

# Michael E. Mueller

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## EDUCATION

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### Stanford University

Degree: Ph.D., Mechanical Engineering  
Dates: June 2009 – June 2012  
Dissertation: Large Eddy Simulation of Soot Evolution in Turbulent Reacting Flows  
Advisor: Heinz Pitsch  
Readers: Tom Bowman, Parviz Moin

### Stanford University

Degree: M.S., Mechanical Engineering  
Dates: June 2007 – June 2009

### The University of Texas at Austin

Degree: B.S., Mechanical Engineering (Highest Honors)  
Dates: August 2003 – May 2007

## EXPERIENCE

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### Princeton University

Titles: Assistant Professor, Department of Mechanical and Aerospace Engineering  
Associated Faculty, Princeton Institute for Computational Science and Engineering  
Dates: September 2014 – Present

### Princeton University

Title: Assistant Professor, Department of Mechanical and Aerospace Engineering  
Dates: September 2012 – August 2014

### Stanford University

Title: Postdoctoral Scholar, Department of Mechanical Engineering  
Dates: July 2012 – August 2012  
Supervisor: Heinz Pitsch

**Stanford University**

Title: Graduate Research Assistant, Department of Mechanical Engineering  
Dates: June 2007 – June 2012  
Supervisor: Heinz Pitsch

**The University of Texas at Austin**

Title: Undergraduate Research Assistant, Department of Mechanical Engineering  
Dates: August 2006 – May 2007  
Supervisor: Ofodike Ezekoye

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**AWARDS**

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Alfred Rheinstein Award, 2016

Princeton Engineering Commendation List for Outstanding Teaching, Spring 2016 (MAE/ENE 427)

Princeton Engineering Commendation List for Outstanding Teaching, Spring 2015 (MAE/ENE 427)

Princeton University Graduate Mentoring Award, 2015

Princeton Engineering Commendation List for Outstanding Teaching, Fall 2014 (MAE 539)

Princeton Engineering Commendation List for Outstanding Teaching, Fall 2013 (MAE 509)

National Science Foundation Graduate Research Fellowship, 2008-2012

National Defense Science and Engineering Graduate Fellowship, 2008-2011

Stanford University Department of Mechanical Engineering Graduate Fellowship, 2007-2008

University of Texas College of Engineering Friends of Alec Undergraduate Scholarship, 2003-2007

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**PRINCETON UNIVERSITY SERVICE**

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ASME/AIAA Student Chapter Faculty Advisor, 2015-Present

Princeton Energy & Climate Scholars (PECS) Faculty Board, 2014-Present

SEAS Committee on Graduate Programs and Postdoctoral Experiences, 2014-2015

High-Performance Computing Research Center (HPCRC) Steering Committee, 2014-Present

Tau Beta Pi Faculty Advisor, 2013-Present

Program in Sustainable Energy Executive Committee Member, 2013-Present

MAE Graduate Committee, 2012-Present

MAE Seminar Committee, 2012-2016

BSE Freshmen Advisor, 2012-Present

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**ACADEMIC COMMUNITY SERVICE**

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Executive Board Member, Eastern States Section of the Combustion Institute, 2013-Present

Program Co-leader (Turbulent Flames), International Sooting Flame Workshop, 2015-Present

Conference Organizer:

Site, Facility, and Transportation Committee Chair, 2020 International Combustion Symposium New York City Bid

Local Arrangements Co-Chair, 2016 Spring Technical Meeting of the Eastern States Section of the Combustion Institute

## Journal Reviewer:

*Combustion and Flame; Proceedings of the Combustion Institute, Journal of Fluid Mechanics; Physics of Fluids; Combustion Theory and Modelling; Combustion Science and Technology; Flow, Turbulence and Combustion; Journal of Combustion; Journal of Computational Physics; Computational Science & Discovery; Fuel; Energy & Fuels; AIAA Journal; International Journal of Multiphase Flows; Nanoscale and Microscale Thermophysical Engineering; Journal of Propulsion and Power, Shock Waves*

## Conference Reviewer:

*International Symposium on Combustion, ASME Turbo Expo*

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**PRINCETON UNDERGRADUATE TEACHING**

