

Publication Lists—Eric L. Petersen

Journal Publications in Press

- 1) Tykol, A. J., Rodriguez, F. A., Thomas, J. C., and Petersen, E. L., “Burning Rate Characterization of Guanidine Nitrate and Basic Copper Nitrate Gas Generants with Metal Oxide Additives,” *Combustion Science and Technology*, in press.
- 2) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, “Metallic Additives for Solid-Fuel Propulsion Applications,” *Combustion Science and Technology*, in press.
- 3) M. A. Turner, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, “Emission Spectra of Hydrocarbon Flames Doped with Phosphorus-Containing Compounds,” *Journal of Thermophysics and Heat Transfer*, in press.
- 4) F. A. Rodriguez, J. C. Thomas, T. E. Sammet, D. S. Teitge, and E. L. Petersen, “Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Micro- and Nano-Catalytic Additives,” *Journal of Propulsion and Power*, in press.
- 5) J. C. Thomas, F. A. Rodriguez, D. S. Teitge, L. N. Kunka, G. N. Gaddis, Z. K. Browne, C. B. Ahumada, E. T. Balci, S. I. Jackson, E. L. Petersen, and E. S. Oran, “An Experimental Study of Shock Transmission from a Detonation Tube,” *Shock Waves*, in press.
- 6) S. P. Cooper, P. Marshall, O. Mathieu, L. T. Pinzón, C. R. Mulvihill, P. Glarborg, and E. L. Petersen, “Experimental and Modeling Study of Water Time Histories during $\text{H}_2\text{S}-\text{N}_2\text{O}$ Combustion in a Shock Tube,” *Proceedings of the Combustion Institute*, in press.
- 7) S. A. Alturaifi, O. Mathieu, and E. L. Petersen, “A Shock-Tube Study of NH_3 and NH_3/H_2 Oxidation Using Laser Absorption of NH_3 and H_2O ,” *Proceedings of the Combustion Institute*, in press.
- 8) H. Lu, S. Dong, F. Liu, S. S. Nagaraja, N. Lindblade, M. A. Turner, O. Mathieu, E. L. Petersen, J. C. Vilchez, K. A. Heufer, G. Xu, S. M. Sarathy, and H. J. Curran, “A Wide-Rane Experimental and Kinetic Modeling Study of the Pyrolysis and Oxidation of 1-Butyne,” *Proceedings of the Combustion Institute*, in press.
- 9) H. Lu, F. Liu, S. S. Nagaraja, S. Dong, M. A. Turner, O. Mathieu, E. L. Petersen, J. C. Vilchez, K. A. Heufer, G. Xu, S. M. Sarathy, and H. J. Curran, “A Wide-Range Experimental and Kinetic Modeling Study of the Pyrolysis and Oxidation of 2-Butyne,” *Proceedings of the Combustion Institute*, in press.
- 10) O. Mathieu, P. Diévert, M. A. Turner, D. J. Mohr, C. M. Grégoire, S. A. Alturaifi, L. Catoire, and E. L. Petersen, “Experimental and Detailed Kinetics Modeling Study of the Fire Suppressant Properties of Di(2,2,2trifluoroethyl) Carbonate,” *Proceedings of the Combustion Institute*, in press.
- 11) R. Juarez, N. Gutierrez, and E. L. Petersen, “Characterization of an Apparatus to Study Solid Deposit Formation in Lubricating Oils at High Temperatures,” *Journal of Engineering for Gas Turbines and Power*, in press.

- 12) M. A. Turner and E. L. Petersen, "High-Pressure Laminar Flame Speeds of Various Oxy-Syngas Mixtures with CO₂ Dilution," *Journal of Engineering for Gas Turbines and Power*, in press.

Conference Submissions

- 1) S. P. Cooper, O. Mathieu, D. J. Mohr, and E. L. Petersen, "Ignition Chemistry of Syngas Highly Diluted in CO₂," ASME Paper No. GT2022-81134, ASME Turbo Expo 2022, June 13 – 17, 2022, Rotterdam, The Netherlands.
- 2) R. Juarez, N. Gutierrez, and E. L. Petersen, "Characterization of an Apparatus to Study Solid Deposit Formation in Lubricating Oils at High Temperatures," ASME Paper No. GT2022-81178, ASME Turbo Expo 2022, June 13 – 17, 2022, Rotterdam, The Netherlands.
- 3) M. A. Turner and E. L. Petersen, "High-Pressure Laminar Flame Speeds of Various Oxy-Syngas Mixtures with CO₂ Dilution," ASME Paper No. GT2022-81188, ASME Turbo Expo 2022, June 13 – 17, 2022, Rotterdam, The Netherlands.
- 4) O. Mathieu, Y. Almarzooq, and E. L. Petersen, "Ignition Delay Time and Laminar Flame Speed Measurements of a Li-ion Battery Electrolyte: Ethyl-Methyl-Carbonate," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 5) O. Mathieu, M. A. Turner, D. J. Mohr, J. C. Thomas, and E. L. Petersen, "Experimental Investigation of the Combustion Properties of a Representative Thermal Runaway Gas from Li-ion Batteries," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 6) C. M. Grégoire, C. K. Westbrook, O. Mathieu, S. P. Cooper, S. A. Alturaifi, and E. L. Petersen, "Simultaneous CO and H₂O Laser Absorption Measurements of Pentene Isomers in a Shock Tube," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 7) Y. M. Almarzooq, I. Schoegl, and E. L. Petersen, "A Study on the Effect of Ethanol Addition on Laminar Flame Speed of a Four-Component Gasoline Surrogate at Elevated Pressure and Temperature," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 8) S. P. Cooper and E. L. Petersen, "Ignition of Lubricating Oils using a Novel Spray Injection Technique in a Shock Tube," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 9) F. A. Rodriguez, J. C. Thomas, T. E. Sammet, D. S. Teitge, and E. L. Petersen, "Investigation of Micro- and Nano-Catalytic Additive Effects on Ammonium Perchlorate Combustion," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.

- 10) J. C. Thomas, F. A. Rodriguez, D. S. Teitge, L. N. Kunka, G. N. Gaddis, Z. K. Browne, C. B. Ahumada, E. T. Balci, S. I. Jackson, E. L. Petersen, and E. S. Oran, "Shock Transmission from Detonating Mixtures in Open Tubes," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 11) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, "Experimental Evaluation of Plain Metal Additives for Solid-Fuel Propulsion Applications," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 12) M. A. Turner, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Chemiluminescence of Spherically Expanding Methane-Air Flames Doped with DMMP," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 13) M. A. Turner, D. J. Mohr, P. Diévert, L. Catoire, E. L. Petersen, and O. Mathieu, "Effects of Di(2,2,2-trifluoroethyl) Carbonate on the Ignition Delay Time and Laminar Flame Speed of H₂ and CH₄," 28th International Colloquium on Detonations, Explosions, and Reactive Systems, June 19-24, 2022, Napoli, Italy.
- 14) D. S. Teitge, J. C. Thomas, T. E. Sammet, and E. L. Petersen, "Design and Characterization of a Hot-Surface Ignition Experiment," submitted to 2023 AIAA SciTech Forum, Jan. 23 – 27, 2023, National Harbor, MD.
- 15) R. Juarez, N. Gutierrez, and E. L. Petersen, "High-Temperature Degradation and Coking of Gas Turbine Engine Lubricants," submitted to 2023 AIAA SciTech Forum, Jan. 23 – 27, 2023, National Harbor, MD.
- 16) M. A. Turner and E. L. Petersen, "Measurement and Kinetics Prediction of Undiluted Methane-Oxygen Laminar Flame Speeds," submitted to 2023 AIAA SciTech Forum, Jan. 23 – 27, 2023, National Harbor, MD.
- 17) F. A. Rodriguez and E. L. Petersen, "Laser Heating and Ignition of Solid Fuels in an Oxidizing Environment," submitted to 2023 AIAA SciTech Forum, Jan. 23 – 27, 2023, National Harbor, MD.

Journal Publications

- 1) C. M. Grégoire, C. K. Westbrook, O. Mathieu, S. P. Cooper, S. A. Alturaifi, and E. L. Petersen, "A Shock-Tube and Chemical Kinetics Model Investigation Encompassing all Five Pentene Isomers," *Fuel*, Vol. 323, 2022, 124223/13.
- 2) O. Mathieu, C. M. Grégoire, M. A. Turner, D. J. Mohr, S. A. Alturaifi, J. C. Thomas, and E. L. Petersen, "Experimental Investigation of the Combustion Properties of an Average Thermal Runaway Gas Mixture from Li-Ion Batteries," *Energy & Fuels*, Vol. 36, 2022, pp. 3247-3258.

- 3) J. C. Thomas and E. L. Petersen, "HTPB Heat of Formation: Literature Survey, Group Additive Estimations, and Theoretical Effects," *AIAA Journal*, Vol. 60, No. 3, 2022, pp. 1269-1282.
- 4) S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Shock-Tube Laser Absorption Measurements of N₂O Time Histories During Ammonia Oxidation," *Fuel Communications*, Vol. 10, 2022, 100050/11.
- 5) C. M. Grégoire, C. K. Westbrook, G. Kukkadapu, S. P. Cooper, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Shock-Tube Spectroscopic CO and H₂O Measurements during 2-Methyl-1-Butene Combustion and Chemical Kinetics Modeling," *Combustion and Flame*, Vol. 238, 2022, 111919/13.
- 6) O. Mathieu, S. P. Cooper, S. A. Alturaifi, and E. L. Petersen, "Assessing NO₂-Hydrocarbon Interactions during Combustion of NO₂/Alkane/Ar Mixtures in a Shock Tube Using CO Time Histories," *Fuels*, Vol. 3, No. 1, 2022, pp. 1-14.
- 7) M. Liu, R. Fang, C.-J. Sung, K. Aljohani, A. Farooq, Y. Almarzooq, O. Mathieu, E. L. Petersen, P. Dagaut, J. Zhao, Z. Tao, L. Yang, and C.-W. Zhou, "A Comprehensive Experimental and Modeling Study of n-Propylcyclohexane Oxidation," *Combustion and Flame*, Vol. 238, 2022, 111944/18.
- 8) S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "An Experimental and Modeling Study of Ammonia Pyrolysis," *Combustion and Flame*, Vol. 235, 2022, 111694/17.
- 9) S. P. Cooper, C. M. Grégoire, D. J. Mohr, O. Mathieu, S. A. Alturaifi, and E. L. Petersen, "An Experimental Kinetics Study of Isopropanol Pyrolysis and Oxidation behind Reflected Shock Waves," *energies*, Vol. 14, 2021, 6808/18.
- 10) S. P. Cooper and E. L. Petersen, "High-Temperature Ignition Kinetics of Gas Turbine Lubricating Oils," *Journal of Engineering for Gas Turbines and Power*, Vol. 143, Nov., 2021, 111020/8.
- 11) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, "Lab-Scale Thermal Cook-Off Experiments with HAN-Based Liquid Monopropellants," *JANNAF Journal of Propulsion and Energetics*, Vol. 12, No. 1, 2021, pp. 137-149.
- 12) P. Parajuli, T. T. Paschal, M. A. Turner, Y. Wang, E. L. Petersen, and W. D. Kulatilaka, "High-Speed OH* and CH* Chemiluminescence Imaging Diagnostics in Spherically Expanding Flames," *AIAA Journal*, Vol. 59, No. 8, 2021, pp. 3118-3126.
- 13) M. A. Turner, T. T. Paschal, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Application of High-Speed, Species-Specific Chemiluminescence Imaging for Laminar Flame Speed and Markstein Length Measurements in Spherically Expanding Flames," *Experimental Thermal and Fluid Science*, Vol. 129, 2021, Article 110477.
- 14) Dong, S., Aul, C., Gregoire, C., Cooper, S. P., Mathieu, O., Petersen, E. L., Rodriguez, J., Mauss, F., Wagnon, S. W., Kukkadapu, G., Pitz, W. J., and Curran, H. J., "A Comprehensive

Experimental and Kinetic Modeling Study of 1-Hexene,” *Combustion and Flame*, Vol. 232, 2021, pp. 111516/13.

