boilers.

Manager of a technical department of approximately 25 research scientists and engineers conducting experimental, numerical, and theoretical research on gas-phase turbulent combustion and spray combustion, as well as advanced numerical approaches for uncertainty quantification.

##### **Building & Fire Research Lab, National Inst. of Standards and Tech. (NIST), Gaithersburg, MD**

1993–1995 *National Research Council (NRC) Postdoctoral Research Fellow*

Applied laser diagnostics in laminar steady and pulsed diffusion flames to measure soot properties and the concentrations of OH, PAH, CO, and NO. Developed improvements in the quantitative application of laser-induced incandescence (LII) for measurement of soot concentration. [mentored by Kermit Smyth]

##### **Mechanical and Aerospace Engineering Department, Princeton University, Princeton, NJ**

1988–1993 *Research Assistant* [mentored by Irv Glassman and Ken Brezinsky]

Conducted and interpreted turbulent flow reactor experiments on high-temperature oxidation and pyrolysis chemistry of naphthalene, 1-methylnaphthalene, and phenylacetylene.

#### Service

Organizing Committee, International Workshop on Sooting Flames, 2011–present

Executive Committee, Western States Section of the Combustion Institute (WSS/CI), 1997–present

Executive Committee, US Section of the Combustion Institute (USCI), 2013–present

Associate Editor, *Combustion Science and Technology*, 2009–present

Chair, Local Organizing Committee of the 35<sup>th</sup> International Symposium on Combustion, 2014