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MAE/ENE 427, Energy Conversion and the Environment: Transportation Applications  
Semesters: Spring 2013, Spring 2014, Spring 2015, Spring 2016

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**PRINCETON GRADUATE TEACHING**

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MAE 557, Simulation and Modeling of Fluid Flows  
Semesters: Fall 2015  
MAE 507 (APC 523), Numerical Algorithms for Scientific Computing  
Semesters: Spring 2015 (w/ J.M. Stone)  
MAE 539, Turbulent Combustion  
Semesters: Fall 2014, Fall 2016  
MAE 509, Numerical Methods for Engineering  
Semesters: Fall 2013

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**POSTDOCTORAL ADVISEES**

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Temistocle Grenga, 2015-Present

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**GRADUATE ADVISEES**

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Alex Novoselov (co-advised with C.K. Law), Ph.D., 2016-Present  
Jeffrey Lew, Ph.D., 2015-Present  
Bruce Perry, Ph.D., 2015-Present  
Sandra Sowah (co-advised with H.A. Stone), M.S.E., 2015-Present  
Jonathan MacArt, Ph.D., 2014-Present  
A. Cody Nunno, Ph.D., 2014-Present  
Sili Deng (co-advised with C.K. Law), Ph.D., 2013-2016  
Carla Bahri (co-advised with M. Hultmark), Ph.D., 2012-2016

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**UNDERGRADUATE ADVISEES**

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Silken Jones (co-advised with C.W. Rowley), 2014-2015  
Po Moon, 2014-2015

Jimin Hong, 2014-2015

R. Leland Baldwin, 2013-2014

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### VISITING STUDENT ADVISEES

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Chenxi Feng, Hong Kong University of Science and Technology, 2016

Lukas Berger, RWTH Aachen University, 2015

Raymond Langer, RWTH Aachen University, 2014-2015

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### MEMBERSHIPS

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The Combustion Institute

American Physical Society, Division of Fluid Dynamics

American Society of Mechanical Engineers

American Institute of Aeronautics and Astronautics (Senior Member)

Society for Industrial and Applied Mathematics

Tau Beta Pi (Texas Alpha President Emeritus)

Pi Tau Sigma

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### PEER-REVIEWED PUBLICATIONS

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1. MacArt, J.F., Mueller, M.E., Semi-implicit iterative methods for low Mach number turbulent reacting flows: Operator splitting versus approximate factorization, *Journal of Computational Physics* (2015) submitted
2. Perry, B.A., Mueller, M.E., Masri, A.R., A two mixture fraction flamelet model for Large Eddy Simulation of turbulent flames with inhomogeneous inlets, *Proceedings of the Combustion Institute* (2016) in press (available online)
3. Deng, S., Mueller, M.E., Chan, Q.N., Qamar, N.H., Dally, B.B., Alwahabi, Z.T., Nathan, G.J., Hydrodynamic and chemical effects of hydrogen addition on soot evolution in turbulent nonpremixed bluff body ethylene flames, *Proceedings of the Combustion Institute* (2016) in press
4. Koo, H., Hassanaly, M., Raman, V., Mueller, M.E., Geigle, K.P., Large Eddy Simulation of soot formation in a model gas turbine combustor, *Journal of Engineering for Gas Turbines and Power* (2016) in press (available online)
5. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Flame dynamics in oscillating flows under autoignitive conditions, *Combustion and Flame* **168** (2016) 75-82
6. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Effects of non-unity Lewis number of gas-phase species in turbulent nonpremixed sooting flames, *Combustion and Flame* **166** (2016) 192-202
7. Davies, G., Hsieh, A.G., Hultmark, M., Mueller, M.E., Steingart, D.A., Utilization of hyper dendritic zinc during high rate discharge in alkaline electrolytes, *Journal of the Electrochemical Society* **163** (2016) A1340-A1347

8. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Stabilization of laminar nonpremixed DME/air coflow flames at elevated temperatures and pressures, *Combustion and Flame* **162** (2015) 4471-4478
9. Bahri, C., Arwatz, G., George, W.K, Mueller, M.E., Hultmark, M., Self-similarity of passive scalar flow in grid turbulence with a mean cross-stream gradient, *Journal of Fluids Mechanics* **780** (2015) 215-225
10. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., NTC-affected stabilization of laminar nonpremixed DME/air flames, *Combustion and Flame* **162** (2015) 3437-3445
11. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Damköhler number effects on soot formation and growth in turbulent nonpremixed flames, *Proceedings of the Combustion Institute* **35** (2015) 1215-1223
12. Deng, S., Koch, J.A., Mueller, M.E., Law, C.K., Sooting limits of nonpremixed n-heptane, n-butanol, and methyl butanoate flames: Experimental determination and mechanistic analysis, *Fuel* **136** (2014) 122-129
13. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Formation, growth, and transport of soot in a three-dimensional turbulent non-premixed jet flame, *Combustion and Flame* **161** (2014) 1849—1865
14. Mueller, M.E., Raman, V., Effects of turbulent combustion modeling errors on soot evolution in turbulent nonpremixed jet flames, *Combustion and Flame* **161** (2014) 1842—1848
15. Xuan, Y., Blanquart, G., Mueller, M.E., Modeling curvature effects in diffusion flames using a laminar flamelet model, *Combustion and Flame* **161** (2014) 1294—1309
16. Mueller, M.E., Pitsch, H., Large Eddy Simulation of soot evolution in an aircraft combustor, *Physics of Fluids* **25** (2013) 110812
17. Mueller, M.E., Chan, Q.N., Qamar, N.H., Dally, B.B., Pitsch, H., Alwahabi, Z.T., Nathan, G.J., Experimental and computational study of soot evolution in a turbulent nonpremixed bluff body ethylene flame, *Combustion and Flame* **160** (2013) 1298—1309
18. Mueller, M.E., Iaccarino, G., Pitsch, H., Chemical kinetic uncertainty quantification for Large Eddy Simulation of turbulent nonpremixed combustion, *Proceedings of the Combustion Institute* **34** (2013) 1299—1306
19. Donde, P., Raman, V., Mueller, M.E., Pitsch, H., LES/PDF based modeling of soot-turbulence interactions in turbulent flames, *Proceedings of the Combustion Institute* **34** (2013) 1183—1192
20. Mueller, M.E., Pitsch, H., LES modeling of sooting turbulent nonpremixed flames, *Combustion and Flame* **159** (2012) 2166—2180
21. Bisetti, F., Blanquart, G., Mueller, M.E., Pitsch, H., On the formation and early evolution of soot in turbulent nonpremixed flames, *Combustion and Flame* **159** (2012) 317-335
22. Mueller, M.E., Pitsch, H., Large eddy simulation subfilter modeling of soot-turbulence interactions, *Physics of Fluids* **23** (2011) 115104

23. Mueller, M.E., Blanquart, G., Pitsch, H., Modeling the oxidation-induced fragmentation of soot aggregates in laminar flames, *Proceedings of the Combustion Institute* **33** (2011) 667-674
24. Mueller, M.E., Blanquart, G., Pitsch, H., Hybrid Method of Moments for modeling soot formation and growth, *Combustion and Flame* **156** (2009) 1143-1155
25. Mueller, M.E., Blanquart, G., Pitsch, H., A joint Volume-Surface model of soot aggregation with the method of moments, *Proceedings of the Combustion Institute* **32** (2009) 785-792

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**MINI-SYMPOSIA ORGANIZED**

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1. Raman, V., Mueller, M.E., Large Eddy Simulation: Challenges and Opportunities, 15<sup>th</sup> International Conference on Numerical Combustion, Avignon, France, April 19-22, 2015

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**INVITED SEMINARS AND LECTURES**