- 15) S. P. Cooper, Z. K. Browne, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, “Auto-Ignition of Gas Turbine Lubricating Oils in a Shock Tube Using Spray Injection,” *Journal of Engineering for Gas Turbines and Power*, Vol. 143, May, 2021, pp. 051008/7.
- 16) C. A. M. Dillier, E. D. Petersen, T. Sammet, and E. L. Petersen, “Very-High-Pressure Burning Rates of Aluminized and Non-Aluminized AP/HTPB Composite Propellants,” *Journal of Propulsion and Power*, Vol. 37, No. 5, 2021, pp. 693-700.
- 17) K. P. Chatelain, Y. He, R. Alharbi, R. Mével, E. L. Petersen, and D. A. Lacoste, “Current Status of the High-Temperature Kinetic Models of Silane: Part I. Pyrolysis,” *Combustion and Flame*, Vol. 227, 2021, pp. 526-537.
- 18) K. P. Chatelain, Y. He, S. Javoy, R. Mével, E. L. Petersen, and D. A. Lacoste, “Current Status of the High-Temperature Kinetic Models of Silane: Part II. Oxidation,” *Combustion and Flame*, Vol. 227, 2021, pp. 538-549.
- 19) C. A. M. Dillier, E. D. Petersen, and E. L. Petersen, “Isolating the Effects of Oxidizer Characteristics and Catalytic Additives on the High-Pressure Exponent Break of AP/HTPB-Composite Propellants,” *Proceedings of the Combustion Institute*, Vol. 38, Issue 3, 2021, pp. 4409-4416.
- 20) C. L. Keesee, B. Guo, and E. L. Petersen, “Proper Interpretation and Overall Accuracy of Laminar Flame Speed Measurements of Single- and Multi-Component Liquid Fuels,” *Proceedings of the Combustion Institute*, Vol. 38, Issue 2, 2021, pp. 2225-2234.
- 21) M. A. Turner, T. T. Paschal, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, “Resolving Flame Thickness Using High-Speed Chemiluminescence Imaging of OH* and CH* in Spherically Expanding Methane-Air Flames,” *Proceedings of the Combustion Institute*, Vol. 38, Issue 2, 2021, pp. 2101-2108.
- 22) O. Mathieu, N. Chaumeix, Y. Yamamoto, S. Abid, C.-E. Paillard, T. Tezuka, H. Nakamura, C. Mulvihill, and E. L. Petersen, “Nitromethane Pyrolysis in Shock Tubes and a Micro Flow Reactor with a Controlled Temperature Profile,” *Proceedings of the Combustion Institute*, Vol. 38, Issue 1, 2021, pp. 1007-1015.
- 23) T. Atherley, S. de Persis, N. Chaumeix, Y. Fernandes, A. Bry, A. Comandini, O. Mathieu, S. Alturaifi, C. R. Mulvihill, and E. L. Petersen, “Laminar Flame Speed and Shock-Tube Multi-Species Laser Absorption Measurements of Dimethyl Carbonate Oxidation and Pyrolysis Near 1 atm,” *Proceedings of the Combustion Institute*, Vol. 38, Issue 1, 2021, pp. 977-985.
- 24) J. C. Thomas, C. Paravan, J. M. Stahl, A. J. Tykol, F. A. Rodriguez, L. Galfetti, and E. L. Petersen, “Experimental Evaluation of HTPB/Paraffin Fuel Blends for Hybrid Rocket Applications,” *Combustion and Flame*, Vol. 229, 2021, 111386/14.

- 25) C. L. Keesee, B. Guo, and E. L. Petersen, "Laminar Flame Speed Measurements of Kerosene-Based Fuels Accounting for Uncertainties in Mixture Average Molecular Weight," *Journal of Engineering for Gas Turbines and Power*, Vol. 143, April, 2021, 041018/10.
- 26) S. P. Cooper, C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "Isopropanol Dehydration Reaction Rate Kinetics Measurement Using H₂O Time Histories," *International Journal of Chemical Kinetics*, Vol. 53, 2021, pp. 536 – 547.
- 27) J. T. Lipkowicz, D. Nativel, S. Cooper, I. Wlokas, M. Fikri, E. Petersen, C. Schulz, and A. M. Kempf, "Numerical Investigation of Remote Ignition in Shock Tubes," *Flow, Turbulence and Combustion*, Vol. 106, 2021, pp. 471 – 498.
- 28) S. A. Alturaifi and E. L. Petersen, "Ammonia Line Strengths and N₂-, O₂-, Ar-, He-, and Self-Broadening Coefficients in the ν₂ Band Near 10.4 μm," *Journal of Quantitative Spectroscopy and Radiative Transfer*, Vol. 262, March, 2021, p. 107516.
- 29) C. R. Mulvihill, S. A. Alturaifi, and E. L. Petersen, "A Shock-Tube Study of the N₂O + M ⇌ N₂ + O + M (M = Ar) Rate Constant Using N₂O Laser Absorption Near 4.6 μm," *Combustion and Flame*, Vol. 224, 2021, pp. 6 – 13.
- 30) J. W. Hargis, S. P. Cooper, O. Mathieu, B. Guo, and E. L. Petersen, "High-Temperature Ignition Behavior of Conventional and GTL Fuels Using an Aerosol Shock Tube," *Combustion and Flame*, Vol. 226, 2021, pp. 490 – 504.
- 31) C. M. Grégoire, C. K. Westbrook, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Shock-Tube Spectroscopic Water Measurements and Detailed Kinetics Modeling of 1-Pentene and 3-Methyl-1-Butene," *International Journal of Chemical Kinetics*, Vol. 15, Issue 1, 2021, pp. 67 – 83.
- 32) S. A. Alturaifi, C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "Speciation Measurements in Shock Tubes for Validation of Complex Chemical Kinetics Mechanisms: Application to 2-Methyl-2-Butene Oxidation," *Combustion and Flame*, Vol. 225, 2021, pp. 196 – 213.
- 33) C. B. Ahumada, Q. Wang, and E. L. Petersen, "Effects of Unequal Blockage Ratio and Obstacle Spacing on Wave Speed and Overpressure During Flame Propagation in Stoichiometric H₂/O₂," *Shock Waves*, Vol. 30, 2020, pp. 755-767.
- 34) J. W. Hargis, B. Guo, and E. L. Petersen, "A New High-Pressure Aerosol Shock Tube for the Study of Liquid Fuels with Low Vapor Pressures," *Review of Scientific Instruments*, Vol. 91, 2020, pp. 124102-(15).
- 35) J. C. Thomas, A. R. Demko, J. M. Stahl, E. L. Petersen, B. B. Brady, J. D. DeSain, and J. H. Schilling, "Combustion Behavior and Materials Compatibility of AF-M315E," *JANNAF Journal of Propulsion and Energetics*, Vol. 11, No. 1, 2020, pp. 117 – 132.
- 36) C. R. Mulvihill, R. Juárez, O. Mathieu, and E. L. Petersen, "A Shock-Tube Study of the Rate Constant of PH₃ + M ⇌ PH₂ + H + M (M = Ar) Using PH₃ Laser Absorption," *The Journal of Physical Chemistry A*, Vol. 124, 2020, pp. 7380 – 7387.

- 37) O. Mathieu, S. P. Cooper, S. Alturaifi, C. R. Mulvihill, T. M. Atherley, and E. L. Petersen, "Shock-Tube Laser Absorption Measurements of CO and H₂O during iso-Octane Combustion," *Energy & Fuels*, Vol. 34, 2020, pp. 7533 – 7544.
- 38) S. P. Cooper, O. Mathieu, I. Schoegl, and E. L. Petersen, "High-Pressure Ignition Delay Time Measurements of a Four-Component Gasoline Surrogate and its High-Level Blends with Ethanol and Methyl Acetate," *Fuel*, Vol. 275, Sept., 2020, p. 118016.
- 39) D. Nativel, S. P. Cooper, T. Lipcowitz, M. Fikri, E. L. Petersen, and C. Schulz, "Impact of Shock-Tube Facility-Dependent Effects on Incident- and Reflected-Shock Conditions over a Wide Range of Pressures and Mach Numbers," *Combustion and Flame*, Vol. 217, 2020, pp. 200 – 211.
- 40) O. Mathieu, T. Sikes, W. D. Kulatilaka, and E. L. Petersen, "Ignition Delay Time and Laminar Flame Speed Measurements of Mixtures Containing Diisopropyl-Methylphosphonate (DIMP)," *Combustion and Flame*, Vol. 215, 2020, pp. 66 - 77.
- 41) S. P. Cooper, C. R. Mulvihill, O. Mathieu, E. L. Petersen, M. W. Crofton, and K. Y. Lam, "CH Kinetics Measurements and Their Importance for Modeling Prompt NO_x Formation in Gas Turbines," *Journal of Engineering for Gas Turbines and Power*, Vol. 142, April, 2020, p. 041007.
- 42) J. C. Thomas, G. R. Morrow, C. A. M. Dillier, and E. L. Petersen, "Comprehensive Study of Ammonium Perchlorate Particle Size/Concentration Effects on Propellant Combustion," *Journal of Propulsion and Power*, Vol. 36, No. 1, 2020, pp. 95 - 100.
- 43) C. L. Keesee, B. Guo, and E. L. Petersen, "Laminar Flame Speed Experiments of Alternative Liquid Fuels," *Journal of Engineering for Gas Turbines and Power*, Vol. 142, No. 1, 2020, p. 011013.
- 44) C. R. Mulvihill and E. L. Petersen, "OH* Chemiluminescence in the H₂-NO₂ and H₂-N₂O Systems," *Combustion and Flame*, Vol. 213, 2020, pp. 291-301.
- 45) M. O'Neil, A. Demko, E. L. Petersen, and W. D. Kulatilaka, "Ultrashort-Pulse Laser-Induced Breakdown Spectroscopy for Detecting Airborne Metals During Energetic Reactions," *Applied Optics*, Vol. 58, No. 10, 2019, pp. C79-C83.
- 46) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "H₂O Time Histories in the H₂-NO₂ System for Validation of NO_x-Hydrocarbon Kinetics Mechanisms," *International Journal of Chemical Kinetics*, Vol. 51, 2019, pp. 669-678.
- 47) O. Mathieu, L. T. Pinzón, T. M. Atherley, C. R. Mulvihill, I. Schoegl, and E. L. Petersen, "Experimental Study of Ethanol Oxidation Behind Reflected Shock Waves: Ignition Delay Time and H₂O Laser-Absorption Measurements," *Combustion and Flame*, Vol. 208, 2019, pp. 313-326.