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1. Mueller, M.E., Title TBD, Fluid Mechanics Seminar Series, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, December 2, 2016
2. Mueller, M.E., Title TBD, Thermal-Fluid Sciences Seminar Series, Department of Mechanical, Industrial, and Manufacturing Engineering, Oregon State University, Corvallis, OR, September 30, 2016
3. Mueller, M.E., Towards Predictive Simulations of Soot Emissions in Practical Combustion Systems: Fuel Effects and Interactions with Turbulence, Division of Mechanical Engineering, Hanyang University, Seoul, South Korea, August 3, 2016
4. Mueller, M.E., Predictive Computational Modeling of Turbulent Combustion: Inevitable Outcome or Practical Impossibility?, 2016 International Combustion Institute/NSERC CREATE Summer School, University of Toronto, Toronto, CA, June 1, 2016
5. Mueller, M.E., Physics-Derived Uncertainty Quantification for Large Eddy Simulation of Turbulent Combustion, Department of Aerospace Engineering and Engineering Mechanics, The University of Texas at Austin, Austin, TX, May 4, 2015
6. Mueller, M.E., Large Eddy Simulation of "Multi-Physics" Turbulent Nonpremixed Combustion, Clean Combustion Research Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia, March 22, 2015
7. Mueller, M.E., "All About Soot": UQ, 1+D Flamelets, and Fuel Effects, Institute for Combustion Technology, RWTH Aachen University, Aachen, Germany, June 13, 2014
8. Mueller, M.E., Large Eddy Simulation of Soot Evolution in Turbulent Reacting Flows, Sibley School of Mechanical and Aerospace Engineering, Cornell University, Ithaca, NY, September 3, 2013
9. Mueller, M.E., Large Eddy Simulation of Soot Evolution in Turbulent Reacting Flows, Department of Aerospace Engineering and Engineering Mechanics, The University of Texas at Austin, Austin, TX, November 1, 2012

10. Mueller, M.E., Large Eddy Simulation of Soot Evolution in a Pratt & Whitney Combustor, United Technologies Research Center, East Hartford, CT, October 5, 2012
11. Mueller, M.E., Soot Evolution in Turbulent Reacting Flows: A Multi-Fidelity Approach to a Multi-Scale, Multi-Physics Problem, Department of Mechanical Engineering, Stanford University, Stanford, CA, April 10, 2012
12. Mueller, M.E., Soot Evolution in Turbulent Reacting Flows: A Multi-Fidelity Approach to a Multi-Scale, Multi-Physics Problem, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ, February 23, 2012

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**RESEARCH BRIEFS**

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1. Attili, A., Bisetti, F., Mueller, M.E., DNS of soot formation and growth in turbulent non-premixed flames: Damköhler number effects and Lagrangian statistics of soot transport, Center for Turbulence Research Proceedings of the Summer Program, Stanford University, 2012
2. Bansal, G., Mueller, M.E., Pitsch, H., Direct numerical simulation of soot formation in jet engine combustors, Center for Turbulence Research Annual Research Briefs, Stanford University, 2009

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**CONFERENCE PRESENTATIONS**

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1. Langer, R.T., Wick, A., Mueller, M.E., Pitsch, H., Multivariate modeling of soot particles with the Hybrid Method of Moments, European Aerosol Conference 2016, Tours, France, September 5-10, 2016
2. Perry, B.A., Mueller, M.E., Masri, A.R., A two mixture fraction flamelet model for Large Eddy Simulation of turbulent flames with inhomogeneous inlets, 36<sup>th</sup> International Symposium on Combustion, Seoul, South Korea, July 31-August 5, 2016
3. Deng, S., Mueller, M.E., Chan, Q.N., Qamar, N.H., Dally, B.B., Alwahabi, Z.T., Nathan, G.J., Hydrodynamic and chemical effects of hydrogen addition on soot evolution in turbulent nonpremixed bluff body ethylene flames, 36<sup>th</sup> International Symposium on Combustion, Seoul, South Korea, July 31-August 5, 2016
4. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Flame dynamics in oscillating flows under autoignitive conditions, 36<sup>th</sup> International Symposium on Combustion, Seoul, South Korea, July 31-August 5, 2016
5. Nunno, A.C., Grenga, T., Mueller, M.E., Effects of flamelet manifold generation on flame structure and pollutants in diluted turbulent premixed flames, 36<sup>th</sup> International Symposium on Combustion, Seoul, South Korea, July 31-August 5, 2016
6. Lalit, H., Mueller, M.E., Gore, J.P., Quantitative imaging of mid-infrared radiation of turbulent sooting flames: A tool for LES model validation, 36<sup>th</sup> International Symposium on Combustion, Seoul, South Korea, July 31-August 5, 2016

7. Mueller, M.E., Raman, V., Comparisons of uncertainties from turbulence and chemical kinetics models in turbulent combustion simulations, 2016 International Workshop on Measurement and Computation of Turbulent Flames, Seoul, South Korea, July 28-30, 2016
8. Perry, B.A., Mueller, M.E., Masri, A.R., A new mode-switching approach for modeling turbulent flames with inhomogeneous partially premixed inlets, 2016 International Workshop on Measurement and Computation of Turbulent Flames, Seoul, South Korea, July 28-30, 2016
9. Koo, H., Hassanaly, M., Raman, V., Mueller, M.E., Geigle, K.-P., Large Eddy Simulation of soot formation in a model gas turbine combustor, ASME 2016 Turbo Expo, Seoul, South Korea, June 13-17, 2016
10. Mueller, M.E., Raman, V., Physics-derived model form uncertainty in turbulent combustion, SIAM Conference on Uncertainty Quantification, Lausanne, Switzerland, April 5-8, 2016
11. Mueller, M.E., Raman, V., Model form uncertainty in turbulent combustion simulations, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
12. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Autoignited DME/air coflow flames in oscillating flows, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
13. Deng, S., Mueller, M.E., Chan, Q.N., Qamar, N.H., Dally, B.B., Alwahabi, Z.T., Nathan, G.J., Soot evolution in turbulent nonpremixed ethylene/hydrogen bluff body flames, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
14. MacArt, J.F., Grenga, T., Mueller, M.E., Effects of small-scale heat release on turbulence scaling in premixed and nonpremixed flames, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
15. Nunno, A.C., Grenga, T., Mueller, M.E., Large Eddy Simulation of radiation effects in CO<sub>2</sub> and H<sub>2</sub>O diluted turbulent premixed flames, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
16. Perry, B.A., Mueller, M.E., Masri, A.R., Large Eddy Simulation of a turbulent jet flame with inhomogeneous inlets using a two mixture fraction flamelet modeling approach, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
17. Lew, J.K., Mueller, M.E., Mahmoud, S., Alwahabi, Z.T., Dally, B.B., Nathan, G.J., Modeling subfilter soot-turbulence interactions in nonpremixed jet flames, Eastern States Section Combustion Institute Spring Meeting, Princeton, NJ, March 13-16, 2016
18. Koo, H., Raman, V., Mueller, M.E., Geigle, K.-P., LES of a sooting flame in a pressurized swirl combustor, 54<sup>th</sup> AIAA Aerospace Sciences Meeting, San Diego, CA, January 4-8, 2016
19. Lalit, H., Kapaku, R., Rankin, B.A., Mueller, M.E., Gore, J.P., Experimental and computational imaging of mid-infrared radiation from a turbulent ethylene flame, 54<sup>th</sup> AIAA Aerospace Sciences Meeting, San Diego, CA, January 4-8, 2016