- 48) C. R. Mulvihill, M. W. Crofton, D. G. Arnold, E. L. Petersen, and K. Y. Lam, "A Laser Diagnostic at 427 nm for Quantitative Measurements of CH in a Shock Tube," *Applied Physics B*, Vol. 125, 2019, p. 78 (1-11).
- 49) S. A. Alturaifi, R. L. Rebagay, O. Mathieu, B. Guo, and E. L. Petersen, "A Shock-Tube Auto-Ignition Study of Jet, Rocket, and Diesel Fuel," *Energy & Fuels*, Vol. 33, No. 3, 2019, pp. 2516-2525.
- 50) J. C. Thomas, T. E. Sammet, C. A. M. Dillier, A. R. Demko, F. A. Rodriguez, and E. L. Petersen, "Aging Effects on the Burning Rates of Composite Solid Propellants with Nano-Additives," *Journal of Propulsion and Power*, Vol. 35, No. 2, 2019, pp. 342-351.
- 51) L. T. Pinzón, O. Mathieu, C. R. Mulvihill, I. Schoegl, and E. L. Petersen, "Ignition Delay Time and H₂O Measurements During Methanol Oxidation Behind Reflected Shock Waves," *Combustion and Flame*, Vol. 203, 2019, pp. 143-156.
- 52) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Shock-Tube Studies of Sarin Surrogates," *Shock Waves*, Vol. 29, 2019, pp. 441-449.
- 53) C. R. Mulvihill, C. L. Keesee, T. Sikes, R. S. Teixeira, O. Mathieu, and E. L. Petersen, "Ignition Delay Times, Laminar Flame Speeds, and Species Time-Histories in the H₂S/CH₄ System at Atmospheric Pressure," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 735-742.
- 54) N. Lokachari, U. Burke, A. Ramalingam, M. Turner, R. Hesse, K. P. Somers, J. Beeckmann, K. A. Heufer, E. L. Petersen, and H. J. Curran, "An Experimental Investigation of Acetylene Oxidation; Laminar Flame Speeds, Ignition Delay Times and Chemical Kinetic Modeling," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 583-591.
- 55) C. R. Mulvihill and E. L. Petersen, "Concerning Shock-Tube Ignition Delay Times: An Experimental Investigation of Impurities in the H₂/O₂ System and Beyond," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 259-266.
- 56) L. T. Pinzón, O. Mathieu, C. R. Mulvihill, I. Schoegl, and E. L. Petersen, "Ethanol Pyrolysis Kinetics Using H₂O Time History Measurements Behind Reflected Shock Waves," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 239-247.
- 57) J. C. Thomas, G. D. Homan-Cruz, J. M. Stahl, and E. L. Petersen, "The Effects of SiO₂ and TiO₂ on the Two-Phase Burning Behavior of Aqueous HAN Propellant," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 3159-3166.
- 58) T. Sikes, O. Mathieu, W. D. Kulatilaka, M. S. Mannan, and E. L. Petersen, "Laminar Flame Speeds of DEMP, DMMP, and TEP Added to H₂- and CH₄-Air Mixtures," *Proceedings of the Combustion Institute*, Vol. 37, 2019, pp. 3775-3781.
- 59) O. Mathieu, C. R. Mulvihill, H. J. Curran, and E. L. Petersen, "NO_x-Hydrocarbon Kinetics Model Validation Using Measurements of H₂O in Shock-Heated CH₄/C₂H₆ Mixtures with

NO₂ as Oxidant,” *Journal of Engineering for Gas Turbines and Power*, Vol. 141, April, 2019, pp. 041007-(8).

- 60) O. Mathieu, C. R. Mulvihill, and E. L. Petersen, “Assessment of Modern Detailed Kinetics Mechanisms to Predict CO formation from Methane Combustion Using Shock-Tube Laser-Absorption Measurements,” *Fuel*, Vol. 236, 2019, pp. 1164-1180.
- 61) A. R. Demko, C. Dillier, T. Sammet, E. L. Petersen, D. L. Reid, and S. Seal, “Ignition Delay Times of Composite Solid Propellants Using Novel Nano-Additive Catalysts,” *Journal of Propulsion and Power*, Vol. 34, No. 5, 2018, pp. 1285-1296.
- 62) C.-W. Zhou, Y. Li, U. Burke, C. Banyon, K. P. Somers, S. Ding, S. Khan, J. W. Hargis, T. Sikes, O. Mathieu, E. L. Petersen, M. AlAbbad, A. Farooq, Y. Pan, Y. Zhang, Z. Huang, J. Lopez, Z. Loparo, S. S. Vasu, and Curran, H. J., “An Experimental and Chemical Kinetic Modeling Study of 1,3-Butadiene Combustion: Ignition Delay Time and Laminar Flame Speed Measurements,” *Combustion and Flame*, Vol. 197, 2018, pp. 423-438.
- 63) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, “The Unimportance of the Reaction $H_2 + N_2O = H_2O + N_2$: A Shock-Tube Study Using H_2O Time Histories and Ignition Delay Times,” *Combustion and Flame*, Vol. 196, 2018, pp. 478-486.
- 64) T. Sikes, M. S. Mannan, and E. L. Petersen, “An Experimental Study: Laminar Flame Speed Sensitivity from Spherical Flames in Stoichiometric CH₄-Air Mixtures,” *Combustion Science and Technology*, Vol. 190, No. 9, 2018, pp. 1594-1613.
- 65) C. R. Mulvihill, S. A. Alturaifi, and E. L. Petersen, “High-Temperature He- and O₂-Broadening of the R(12) Line in the 1←0 Band of Carbon Monoxide,” *Journal of Quantitative Spectroscopy and Radiative Transfer*, Vol. 217, 2018, pp. 432-439.
- 66) A. R. Demko, T. W. Allen, C. Dillier, T. Sammet, E. L. Petersen, D. L. Reid, and S. Seal, “Temperature Sensitivity of Composite Propellants Containing Novel Nano-Additive Catalysts,” *Journal of Propulsion and Power*, Vol. 34, No. 3, 2018, pp. 795-807.
- 67) M. O’Neil, N. A. Niemiec, A. R. Demko, E. L. Petersen, and W. D. Kulatilaka, “Laser-Induced-Breakdown-Spectroscopy-Based Detection of Metal Particles Released into the Air During Combustion of Solid Propellants,” *Applied Optics*, Vol. 57, Issue 8, 2018, pp. 1910-1917.
- 68) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, “Experimental and Modeling Study on the Effects of Dimethyl Methylphosphonate (DMMP) Addition on H₂, CH₄, and C₂H₄ Ignition,” *Combustion and Flame*, Vol. 191, 2018, pp. 320-334.
- 69) A. Chowdhury, H. G. Johnston, C. V. Mashuga, M. S. Mannan, and E. L. Petersen, “Effect of Particle Size and Polydispersity on Dust Entrainment Behind a Moving Shock Wave,” *Experimental Thermal and Fluid Science*, Vol. 93, 2018, pp. 1-10.
- 70) C. R. Mulvihill and E. L. Petersen, “High-Temperature Argon-Broadening of CO₂ Near 2190 cm⁻¹ in a Shock Tube,” *Applied Physics B*, Vol. 123, 2017, p. 255.

- 71) O. Mathieu, C. R. Mulvihill, E. L. Petersen, Y. Zhang, and H. J. Curran, "CO and H₂O Time-Histories in Shock-Heated Blends of Methane and Ethane for Assessment of a Chemical Kinetics Model," *Journal of Engineering for Gas Turbines and Power*, Vol. 139, No. 12, 2017, pp. 121507-(8).
- 72) A. Bond, H. Rughoonundun, E. Petersen, C. Holtzapple, and M. Holtzapple, "Shock Treatment of Corn Stover," *Biotechnology Progress*, Vol. 33, No. 3, 2017, pp. 815-823.
- 73) Y. Zhang, O. Mathieu, E. L. Petersen, G. Bourque, and H. J. Curran, "Assessing the Predictions of a NO_x Kinetic Mechanism on Recent Hydrogen and Syngas Experimental Data," *Combustion and Flame*, Vol. 182, 2017, pp. 122-141.
- 74) J. W. Hargis and E. L. Petersen, "Shock-Tube Boundary-Layer Effects on Reflected-Shock Conditions With and Without CO₂," *AIAA Journal*, Vol. 55, No. 3, 2017, pp. 902-912.
- 75) C. Osorio, A. Morones, J. W. Hargis, E. L. Petersen, and M. S. Mannan, "Effect of C₂HF₅ and C₃HF₇ on Methane and Propane Ignition and Laminar Flame Speed: Experimental and Numerical Evaluation," *Journal of Loss Prevention in the Process Industries*, Vol. 48, 2017, pp. 21-31.
- 76) A. R. Demko, T. W. Allen, J. C. Thomas, M. Johnson, G. R. Morrow, D. L. Reid, S. Seal, and E. L. Petersen, "Comparison of Commercially Available and Synthesized Titania Nano-Additives in Composite HTPB/AP Propellant," *Propellants, Explosives, Pyrotechnics*, Vol. 42, Issue 2, 2017, pp. 158-166.
- 77) O. Mathieu, C. Mulvihill, and E. L. Petersen, "Shock-Tube Water Time-Histories and Ignition Delay Time Measurements for H₂S Near Atmospheric Pressure," *Proceedings of the Combustion Institute*, Vol. 36, 2017, pp. 4019-4027.
- 78) J. C. Thomas, A. R. Demko, T. E. Sammet, D. L. Reid, S. Seal, and E. L. Petersen, "Mechanical Properties of Composite AP/HTPB Propellants Containing Novel Titania Nanoparticles," *Propellants, Explosives, Pyrotechnics*, Vol. 41, 2016, pp. 822-834.
- 79) H. G. Johnston, A. Y. Chowdhury, M. S. Mannan, and E. L. Petersen, "Effect of Coal-Limestone Mixtures on Dust Dispersion behind a Moving Shock Wave," *Journal of Loss Prevention in the Process Industries*, Vol. 44, 2016, pp. 551-563.
- 80) K. D. Grossman, T. S. Sakthivel, C. Dillier, E. L. Petersen, and S. Seal, "Effect of Amine-Modified Boron Nitride (BN) on Ammonium Perchlorate Decomposition," *RSC Advances*, Vol. 6, 2016, pp. 89635-89641.
- 81) O. Mathieu, B. Giri, A. R. Agard, T. N. Adams, J. D. Mertens, and E. L. Petersen, "Nitromethane Ignition Behind Reflected Shock Waves: Experimental and Numerical Study," *Fuel*, Vol. 182, 2016, pp. 597-612.
- 82) C.-W. Zhou, Y. Li, E. O'Connor, K. P. Somers, S. Thion, C. Keesee, O. Mathieu, E. L. Petersen, T. A. DeVerter, M. A. Oehlschlaeger, G. Kukkadapu, C.-J. Sung, M. Alrefae, F.

- Khaled, A. Farooq, P. Dirrenberger, P.-A. Glaude, F. Battin-Leclerc, J. Santner, Y. Ju, T. Held, F. M. Haas, F. L. Dryer, and H. J. Curran, "A Comprehensive Experimental and Modeling Study of Isobutene Oxidation," *Combustion and Flame*, Vol. 167, 2016, pp. 353-379.
- 83) T. Sikes, M. S. Mannan, and E. L. Petersen, "Laminar Flame Speeds of Nano-Aluminum/Methane Hybrid Mixtures," *Combustion and Flame*, Vol. 166, 2016, pp. 284-294.
- 84) A. Y. Chowdhury, B. D. Marks, H. G. Johnston, M. S. Mannan, and E. L. Petersen, "A New Facility for Studying Shock-Wave Passage over Dust Layers," *Shock Waves*, Vol. 26, No. 2, 2016, pp. 129-140.
- 85) J. Bugler, B. Marks, O. Mathieu, R. Archuleta, A. Camou, C. Gregoire, K. A. Heufer, E. L. Petersen, and H. J. Curran, "An Ignition Delay Time and Chemical Kinetic Modeling Study of the Pentane Isomers," *Combustion and Flame*, Vol. 163, 2016, pp. 138-156.
- 86) J. W. Hargis and E. L. Petersen, "Methane Ignition in a Shock Tube with High Levels of CO₂ Dilution: Consideration of the Reflected-Shock Bifurcation," *Energy & Fuels*, Vol. 29, 2015, pp. 7712-7726.
- 87) R. E. Draper, D. L. Reid, T. S. Sakthivel, T. Sammet, A. Demko, E. L. Petersen, and S. Seal, "Facile Nanoparticle Dispersion Detection in Energetic Composites by Rare Earth Doped in Metal Oxide Nanostructures," *RSC Advances*, Vol. 5, 2015, pp. 68305-68313.
- 88) C. K. Westbrook, W. J. Pitz, M. Mehl, P.-A. Glaude, O. Herbinet, S. Bax, F. Battin-Leclerc, O. Mathieu, E. L. Petersen, J. Bugler, and H. J. Curran, "Experimental and Kinetic Modeling Study of 2-Methyl-2-Butene: Allylic Hydrocarbon Kinetics," *Journal of Physical Chemistry A*, Vol. 119, No. 28, 2015, pp. 7462-7480.
- 89) O. Mathieu, C. Keesee, C. Gregoire, and E. L. Petersen, "Experimental and Chemical Kinetics Study of the Effects of Halon 1211 (CF₂BrCl) on the Laminar Flame Speed and Ignition of Light Hydrocarbons," *Journal of Physical Chemistry A*, Vol. 119, No. 28, 2015, pp. 7611-7626.
- 90) A. Y. Chowdhury, H. G. Johnston, B. Marks, M. S. Mannan, and E. L. Petersen, "Effect of Shock Strength on Dust Entrainment behind a Moving Shock Wave," *Journal of Loss Prevention in the Process Industries*, Vol. 36, 2015, pp. 203-213.
- 91) O. Mathieu, J. N. Pemelton, G. Bourque, and E. L. Petersen, "Shock-Induced Ignition of Methane Sensitized by NO₂ and N₂O," *Combustion and Flame*, Vol. 162, 2015, pp. 3053-3070.
- 92) K. W. McCown and E. L. Petersen, "Effects of Methanol and Fumed Silica on the Linear Burning Rates of Aqueous Hydroxylammonium Nitrate," *International Journal of Energetic Materials and Chemical Propulsion*, Vol. 14, No. 1, 2015, pp. 1-12.

- 93) N. Donohoe, K. A. Heufer, C. J. Aul, E. L. Petersen, G. Bourque, R. Gordon, and H. J. Curran, "Influence of Steam Dilution on the Ignition of Hydrogen, Syngas and Natural Gas Blends at Elevated Pressures," *Combustion and Flame*, Vol. 162, 2015, pp. 1126-1135.
- 94) O. Mathieu and E. L. Petersen, "Experimental and Modeling Study on the High-Temperature Oxidation of Ammonia and Related NO_x Chemistry," *Combustion and Flame*, Vol. 162, 2015, pp. 554-570.
- 95) S. Ravi, T. G. Sikes, A. Morones, C. L. Keesee, and E. L. Petersen, "Comparative Study on the Laminar Flame Speed Enhancement of Methane with Ethane and Ethylene Addition," *Proceedings of the Combustion Institute*, Vol. 35, Issue 1, 2015, pp. 679-686.
- 96) O. Mathieu, J. W. Hargis, A. Camou, C. Mulvihill, and E. L. Petersen, "Ignition Delay Time Measurements Behind Reflected Shock Waves for a Representative Coal-Derived Syngas With and Without NH₃ and H₂S Impurities," *Proceedings of the Combustion Institute*, Vol. 35, Issue 3, 2015, pp. 3143-3150.
- 97) O. Mathieu, J. Goulier, F. Gourmel, M. S. Mannan, N. Chaumeix, and E. L. Petersen, "Experimental Study of the Effect of CF₃I Addition on the Ignition Delay Time and Laminar Flame Speed of Methane, Ethylene, and Propane," *Proceedings of the Combustion Institute*, Vol. 35, Issue 3, 2015, pp. 2731-2739.
- 98) U. Burke, K. P. Somers, P. O'Toole, C. M. Zinner, N. Marquet, G. Bourque, E. L. Petersen, W. K. Metcalfe, Z. Serinyel, and H. J. Curran, "An Ignition Delay and Kinetic Modeling Study of Methane, Dimethyl Ether, and Their Mixtures at High Pressures," *Combustion and Flame*, Vol. 162, 2015, pp. 315-330.
- 99) S. M. Burke, U. Burke, R. Mc Donagh, O. Mathieu, I. Osorio, C. Keesee, A. Morones, E. L. Petersen, W. Wang, T. A. DeVerter, M. A. Oehlschlaeger, B. Rhodes, R. K. Hanson, D. Davidson, B. W. Weber, C.-J. Sung, J. Santner, Y. Ju, F. M. Haas, F. L. Dryer, E. N. Volkov, E. J. K. Nilsson, A. A. Konnov, M. Alrefae, F. Khaled, A. Farooq, P. Dirrenberger, P.-A. Glaude, F. Battin-Leclerc, and H. J. Curran, "An Experimental and Modeling Study of Propene Oxidation. Part 2: Ignition Delay Time and Flame Speed Measurements," *Combustion and Flame*, Vol. 162, 2015, pp. 296-314.
- 100) M. M. Kopp, O. Mathieu, and E. L. Petersen, "Rate Determination of the CO₂* Chemiluminescence Reaction $\text{CO} + \text{O} + \text{M} \rightleftharpoons \text{CO}_2^* + \text{M}$," *International Journal of Chemical Kinetics*, Vol. 47, 2015, pp. 50-72.
- 101) C. Qui, A. F. Khalizov, B. Hogan, E. L. Petersen, and R. Zhang, "High Sensitivity of Diesel Soot Properties and Radiative Impacts to Combustion Temperature," *Environmental Science & Technology*, Vol. 48, 2014, pp. 6444-6452.
- 102) K. W. McCown, A. R. Demko, and E. L. Petersen, "Experimental Techniques to Study Linear Burning Rates of Heterogeneous Liquid Monopropellants," *Journal of Propulsion and Power*, Vol. 30, No. 4, 2014, pp. 1027-1037.

- 103) K. W. McCown III and E. L. Petersen, "Effects of Nano-Scale Additives on the Linear Burning Rate of Nitromethane," *Combustion and Flame*, Vol. 161, 2014, pp. 1935-1943.
- 104) M. Lamnaouer, A. Kassab, E. Divo, N. Polley, R. Garza-Urquiza, and E. Petersen, "A Conjugate Axisymmetric Model of a High-Pressure Shock-Tube Facility," *International Journal of Numerical Methods for Heat & Fluid Flow*, Vol. 24, No. 4, 2014, pp. 873-890.
- 105) M. M. Kopp, E. L. Petersen, W. K. Metcalfe, S. Burke, and H. J. Curran, "Oxidation of Ethylene-Air Mixtures at Elevated Pressures, Part 2: Chemical Kinetics," *Journal of Propulsion and Power*, Vol. 30, No. 3, 2014, pp. 799-811.
- 106) M. M. Kopp, N. S. Donato, E. L. Petersen, W. K. Metcalfe, S. Burke, and H. J. Curran, "Oxidation of Ethylene-Air Mixtures at Elevated Pressures, Part 1: Experimental Results," *Journal of Propulsion and Power*, Vol. 30, No. 3, 2014, pp. 790-798.
- 107) N. Donohoe, A. Heufer, W. K. Metcalfe, H. J. Curran, M. L. Davis, O. Mathieu, D. Plichta, A. Morones, E. L. Petersen, and F. Güthe, "Ignition Delay Times, Laminar Flame Speeds, and Mechanism Validation for Natural Gas/Hydrogen Blends at Elevated Pressures," *Combustion and Flame*, Vol. 161, 2014, pp. 1432-1443.
- 108) O. Mathieu, E. L. Petersen, A. Heufer, N. Donohoe, W. Metcalfe, H. J. Curran, F. Güthe, and G. Bourque, "Numerical Study on the Effect of Real Syngas Compositions on Ignition Delay Times and Laminar Flame Speeds at Gas Turbine Conditions," *Journal of Engineering for Gas Turbines and Power*, Vol. 136, 2014, pp. 011502-(9).
- 109) B. Rotavera, P. Dagaut, and E. L. Petersen, "Chemical Kinetics Modeling of n-Nonane Oxidation in Oxygen/Argon Using Excited State Species Time Histories," *Combustion and Flame*, Vol. 161, 2014, pp. 1146-1163.
- 110) D. Reid, R. Draper, D. Richardson, A. Demko, T. Allen, E. Petersen, and S. Seal, "In-Situ Synthesis of Polyurethane—TiO₂ Nanocomposite and Performance in Solid Propellants," *Journal of Materials Chemistry A*, Vol. 2, 2014, pp. 2313-2322.
- 111) O. Mathieu, F. Deguillaume, and E. L. Petersen, "Effects of H₂S Addition on Hydrogen Ignition behind Reflected Shock Waves: Experiments and Modeling," *Combustion and Flame*, Vol. 161, 2014, pp. 23-36.
- 112) B. Rotavera and E. L. Petersen, "Blending Effects on Ignition Delay Times of Methyl Octanoate/n-Nonane/Methylcyclohexane," *Fuel*, Vol. 115, 2014, pp. 264-281.
- 113) B. Rotavera and E. L. Petersen, "Model predictions of higher-order normal alkane ignition from dilute shock-tube experiments," *Shock Waves*, Vol. 23, 2013, pp. 345-359.
- 114) C. J. Aul, W. K. Metcalfe, S. M. Burke, H. J. Curran, and E. L. Petersen, "Ignition and Kinetic Modeling of Methane and Ethane Fuel Blends with Oxygen: a Design of Experiments Approach," *Combustion and Flame*, Vol. 160, 2013, pp. 1153-1167.