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20. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Laminar nonpremixed coflow flame stabilization under autoignitive conditions, Fourth International Education Forum on Environment and Energy Science, Maui, HI, December 6-10, 2015
  21. Mueller, M.E., Perry, B.A., Masri, A.R., Computational study of the effect of compositionally inhomogeneous fuel streams on turbulent jet flames, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  22. Bahri, C., Arwatz, G., Hultmark, M., Mueller, M.E., Scaling of co-spectra in grid turbulence with a mean cross-stream temperature gradient, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  23. Deng, S., Mueller, M.E., Chan, Q.N., Qamar, N.H., Dally, B.B., Alwahabi, Z.T., Nathan, G.J., Hydrodynamic and chemical effects of hydrogen dilution on soot evolution in turbulent nonpremixed bluff body ethylene flames, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  24. Lew, J.K., Mueller, M.E., Mahmoud, S., Alwahabi, Z.T., Dally, B.B., Nathan, G.J., Strain rate effects on soot evolution in turbulent nonpremixed flames, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  25. MacArt, J.F., Mueller, M.E., Semi-implicit iterative methods for low Mach number turbulent reacting flows, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  26. Nunno, A.C., Mueller, M.E., Large Eddy Simulation of radiation effects on pollutant emissions in diluted turbulent premixed flames, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  27. Perry, B.A., Mueller, M.E., Masri, A.R., A two mixture fraction flamelet model for Large Eddy Simulation of turbulent jet flames with inhomogeneous inlets, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  28. Sowah, S.S., Mueller, M.E., Stone, H.A., Numerical simulations of curvature effects in laminar channel flows, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  29. Koo, H., Raman, V., Mueller, M.E., Geigle, K.-P., LES study of intermittency in soot formation in a model aircraft combustor, 68<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Boston, MA, November 22-24, 2015
  30. Mueller, M.E., Flamelet approach for turbulent combustion: Has it reached its limit? [invited], 12<sup>th</sup> International Conference on Energy for a Clean Environment, Lisbon, Portugal, July 5-9, 2015
  31. Perry, B.A., Mueller, M.E., Masri, A.R., Barlow, R.S., Large Eddy Simulation of turbulent partially premixed jet flames with inhomogeneous boundary conditions, 9<sup>th</sup> U.S. National Combustion Meeting, Cincinnati, OH, May 17-20, 2015
  32. Nunno, A.C., Mueller, M.E., Large Eddy Simulation of the effects of radiation on turbulent premixed flame structure, 9<sup>th</sup> U.S. National Combustion Meeting, Cincinnati, OH, May 17-20, 2015

33. Deng, S., Peng, Z., Mueller, M.E., Law, C.K., Stabilization of laminar nonpremixed DME/air coflow flames at elevated temperature and pressure, 9<sup>th</sup> U.S. National Combustion Meeting, Cincinnati, OH, May 17-20, 2015
34. Mueller, M.E., Validation of multi-physics LES against sparse data, 15<sup>th</sup> International Conference on Numerical Combustion, Avignon, France, April 19-22, 2015
35. Koo, H., Mueller, M.E., Raman, V., Dally, B.B., RANS-based modeling and uncertainty quantification of soot formation in flames, 15<sup>th</sup> International Conference on Numerical Combustion, Avignon, France, April 19-22, 2015
36. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Lewis number effects in turbulent nonpremixed sooting flames, 15<sup>th</sup> International Conference on Numerical Combustion, Avignon, France, April 19-22, 2015
37. Deng, S., Zhao, P., Mueller, M.E., Law, C.K., Detailed numerical simulations of the autoignition-affected stabilization of laminar nonpremixed DME/air coflow flames at elevated pressure, High Pressure & High Reynolds Number Combustion Workshop, King Abdullah University of Science and Technology, Saudi Arabia, March 24-26, 2015
38. Kapaku, R.K., Rankin, B.A., Mueller, M.E., Lalit, H.U., Gore, J.P., Quantitative experimental and model-based imaging of mid-infrared radiation from a turbulent luminous flame, 53<sup>rd</sup> AIAA Aerospace Sciences Meeting, Kissimmee, FL, January 5-9, 2015
39. Koo, H., Raman, V., Mueller, M.E., Geigle, K.P., Large-eddy simulation of a turbulent sooting flame in a swirling combustor, 53<sup>rd</sup> AIAA Aerospace Sciences Meeting, Kissimmee, FL, January 5-9, 2015
40. MacArt, J., Mueller, M.E., Analysis of operator splitting errors for DNS of low Mach number turbulent reacting flows, 67<sup>th</sup> Annual Meeting of the American Physical Society Division of Fluid Dynamics, San Francisco, CA, November 23-25, 2014
41. Bahri, C., Arwatz, G., Mueller, M.E., George, W.K., Hultmark, M., Scaling of spectra in grid turbulence with a mean cross-stream temperature gradient, 67<sup>th</sup> Annual Meeting of the American Physical Society Division of Fluid Dynamics, San Francisco, CA, November 23-25, 2014
42. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., On the effects of gas-phase species Lewis number in turbulent nonpremixed sooting flames, 67<sup>th</sup> Annual Meeting of the American Physical Society Division of Fluid Dynamics, San Francisco, CA, November 23-25, 2014
43. Bahri, C., Arwatz, G., George, W.K., Mueller, M.E., Hultmark, M., Scaling of spectra in grid turbulence with mean cross-stream temperature gradient, 10<sup>th</sup> European Fluid Mechanics Conference, Copenhagen, Denmark, September 14-18, 2014
44. Deng, S., Koch, J.A., Mueller, M.E., Law, C.K., Sooting limits of nonpremixed n-heptane, n-butanol, and methyl butanoate flames: Experimental determination and mechanistic analysis, 35<sup>th</sup> International Symposium on Combustion, San Francisco, CA, August 3-8, 2014
45. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Damköhler number effects on soot formation and growth in turbulent nonpremixed flames, 35<sup>th</sup> International Symposium on Combustion, San Francisco, CA, August 3-8, 2014

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46. Baldwin, R.L., Mueller, M.E., Chan, Q.N., Qamarn, N.H., Dally, B.B., Pitsch, H., Alwahabi, Z.T., Nathan, G.J., Experimental and computational study of soot evolution in turbulent nonpremixed bluff body flames: Fuel effects, 2<sup>nd</sup> International Sooting Flames Workshop, Pleasanton, CA, August 2-3, 2014
  47. Kapaku, R.K., Rankin, B.A., Mueller, M.E., Gore, J.P., Quantitative experimental and model-based imaging of mid-infrared radiation from a turbulent sooting flame, 2<sup>nd</sup> International Sooting Flames Workshop, Pleasanton, CA, August 2-3, 2014
  48. Mueller, M.E., Uncertainty quantification in LES: Chemical kinetics, 12<sup>th</sup> International Workshop on Measurement and Computation of Turbulent Flames, Pleasanton, CA, July 31-August 2, 2014
  49. Bahri, C., Mueller, M.E., Hultmark, M., Temperature fluctuations in fully-developed turbulent channel flow with heated upper wall, 66<sup>th</sup> Annual Meeting of the American Physical Society Division of Fluid Dynamics, Pittsburgh, PA, November 24-26, 2013
  50. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Damköhler number effects on soot formation and growth in turbulent nonpremixed flames, 66<sup>th</sup> Annual Meeting of the American Physical Society Division of Fluid Dynamics, Pittsburgh, PA, November 24-26, 2013
  51. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Damköhler number effects in turbulent nonpremixed sooting flames, 8<sup>th</sup> Mediterranean Combustion Symposium, Çeşme, Turkey, September 8-13, 2013
  52. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Effects of turbulent mixing on soot formation and growth in nonpremixed jet flames, 6<sup>th</sup> European Combustion Meeting, Lund, Sweden, June 25-28, 2013
  53. Mueller, M.E., Pitsch, H., Large Eddy Simulation of soot evolution in an aircraft combustor, 8<sup>th</sup> U.S. National Combustion Meeting, Park City, UT, May 19-22, 2013
  54. Xuan, Y., Blanquart, G., Mueller, M.E., Impact of mixture fraction field curvature on chemical species transport in diffusion flames, 8<sup>th</sup> U.S. National Combustion Meeting, Park City, UT, May 19-22, 2013
  55. Mueller, M.E., Raman, V., Effects of turbulent combustion modeling errors on soot evolution in turbulent nonpremixed jet flames, SIAM International Conference on Numerical Combustion, San Antonio, TX, April 8-10, 2013
  56. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., DNS of soot formation in three dimensional turbulent non-premixed jet flames, SIAM International Conference on Numerical Combustion, San Antonio, TX, April 8-10, 2013
  57. Attili, A., Bisetti, F., Mueller, M.E., Pitsch, H., Lagrangian analysis of mixing and soot transport in a turbulent jet flame, Direct and Large-Eddy Simulation 9, Dresden, Germany, April 2-5, 2013
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