- 115) C. H. Osorio, A. J. Vissotski, E. L. Petersen, and M. S. Mannan, "Effect of CF_3Br on $\text{C}_1\text{-C}_3$ Ignition and Laminar Flame Speed: Numerical and Experimental Evaluation," *Combustion and Flame*, Vol. 160, 2013, pp. 1044-1059.
- 116) A. Kéromnès, W. K. Metcalfe, K. A. Heufer, N. Donahoe, A. K. Das, C. J. Sung, J. Herzler, K. Naumann, P. Griebel, O. Mathieu, M. C. Krejci, E. L. Petersen, W. J. Pitz, and H. J. Curran, "An Experimental and Detailed Chemical Kinetic Modeling Study of Hydrogen and Syngas Mixture Oxidation at Elevated Pressures," *Combustion and Flame*, Vol. 160, 2013, pp. 995-1011.
- 117) S. Ravi, S. J. Peltier, and E. L. Petersen, "Analysis of the Impact of Impeller Geometry on the Turbulent Statistics inside a Fan-Stirred, Cylindrical Flame Speed Vessel using PIV," *Experiments in Fluids*, Vol. 54, 2013, pp. 1424.
- 118) B. Rotavera and E. L. Petersen, "Ignition Behavior of Pure and Blended Methyl Octanoate, n-Nonane, and Methylcyclohexane," *Proceedings of the Combustion Institute*, Vol. 34, 2013, pp. 435-442.
- 119) M. Brower, E. L. Petersen, W. Metcalfe, H. J. Curran, M. Fűri, G. Bourque, N. Aluri, and F. Güthe, "Ignition Delay Time and Laminar Flame Speed Calculations for Natural Gas/Hydrogen Blends at Elevated Pressures," *Journal of Engineering for Gas Turbines and Power*, Vol. 135, 2013, pp. 021504(10).
- 120) M. Krejci, O. Mathieu, A. J. Vissotski, S. Ravi, T. G. Sikes, E. L. Petersen, A. Kéromnès, W. Metcalfe, and H. J. Curran, "Laminar Flame Speed and Ignition Delay Time Data for the Kinetic Modeling of Hydrogen and Syngas Fuel Blends," *Journal of Engineering for Gas Turbines and Power*, Vol. 135, 2013, pp. 021503-(9).
- 121) O. Mathieu, M. M. Kopp, and E. L. Petersen, "Shock-Tube Study of the Ignition of Multi-Component Syngas Mixtures with and without Ammonia Impurities," *Proceedings of the Combustion Institute*, Vol. 34, Issue 2, 2013, pp. 3211-3218.
- 122) O. Mathieu, A. Levacque, and E. L. Petersen, "Effects of NO_2 Addition on Hydrogen Ignition behind Reflected Shock Waves," *Proceedings of the Combustion Institute*, Vol. 34, Issue 1, 2013, pp. 633-640.
- 123) N. L. Polley, M. Q. Egbert, and E. L. Petersen, "Methods for Re-Initiation and Critical Conditions for a Planar Detonation Transforming to a Cylindrical Detonation Within a Confined Volume," *Combustion and Flame*, Vol. 160, 2013, pp. 212-221.
- 124) S. Ravi and E. L. Petersen, "Laminar Flame Speed Correlations for Pure Hydrogen and High-Hydrogen-Content Syngas Blends with Various Diluents," *International Journal of Hydrogen Energy*, Vol. 37, 2012, pp. 19177-19189.
- 125) O. Mathieu, A. Levacque, and E. L. Petersen, "Effects of N_2O Addition on the Ignition of $\text{H}_2\text{-O}_2$ Mixtures: Experimental and Detailed Kinetic Modeling Study," *International Journal of Hydrogen Energy*, Vol. 37, 2012, pp. 15393-15405.

- 126) M. Kopp, M. Brower, O. Mathieu, E. Petersen, and F. Güthe, "CO₂* Chemiluminescence Study at Low and Elevated Pressures," *Applied Physics B*, Vol. 107, Issue 3, 2012, pp. 529-538.
- 127) K. Kreitz, E. Petersen, D. Reid, and S. Seal, "Scale-up Effects of Nanoparticle Production on the Burning Rate of Composite Propellant," *Combustion Science and Technology*, Vol. 184, 2012, pp. 750-766.
- 128) A. F. Khalizov, B. Hogan, C. Qiu, E. L. Petersen, and R. Zhang, "Characterization of Soot Aerosol Produced from Combustion of Propane in a Shock Tube," *Aerosol Science and Technology*, Vol. 46, 2012, pp. 925-936.
- 129) E. Petersen, M. Kopp, N. Donato, and F. Güthe, "Assessment of Current Chemiluminescence Kinetics Models at Engine Conditions," *Journal of Engineering for Gas Turbines and Power*, Vol. 134, May, 2012, p. 051501.
- 130) D. L. Reid, K. R. Kreitz, M. A. Stephens, J. E. S. King, P. Nachimuthu, E. L. Petersen, and S. Seal, "Development of Highly Active Titania-Based Nanoparticles for Energetic Materials," *Journal of Physical Chemistry C*, Vol. 115, No. 21, 2011, pp. 10412-10418.
- 131) W. Lowry, J. de Vries, M. Krejci, E. Petersen, Z. Serinyel, W. Metcalfe, H. Curran, and G. Bourque, "Laminar Flame Speed Measurements and Modeling of Pure Alkanes and Alkane Blends at Elevated Pressures," *Journal of Engineering for Gas Turbines and Power*, Vol. 133, 2011, pp. 091501-9.
- 132) C. Frazier, M. Lamnaouer, E. Divo, A. Kassab, and E. Petersen, "Effect of Wall Heat Transfer on Shock-Tube Test Temperature at Long Times," *Shock Waves*, Vol. 21, 2011, pp. 1-17.
- 133) W. B. Lowry, Z. Serinyel, M. C. Krejci, H. J. Curran, G. Bourque, and E. L. Petersen, "Effect of Methane-Dimethyl Ether Fuel Blends on Flame Stability, Laminar Flame Speed, and Markstein Length," *Proceedings of the Combustion Institute*, Vol. 33, Issue 1, 2011, pp. 929-937.
- 134) C. J. Aul, M. W. Crofton, J. D. Mertens, and E. L. Petersen, "A Diagnostic for Measuring H₂O₂ Concentration in a Shock Tube Using Tunable Laser Absorption Near 7.8 μm ," *Proceedings of the Combustion Institute*, Vol. 33, Issue 1, 2011, pp. 709-716.
- 135) B. Rotavera, P. Diévert, C. Togbé, P. Dagaut, and E. L. Petersen, "Oxidation Kinetics of *n*-Nonane: Measurements and Modeling of Ignition Delay Times and Product Concentrations," *Proceedings of the Combustion Institute*, Vol. 33, Issue 1, 2011, pp. 175-183.
- 136) J. de Vries, W. B. Lowry, Z. Serinyel, H. J. Curran, and E. L. Petersen, "Laminar Flame Speed Measurements of Dimethyl Ether in Air at Pressures up to 10 atm," *Fuel*, Vol. 90, Issue 1, 2011, pp. 331-338.

- 137) T. E. Sammet, M. A. Stephens, E. L. Petersen, and B. A. Corbin, "Assessing the Mixedness of Composite Solid Rocket Propellants Using Fluorescent Particles," *Journal of Propulsion and Power*, Vol. 26, No. 5, 2010, pp. 987-992.
- 138) D. Healy, N. S. Donato, C. J. Aul, E. L. Petersen, C. M. Zinner, G. Bourque, and H. J. Curran, "Isobutane Ignition Delay Time Measurements at High Pressure and Detailed Chemical Kinetic Simulations," *Combustion and Flame*, Vol. 157, 2010, pp. 1540-1551.
- 139) D. Healy, N. S. Donato, C. J. Aul, E. L. Petersen, C. M. Zinner, G. Bourque, and H. J. Curran, "n-Butane: Ignition Delay Measurements at High Pressure and Detailed Chemical Kinetic Simulations," *Combustion and Flame*, Vol. 157, 2010, pp. 1526-1539.
- 140) M. Stephens, T. Sammet, E. Petersen, R. Carro, S. Wolf, and C. Smith, "Performance of Ammonium-Perchlorate-Based Composite Propellant Using Nanoscale Aluminum," *Journal of Propulsion and Power*, Vol. 26, No. 3, 2010, pp. 461-466.
- 141) M. A. Stephens, E. L. Petersen, R. Carro, D. L. Reid, and S. Seal, "Multi-Parameter Study of Nanoscale TiO₂ and CeO₂ Additives in Composite AP/HTPB Solid Propellants," *Propellants, Explosives, Pyrotechnics*, Vol. 35, Issue 2, 2010, pp. 143-152.
- 142) D. Healy, M. M. Kopp, N. L. Polley, E. L. Petersen, G. Bourque, and H. J. Curran, "Methane/n-Butane Ignition Delay Measurements at High Pressure and Detailed Chemical Kinetic Simulations," *Energy & Fuels*, Vol. 24, 2010, pp. 1617-1627.
- 143) D. Healy, D. M. Kalitan, C. J. Aul, E. L. Petersen, G. Bourque, and H. J. Curran, "Oxidation of C1-C5 Alkane Quinternary Natural Gas Mixtures at High Pressures," *Energy & Fuels*, Vol. 24, 2010, pp. 1521-1528.
- 144) N. Donato, C. Aul, E. Petersen, C. Zinner, H. Curran, and G. Bourque, "Ignition and Oxidation of 50/50 Butane Isomer Blends," *Journal of Engineering for Gas Turbines and Power*, Vol. 132, Issue 5, 2010, pp. 051502-9.
- 145) G. Bourque, D. Healy, H. Curran, C. Zinner, D. Kalitan, J. de Vries, C. Aul, and E. Petersen, "Ignition and Flame Speed Kinetics of Two Natural Gas Blends with High Levels of Heavier Hydrocarbons," *Journal of Engineering for Gas Turbines and Power*, Vol. 132, 2010, pp. 021504-11.
- 146) E. L. Petersen, "Interpreting Endwall and Sidewall Measurements in Shock-Tube Ignition Studies," *Combustion Science and Technology*, Vol. 181, 2009, pp. 1123-1144.
- 147) M. A. Stephens, E. L. Petersen, D. L. Reid, R. Carro, and S. Seal, "Nano Additives and Plateau Burning Rates in Ammonium-Perchlorate-Based Composite Solid Propellants," *Journal of Propulsion and Power*, Vol. 25, No. 5, 2009, pp. 1068-1078.
- 148) M. Lamnaouer, R. C. Ryder, A. Brankovic, and E. L. Petersen, "Reduced Combustion Time Model for Methane in Gas Turbine Flow Fields," *Journal of Natural Gas Chemistry*, Vol. 18, No. 2, 2009, pp. 145-155.

- 149) J. D. Mertens, D. M. Kalitan, A. B. Barrett, and E. L. Petersen, "Determination of the Rate of $H + O_2 + M \rightarrow HO_2 + M$ ($M = N_2, Ar, H_2O$) from Ignition of Syngas at Practical Conditions," *Proceedings of the Combustion Institute*, Vol. 32, 2009, pp. 295-303.
- 150) B. Rotavera, A. Kumar, S. Seal, and E. L. Petersen, "Effect of Ceria Nanoparticles on Soot Inception and Growth in Toluene/Oxygen/Argon Mixtures," *Proceedings of the Combustion Institute*, Vol. 32, 2009, pp. 811-819.
- 151) N. S. Donato and E. L. Petersen, "Simplified Correlation Models for CO/H₂ Chemical Reaction Times," *International Journal of Hydrogen Energy*, Vol. 33, No. 24, 2008, pp. 7565-7579.
- 152) D. Healy, H. J. Curran, S. Dooley, J. M. Simmie, D. M., Kalitan, E. L. Petersen, and G. Bourque, "Methane/Propane Mixture Oxidation at High Pressures and at High, Intermediate and Low Temperatures," *Combustion and Flame*, Vol. 155, 2008, pp. 451-461.
- 153) D. Healy, H. J. Curran, J. M. Simmie, D. M. Kalitan, C. M. Zinner, A. B. Barrett, E. L. Petersen, and G. Bourque, "Methane/Ethane/Propane Mixture Oxidation at High Pressures and at High, Intermediate and Low Temperatures," *Combustion and Flame*, Vol. 155, 2008, pp. 441-448.
- 154) T. Lieuwen, V. McDonell, E. Petersen, and D. Santavicca, "Fuel Flexibility Influences on Premixed-Combustor Blowout, Flashback, Autoignition, and Instability," *Journal of Engineering for Gas Turbines and Power*, Vol. 130, 2008, pp. 011506-10.
- 155) D. M. Kalitan, J. D. Mertens, M. W. Crofton, and E. L. Petersen, "Ignition and Oxidation of Lean CO/H₂ Fuel Blends in Air," *Journal of Propulsion and Power*, Vol. 23, No. 6, 2007, pp. 1291-1303.
- 156) E. L. Petersen, J. M. Hall, S. D. Smith, J. de Vries, A.R. Amadio, and M. W. Crofton, "Ignition of Lean Methane-Based Fuel Blends at Gas Turbine Pressures," *Journal of Engineering for Gas Turbines and Power*, Vol. 129, 2007, pp. 937-944.
- 157) J. de Vries, J. M. Hall, S. L. Simmons, M. J. A. Rickard, D. M. Kalitan, and E. L. Petersen, "Ethane Ignition and Oxidation behind Reflected Shock Waves," *Combustion and Flame*, Vol. 150, 2007, pp. 137-150.
- 158) D. L. Reid, A. E. Russo, R. V. Carro, M. A. Stephens, A. R. LePage, T. C. Spalding, E. L. Petersen, and S. Seal, "Nanoscale Additives Tailor Energetic Materials," *Nano Letters*, Vol. 7, No. 7, 2007, pp. 2157-2161.
- 159) E. L. Petersen, D. M. Kalitan, A. Barrett, S. C. Reehal, J. D. Mertens, D. J. Beerer, R. Hack, and V. McDonell, "New Syngas/Air Ignition Data at Elevated Pressure and Comparison to Current Kinetics Models," *Combustion and Flame*, Vol. 149, 2007, pp. 244-247.
- 160) E. L. Petersen, D. M. Kalitan, S. L. Simmons, G. Bourque, H. J. Curran, and J. M. Simmie, "Methane/Propane Oxidation at High Pressures: Experimental and Detailed

- Chemical Kinetic Modeling,” *Proceedings of the Combustion Institute*, Vol. 31, 2007, pp. 447-454.
- 161) J. de Vries and E. L. Petersen, “Autoignition of Methane-Based Fuel Blends under Gas Turbine Conditions,” *Proceedings of the Combustion Institute*, Vol. 31, 2007, pp. 3163-3171.
- 162) A. R. Amadio, M. W. Crofton, and E. L. Petersen, “Test-Time Extension behind Reflected Shock Waves using CO₂-He and C₃H₈-He Driver Mixtures,” *Shock Waves*, Vol. 16, No. 2, 2006, pp. 157-165.
- 163) J. M. Hall and E. L. Petersen, “An Optimized Kinetics Model for OH Chemiluminescence at High Temperatures and Atmospheric Pressures,” *International Journal of Chemical Kinetics*, Vol. 38, 2006, pp. 714-724.
- 164) E. L. Petersen and R. K. Hanson, “Measurements of Reflected-Shock Bifurcation Over a Wide Range of Gas Composition and Pressure,” *Shock Waves*, Vol. 15, 2006, pp. 333-340.
- 165) J. M. Hall, S. C. Reehal, and E. L. Petersen, “Kinetics of OH Chemiluminescence in the Presence of Silicon,” *Chemical Physics Letters*, Vol. 425, 2006, pp. 229-233.
- 166) D. M. Kalitan, J. M. Hall, and E. L. Petersen, “Ignition and Oxidation of Ethylene-Oxygen-Diluent Mixtures with and without Silane Addition,” *Journal of Propulsion and Power*, Vol. 21, No. 6, 2005, pp. 1045-1056.
- 167) E. L. Petersen, M. J. A. Rickard, M. W. Crofton, E. D. Abbey, M. J. Traum, and D. M. Kalitan, “A Facility for Gas- and Condensed-Phase Measurements behind Shock Waves,” *Measurement Science and Technology*, Vol. 16, 2005, pp. 1716-1729.
- 168) J. M. Hall, M. J. A. Rickard, and E. L. Petersen, “Comparison of Characteristic Time Diagnostics for Ignition and Oxidation of Fuel/Oxidizer Mixtures Behind Reflected Shock Waves,” *Combustion Science and Technology*, Vol. 177, 2005, pp. 455-483.
- 169) M. W. Crofton and E. L. Petersen, “Frequency Modulation Spectroscopy in a Particle-Forming Environment for the Detection of SiH₂,” *Proceedings of the Combustion Institute*, Vol. 30, 2005, pp. 1583-1589.
- 170) M. J. A. Rickard, J. M. Hall, and E. L. Petersen, “Effect of Silane Addition on Acetylene Ignition behind Reflected Shock Waves,” *Proceedings of the Combustion Institute*, Vol. 30, 2005, pp. 1915-1923.
- 171) E. L. Petersen, D. M. Kalitan, and M. J. A. Rickard, “Reflected Shock Ignition of SiH₄/H₂/O₂/Ar and SiH₄/CH₄/O₂/Ar Mixtures,” *Journal of Propulsion and Power*, Vol. 20, No. 4, 2004, pp. 665-674.
- 172) E. L. Petersen and M. W. Crofton, “Measurements of High-Temperature Silane Pyrolysis Using SiH₄ IR Emission and SiH₂ Laser Absorption,” *Journal of Physical Chemistry A*, Vol. 107, No. 50, 2003, pp. 10988-10995.

- 173) E. L. Petersen, M. J. A. Rickard, and R. P. Welle, "High-Temperature Nonreacting Flow Fields Generated by a Hypersonic Chemical Laser Nozzle," *Journal of Thermophysics and Heat Transfer*, Vol. 17, No. 3, 2003, pp. 420-422.
- 174) E. L. Petersen and R. K. Hanson, "Improved Turbulent Boundary-Layer Model for Shock Tubes," *AIAA Journal*, Vol. 41, No. 7, 2003, pp. 1314-1322.
- 175) E. L. Petersen and R. K. Hanson, "Nonideal Effects behind Reflected Shock Waves in a High-Pressure Shock Tube," *Shock Waves*, Vol. 10, 2001, pp. 405-420.
- 176) E. L. Petersen and R. K. Hanson, "Reduced Kinetics Mechanisms for Ram Accelerator Combustion," *Journal of Propulsion and Power*, Vol. 15, No. 4, 1999, pp. 591-600.
- 177) E. L. Petersen, D. F. Davidson, and R. K. Hanson, "Kinetics Modeling of Shock-Induced Ignition in Low-Dilution CH₄/O₂ Mixtures at High Pressures and Intermediate Temperatures," *Combustion and Flame*, Vol. 117, 1999, pp. 272-290.
- 178) E. L. Petersen, D. F. Davidson, and R. K. Hanson, "Ignition Delay Times of Ram Accelerator CH₄/O₂/Diluent Mixtures," *Journal of Propulsion and Power*, Vol. 15, No. 1, 1999, pp. 82-91.
- 179) D. F. Davidson, R. W. Bates, E. L. Petersen, and R. K. Hanson, "Shock Tube Measurements of the Equation of State of Argon," *International Journal of Thermophysics*, Vol. 19, No. 6, 1998, pp. 1585-1594.
- 180) M. Röhrig, E. L. Petersen, D. F. Davidson, R. K. Hanson, and C. T. Bowman, "Measurement of the Rate Coefficient of the Reaction CH + O₂ → Products in the Temperature Range 2200 to 2600 K," *International Journal of Chemical Kinetics*, Vol. 29, 1997, pp. 781-789.
- 181) M. Röhrig, E. L. Petersen, D. F. Davidson, and R. K. Hanson, "A Shock Tube Study of the Pyrolysis of NO₂," *International Journal of Chemical Kinetics*, Vol. 29, 1997, pp. 483-493.
- 182) E. L. Petersen, M. Röhrig, D. F. Davidson, R. K. Hanson, and C. T. Bowman, "High-Pressure Methane Oxidation Behind Reflected Shock Waves," *Proceedings of the Combustion Institute*, Vol. 26, 1996, pp. 799-806.
- 183) D. F. Davidson, E. L. Petersen, M. Röhrig, R. K. Hanson, and C. T. Bowman, "Measurement of the Rate Coefficient of H + O₂ + M → HO₂ + M for M = Ar and N₂ at High Pressures," *Proceedings of the Combustion Institute*, Vol. 26, 1996, pp. 481-488.
- 184) M. Röhrig, E. L. Petersen, D. F. Davidson, and R. K. Hanson, "The Pressure Dependence of the Thermal Decomposition of N₂O," *International Journal of Chemical Kinetics*, Vol. 28, 1996, pp. 599-608.

- 185) D. F. Davidson, M. Röhrig, E. L. Petersen, M. D. DiRosa, and R. K. Hanson, “Measurements of the OH A-X (0,0) 306 nm Absorption Bandhead at 60 atm and 1735 K,” *Journal of Quantitative Spectroscopy and Radiative Transfer*, Vol. 55, 1996, pp. 755-762.

Conference Proceedings

- 1) T. M. Atherley, O. Mathieu, and E. L. Petersen, “High-Temperature Shock-Tube Kinetic Measurements of H₂-N₂O Mixtures at Various N₂ Dilution Levels,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 2) D. J. Mohr, M. Hay, W. D. Kulatilaka, and E. L. Petersen, “High-Speed Species-Specific Imaging of Inhomogeneous Combustion Events Through a Shock-Tube Endwall,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 3) M. A. Turner and E. L. Petersen, “Onset of Cellular Instability in Spherically Expanding Flames,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 4) F. A. Rodriguez, J. C. Thomas, G. D. Lukasik, W. D. Kulatilaka, and E. L. Petersen, “Combustion of Metal Additives in Laminate and Composite Propellants,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 5) G. D. Lukasik, J. C. Thomas, F. A. Rodriguez, E. L. Petersen, and W. D. Kulatilaka, “Automated Image Processing Method for Combustion of Iron Particles in Laminate Solid Propellants at Elevated Pressure,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 6) M. G. Sandberg, O. Mathieu, and E. L. Petersen, “Experimental Investigation of Ideal Burning Conditions for JP-8 in a Compact Burner,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 7) Y. M. Almarzooq, S. A. Alturaifi, M. A. Turner, and E. L. Petersen, “Investigation on the Effect of Adsorption Tendency of Ammonia in a Spherically Propagating Flame Apparatus and Its Impact on Laminar Flame Speed,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 8) C. M. Grégoire, C. K. Westbrook, S. P. Cooper, M. A. Turner, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, “Laminar Flame Speed, Ignition Delay Time, and CO Laser Absorption Measurements of a Gasoline-Like Blend of Pentenes,” 2022 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15 – 17, 2022, Detroit, MI.
- 9) J. C. Thomas and E. L. Petersen, “A Modern Competing Flames Model for Composite AP/HTPB Propellant Combustion,” AIAA Paper 2022-1743, 2022 AIAA SciTech Forum, Jan. 3 – 7, 2022, San Diego, CA (and virtual).

- 10) S. A. Alturaifi and E. L. Petersen, "Measurements of NH₃ in a Shock Tube for Investigating the Chemical Kinetics of Rocket Propellants," AIAA Paper 2022-1875, 2022 AIAA SciTech Forum, Jan. 3 – 7, 2022, San Diego, CA (and virtual).
- 11) M. A. Turner, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Emission Spectra of Hydrocarbon Flames Doped with Phosphorus-Containing Compounds," AIAA Paper 2022-0638, 2022 AIAA SciTech Forum, Jan. 3 – 7, 2022, San Diego, CA (and virtual).
- 12) O. Mathieu, K. Kanayama, S. Takahashi, T. Tezuka, H. Nakamura, E. L. Petersen, and K. Maruta, "An Experimental Study of Ethyl-Methyl-Carbonate (EMC) Combustion, Eighteenth International Conference on Flow Dynamics, Oct. 27 – 29, 2021, Sendai, Miyago (Virtual).
- 13) J. C. Thomas, F. A. Rodriguez, D. S. Teitge, L. N. Kunka, G. N. Gaddis, Z. K. Browne, C. B. Ahumada, E. T. Balci, S. I. Jackson, E. L. Petersen, and E. S. Oran, "Development of a New Lab-Scale, Open-Ended Detonation Tube Facility at Texas A&M University," 24th Annual Process Safety International Symposium, Oct. 19 – 21, 2021, College Station, TX, USA.
- 14) S. P. Cooper and E. L. Petersen, "High-Temperature Ignition Kinetics of Gas Turbine Lubricating Oils," ASME Paper GT2021-60043, ASME 2021 Turbo Expo, Virtual Conference and Exhibition, June 7-11, 2021.
- 15) E. L. Petersen, O. Mathieu, J. C. Thomas, S. P. Cooper, D. S. Teitge, R. Juárez, N. Gutierrez, and C. V. Mashuga, "Combustion and Oxidation of Lube Oils at Gas Turbine Conditions: Experimental Methods," ASME Paper GT2021-60319, ASME 2021 Turbo Expo, Virtual Conference and Exhibition, June 7-11, 2021.
- 16) O. Mathieu, H. Nakamura, C. L. Keesee, Y. Yamamoto, T. Tezuka, C. R. Mulvihill, and E. L. Petersen, "A Comprehensive Experimental Investigation of Nitromethane Oxidation Kinetics Using a Wide Array of Techniques," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 17) O. Mathieu, L. T. Pinzón, C. R. Mulvihill, P. Marshall, P. Glarborg, and E. L. Petersen, "Water Time Histories During Combustion of H₂S-N₂O Mixtures in a Shock Tube," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 18) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, "Metallic Additives for Solid-Fuel Propulsion Applications," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 19) F. A. Rodriguez, J. C. Thomas, D. S. Teitge, and E. L. Petersen, "Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Micro- and Nano-Catalytic Additives," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 20) S. P. Cooper, C. M. Grégoire, O. Mathieu, S. A. Alturaifi, and E. L. Petersen, "An Experimental Kinetics Study of Isopropanol Pyrolysis and Oxidation Behind Reflected Shock Waves," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).

- 21) Y. M. Almarzooq, I Schoegl, and E. L. Petersen, "Laminar Flame Speed Measurements of a Gasoline Surrogate and its Mixtures with Ethanol," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 22) D. Teitge and E. L. Petersen, "Ignition Probability of Fuels and Oils Undergoing Hot-Surface Ignition," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 23) S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Shock-Tube Study of Ammonia Pyrolysis Using Ammonia Laser Absorption for Assessment of Modern Kinetics Mechanisms," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 24) C. M. Grégoire, C. K. Wesbrook, G. Kukkadapu, S. P. Cooper, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Shock-Tube Spectroscopic CO and H₂O Measurements During 2-Methyl-1-Butene Combustion and Chemical Kinetics Modeling," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 25) M. A. Turner, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Effect of DMMP Doping on Emission Spectra of Methane-Air Flames," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 26) C. A. M. Dillier and E. L. Petersen, "Evaluation of Current AP/HTPB-Composite Propellant Exponent Break Theories," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 27) T. Atherley, Z. Browne, O. Mathieu, and E. L. Petersen, "Ignition Energies in Flammability Limit Testing," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 28) A. Hong, C. A. M. Dillier, T. E. Sammet, and E. L. Petersen, "Characterizing Flow Properties of Various Uncured Solid Composite Propellants," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 29) A. Shoyinka, Y. Wang, G. Lukasik, C. A. M. Dillier, E. L. Petersen, and W. D. Kulatilaka, "100-kHz Burst-Mode Laser-Induced Breakdown Spectroscopy (LIBS) for Detecting Airborne Metals during Propellant Combustion," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 30) R. Juárez, N. Gutierrez, and E. L. Petersen, "Pyrolysis of Motor Oil in Contact with High-Temperature Surfaces Leading to Solid Deposit Formation," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 31) P. Parajuli, Y. Wang, M. A. Turner, E. L. Petersen, and W. D. Kulatilaka, "PLIF Diagnostics of Piloted Methanol Liquid-Spray Flames Doped with DMMP," 12th U.S. National Combustion Meeting, May 24 – 26, 2021 (virtual).
- 32) J. C. Thomas and E. L. Petersen, "HTPB Heat of Formation: Literature Survey, Group Additive Estimations, and Theoretical Performance Aspects," AIAA Paper 2021-1971, 2021 AIAA SciTech Forum, January 11 – 21, 2021 (virtual).

- 33) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, "Batch-to-Batch Consistency of AF-M315E Ballistics Data," JANNAF 50th CS/38th APS/38th EPSS/32nd ESHS Joint Subcommittee Meeting, Virtual Edition, Dec. 7 – 17, 2020.
- 34) J. C. Thomas, T. Atherley, O. Mathieu, and E. L. Petersen, "LIB Thermal Runaway and Combustion Research at Texas A&M University," 2020 NASA Aerospace Battery Workshop, Virtual, Nov. 17 – 18, 2020.
- 35) O. Mathieu, H. Nakamura, C. Mulvihill, Y. Yamamoto, T. Tezuka, and E. L. Petersen, "Experimental and Chemical Kinetics Modeling Study of Nitromethane Oxidation in Shock Tubes and a Micro-Flow Reactor with a Controlled Temperature Profile," Seventeenth International Conference on Flow Dynamics (ICFD2020), Sendai, Japan, Oct. 28 – 30, 2020 (virtual).
- 36) F. A. Rodriguez, J. C. Thomas, D. S. Teitge, and E. L. Petersen, "Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Micro- and Nano-Catalytic Additives," AIAA Paper 2020-3899, AIAA Propulsion & Energy 2020 Forum, August 24 – 28, 2020 (Virtual).
- 37) D. S. Teitge, J. C. Thomas, and E. L. Petersen, "High-Speed Video Analysis of Lubricating Oils Undergoing Hot-Surface Ignition," AIAA Paper 2020-3887, AIAA Propulsion & Energy 2020 Forum, August 24 – 28, 2020 (Virtual).
- 38) M. A. Turner, W. D. Kulatilaka, and E. L. Petersen, "Laminar Flame Speeds of Oxy-Methane Flames with CO₂ Dilution at Elevated Pressures," ASME Paper GT2020-14441, ASME 2020 Turbo Expo, June 22 – 26, 2020, London, UK (Virtual, Sept. 21 – 25, 2020).
- 39) C. L. Keesee, B. Guo, and E. L. Petersen, "Laminar Flame Speed Measurements of Kerosene-Based Fuels Accounting for Uncertainties in Mixture Average Molecular Weight," ASME Paper GT2020-15527, ASME 2020 Turbo Expo, June 22 – 26, 2020, London, UK (Virtual, Sept. 21 – 25, 2020).
- 40) S. P. Cooper, Z. K. Browne, S. A. Alturaifi, O. Mathieu, and E. L. Petersen, "Auto-Ignition of Gas Turbine Lubricating Oils in a Shock Tube Using Spray Injection," ASME Paper GT2020-14987, ASME 2020 Turbo Expo, June 22 – 26, 2020, London, UK (Virtual, Sept. 21 – 25, 2020).
- 41) T. Atherley, S. de Persis, N. Chaumeix, Y. Fernandes, A. Bry, A. Comandini, O. Mathieu, S. Alturaifi, C. R. Mulvihill, and E. L. Petersen, "Laminar Flame Speed and Shock-Tube Multi-Species Laser Absorption Measurements of Dimethyl Carbonate Oxidation and Pyrolysis near 1 atm," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 42) C. L. Keesee, O. Mathieu, and E. L. Petersen, "Laminar Flame Speed Measurements of Nitromethane in Air at 1 atm and 358 K," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.

- 43) S. P. Cooper, C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "Experimental Investigation of Isopropanol Pyrolysis Kinetics Using H₂O Time History Measurement behind Reflected Shock Waves," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 44) Y. M. Almarzooq, C. L. Keese, I. Schoegl, and E. L. Petersen, "Laminar Flame Speed Measurements for a Gasoline Surrogate," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 45) C. Grégoire, O. Mathieu, and E. L. Petersen, "Shock-Tube Water Time Histories for Pentene Isomers: 1-Pentene and 3-Methyl-1-Butene," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 46) O. Mathieu, S. P. Cooper, S. A. Alturaifi, C. R. Mulvihill, T. M. Atherley, and E. L. Petersen, "Shock-Tube Laser Absorption Measurements of CO and H₂O During iso-Octane Combustion," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 47) O. Mathieu, N. Chaumeix, Y. Yamamoto, S. Abid, C.-E. Paillard, T. Tezuka, H. Nakamura, C. R. Mulvihill, and E. L. Petersen, "Nitromethane Pyrolysis in Shock Tubes and a Micro Flow Reactor with a Controlled Temperature Profile," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 48) C. A. M. Dillier, E. D. Petersen, and E. L. Petersen, "On the High-Pressure Exponent Break of AP/HTPB-Composite Propellants," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 49) S. A. Alturaifi, C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "Laser Absorption Measurements of CO and H₂O Time Histories During 2-Methyl-2-Butene Oxidation," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 50) M. A. Turner, T. Paschal, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Resolving Flame Thickness Using High-Speed Chemiluminescence of OH* and CH* in Spherically Expanding Methane-Air Flames," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 51) D. S. Teitge, J. C. Thomas, T. E. Sammet, Z. K. Browne, and E. L. Petersen, "Hot Surface Ignition Probability of Hydrocarbon Fuels and Oils," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 52) F. A. Rodriguez, J. C. Thomas, D. S. Teitge, and E. L. Petersen, "Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Nano-Catalytic Additives," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.

- 53) J. C. Thomas, F. A. Rodriguez, D. S. Teitge, and E. L. Petersen, "Strand Burner Experiments with Metal-Loaded Laminate Propellants," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 54) C. R. Mulvihill, R. Juárez, O. Mathieu, and E. L. Petersen, "A Shock-Tube Study of Phosphine Decomposition Using Phosphine Laser Absorption," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 55) C. B. Ahumada, Q. Wang, and E. L. Petersen, "On the Detonation Onset of Premixed H₂/O₂ Downstream of Two Obstacles with Varied Blockage Ratio," 2020 Spring Technical Meeting of the Central States Section of the Combustion Institute (Canceled), May 17 – 19, 2020, Huntsville, AL.
- 56) J. C. Thomas, F. A. Rodriguez, and E. L. Petersen, "Strand Burner Experiments with Metal-Loaded AP/HTPB Laminate Propellants," AIAA Paper 2020-1429, 2020 AIAA SciTech Forum, Jan. 6 – 10, 2020, Orlando, FL.
- 57) F. A. Rodriguez, J. C. Thomas, D. S. Teitge, and E. L. Petersen, "Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Nano-Catalytic Additives," AIAA Paper 2020-1425, 2020 AIAA SciTech Forum, Jan. 6 – 10, 2020, Orlando, FL.
- 58) C. R. Mulvihill, S. A. Alturaiifi, O. Mathieu, and E. L. Petersen, "A N₂O Laser Absorption Diagnostic Near 4.6 μ m for Shock-Tube Chemical Kinetics Studies," AIAA Paper 2020-2143, 2020 AIAA SciTech Forum, Jan. 6 – 10, 2020, Orlando, FL.
- 59) J. W. Hargis, S. P. Cooper, O. Mathieu, E. L. Petersen, and B. Guo, "Ignition Delay Time Measurements of Heavy Hydrocarbons in an Aerosol Shock Tube," AIAA Paper 2020-2144, 2020 AIAA SciTech Forum, Jan. 6 – 10, 2020, Orlando, FL.
- 60) M. A. Turner, T. Paschal, P. Parajuli, W. D. Kulatilaka, and E. L. Petersen, "Progress Toward Flame Thickness Measurements from Chemiluminescence of Spherical Flames," AIAA Paper 2020-1657, 2020 AIAA SciTech Forum, Jan. 6 – 10, 2020, Orlando, FL.
- 61) M. W. Martin, J. A. Smolen, M. Weislogel, J. C. Thomas, and E. L. Petersen, "Advancing, Static, and Receding Contact Angle Measurements for AF-M315E and Distilled Water on Different Materials and Surface Roughness," JANNAF 13th Modeling & Simulation/11th Liquid Propulsion/10th Spacecraft Joint Subcommittee Meeting, Dec. 9 – 13, 2019, Tampa, FL.
- 62) C. A. M. Dillier, E. D. Petersen, T. Sammet, F. A. Rodriguez, J. C. Thomas, and E. L. Petersen, "Very-High-Pressure Burning Rates of AP/HTPB-Composite Propellants with Varying AP Particle Sizes and Distributions," AIAA Paper 2019-4368, 2019 AIAA Propulsion and Energy Forum, Aug. 19 – 22, 2019, Indianapolis, IN.
- 63) J. C. Thomas, F. A. Rodriguez, T. E. Sammet, C. A. M. Dillier, E. D. Petersen, and E. L. Petersen, "Manufacturing and Burning of Composite AP/HTPB/AP Laminate Propellants,"

AIAA Paper 2019-4365, 2019 AIAA Propulsion and Energy Forum, Aug. 19 – 22, 2019, Indianapolis, IN.

- 64) F. A. Rodriguez, J. C. Thomas, T. E. Sammet, E. D. Petersen, C. A. M. Dillier, and E. L. Petersen, “Burning Rate Characterization of Ammonium Perchlorate Pellets Containing Catalytic Additives,” AIAA Paper 2019-4440, 2019 AIAA Propulsion and Energy Forum, Aug. 19 – 22, 2019, Indianapolis, IN.
- 65) E. L. Petersen, J. C. Thomas, T. E. Sammet, and C. J. Aul, “Undergraduate Research in Energy and Propulsion: Outcomes and Lessons Learned from a 9-Year REU Site,” AIAA Paper 2019-3893, 2019 AIAA Propulsion and Energy Forum, Aug. 19 – 22, 2019, Indianapolis, IN.
- 66) E. D. Petersen, F. A. Rodriguez, C. A. M. Dillier, J. C. Thomas, and E. L. Petersen, “Combustion Behavior of Ammonium Perchlorate at High Pressures,” AIAA Paper 2019-4366, 2019 AIAA Propulsion and Energy Forum, Aug. 19 – 22, 2019, Indianapolis, IN.
- 67) C. L. Keesee, B. Guo, and E. L. Petersen, “Laminar Flame Speed and Laser Absorption Measurements of Conventional and Alternative Kerosene-Based Liquid Fuels,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 68) C. B. Ahumada, M. S. Mannan, and E. L. Petersen, “Effects of Unequal Blockage Ratio and Obstacle Spacing on Wave Speed and Overpressure During Flame Propagation in Stoichiometric H₂/O₂,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 69) O. Mathieu, L. T. Pinzón, T. M. Atherley, I. Schoegl, and E. L. Petersen, “High-Temperature Non-homogeneous Ignition of Small Alcohols Behind Reflected Shock Waves,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 70) D. Nativel, M. Fikri, J. T. Lipkowicz, A. M. Kempf, C. Schulz, S. P. Cooper, and E. L. Petersen, “Reflected-Shock Non-Idealities in Shock Tubes: The Impact of the Facility-Dependent Effects Over a Wide Range of Pressures and Mach Numbers,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 71) M. A. Turner, T. Paschal, P. Parajuli, W. Kulatilaka, and E. L. Petersen, “Laminar Flame Speed Measurements of Spherically Expanding CH₄-Air Flames from Chemiluminescence of OH* and CH*,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 72) D. Nativel, M. Fikri, C. Schulz, S. P. Cooper, and E. L. Petersen, “Facility-Dependent Effects in Shock Tubes,” 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.

- 73) C. A. M. Dillier, T. Sammet, F. A. Rodriguez, E. D. Petersen, J. C. Thomas, and E. L. Petersen, "Aluminized and Non-Aluminized AP/HTPB-Composite Propellant Burning Rates at Very-High Pressures," 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 74) J. C. Thomas and E. L. Petersen, "Updated Three-Flame Modeling of Composite AP/HTPB Propellants," 27th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 28 – Aug. 2, 2019, Beijing, China.
- 75) J. W. Hargis, S. P. Cooper, O. Mathieu, E. L. Petersen, and B. Guo, "A New Aerosol Shock-Tube Facility for the Study of Mixtures with Large Hydrocarbons," 32nd International Symposium on Shock Waves, July 14 – 19, 2019, Singapore.
- 76) D. Nativel, M. Fikri, C. Schulz, S. P. Cooper, and E. L. Petersen, "Impact of the Facility-Dependent Effects on Reflected-Shock Conditions Over a Wide Range of Pressures and Mach Numbers," 32nd International Symposium on Shock Waves, July 14 – 19, 2019, Singapore.
- 77) K. P. Chatelain, R. Alharbi, R. Mével, E. L. Petersen, and D. A. Lacoste, "Assessment of Reference Reaction Models Relevant for the Oxidation of SiH₄ with O₂ Against a Comprehensive Validation Database," 12th Asia-Pacific Conference on Combustion, Fukuoka International Congress Center, July 1 – 5, 2019, Fukuoka, Japan.
- 78) O. Mathieu, C. R. Mulvihill, and E. L. Petersen, "CO Formation from Dimethyl-Carbonate Pyrolysis Behind Reflected Shock Waves," 11th International Conference on Chemical Kinetics, June 23-27, 2019, Orléans, France.
- 79) O. Mathieu, S. Cooper, S. Alturaifi, C. R. Mulvihill, and E. L. Petersen, "Shock-Tube Measurements of CO Concentration Time-Histories During iso-Octane Oxidation," 11th International Conference on Chemical Kinetics, June 23-27, 2019, Orléans, France.
- 80) S. Alturaifi, T. Atherley, O. Mathieu, B. Guo, and E. L. Petersen, "Autoignition Study of Gas-to-Liquid Fischer-Tropsch Jet Fuels," ASME Paper GT2019-90270, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 81) A. Morones, M. A. Turner, V. León, K. Ruehle, and E. L. Petersen, "Validation of a New Turbulent Flame Speed Facility for the Study of Gas Turbine Fuel Blends at Elevated Pressure," ASME Paper GT2019-90394, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 82) C. L. Keesee, B. Guo, and E. L. Petersen, "Laminar Flame Speed Experiments of Alternative Liquid Fuels," ASME Paper GT2019-90475, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 83) S. P. Cooper, M. W. Crofton, K. Y. Lam, C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "CH Kinetics Measurements and Their Importance for Modeling Prompt NO_x Formation in Gas Turbines," ASME Paper GT2019-90569, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.

- 84) M. J. Krejci, C. L. Keesee, A. J. Vissotski, S. Ravi, and E. L. Petersen, "Effect of Steam Dilution on Laminar Flame Speeds of Syngas Fuel Blends at Elevated Pressures and Temperatures," ASME Paper GT2019-90570, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 85) M. A. Turner, T. Paschal, W. Kulatilaka, and E. L. Petersen, "An Investigation of Laminar Flame Speeds of CH₄-O₂-CO₂ Mixtures," ASME Paper GT2019-91392, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 86) O. Parajuli, T. Paschal, M. A. Turner, E. L. Petersen, and W. Kulatilaka, "High-Speed Spectrally Resolved Imaging Studies of Spherically Expanding Natural Gas Flames Under Gas Turbine Operating Conditions," ASME Paper GT2019-91752, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 87) J. P. Anderson, A. Camou, E. L. Petersen, M. Harris, and D. M. Cusano, "Carbon Monoxide Emission Measurements from a Supercritical CO₂ Combustor Rig Using a Mid-Infrared Laser Absorption Diagnostic," ASME Paper GT2019-91779, ASME 2019 Turbo Expo, Phoenix, AZ, June 17 – 21, 2019.
- 88) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "NO_x-Hydrocarbon Kinetics Model Validation against New H₂O Shock-Tube Measurements in the H₂-NO₂ System," 11th Mediterranean Combustion Symposium, June 16-20, 2019, Tenerife, Spain.
- 89) D. L. Reid, M. J. Fisher, E. L. Petersen, J. C. Thomas, S. F. Son, and B. C. Terry, "Solid Ramjet Fuel Containing in-Situ Grown Aluminum Nanoparticles," 66th JANNAF Propulsion Meeting (JPM)/Programmatic and Industrial Base Meeting (PIB)/49th Combustion (CS)/37th Airbreathing Propulsion (APS)/37th Exhaust Plume and Signatures (EPSS)/31st Propulsion Systems Hazards (PSHS) Subcommittees, Dayton, OH, June 3 – 7, 2019.
- 90) C. L. Keesee, B. Guo, and E. L. Petersen, "Laminar Flame Speed Measurements of Alternative Liquid Fuels at 403 K and 1 atm," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 91) T. M. Atherley, L. T. Pinzón, O. Mathieu, C. R. Mulvihill, I. Schoegl, and E. L. Petersen, "Kinetics Study of Ethanol Oxidation Behind Reflected Shock Waves: Ignition Delay Times, H₂O Measurements, and Detailed Kinetics Model Comparisons," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 92) C. R. Mulvihill and E. L. Petersen, "Quantitative Measurements of CH in a Shock Tube Using Laser Absorption at 427 nm," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 93) J. C. Thomas, J. M. Stahl, A. J. Tykol, F. A. Rodriguez, and E. L. Petersen, "Experimental Assessment of HTPB/Paraffin Fuel Blends for Hybrid Rocket Applications," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.

- 94) A. J. Tykol, F. A. Rodriguez, J. C. Thomas, and E. L. Petersen, "Burning Rate Characterization of Guanidine Nitrate and Basic Copper Nitrate Propellants with Metal Oxide Additives," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 95) S. A. Alturaifi, B. Guo, and E. L. Petersen, "Ignition Delay Times of Gas-to-Liquid Jet Fuels Behind Reflected Shock Waves," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 96) C. B. Ahumada, Q. Wang, and E. L. Petersen, "Effect of Unequal Blockage Ratio and Obstacle Spacing on Wave Speed and Overpressure During Flame Propagation in Premixed H₂/O₂ Mixtures," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 97) C. A. M. Dillier, T. Sammet, F. A. Rodriguez, E. D. Petersen, and E. L. Petersen, "Very-High-Pressure Burning Rates of Aluminized and Non-Aluminized AP/HTPB-Composite Propellants," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 98) D. Nativel, S. P. Cooper, M. Fikri, E. L. Petersen, and C. Schulz, "A Study of Shock-Tube Facility Effects Over a Wide Range of Conditions Using Multiple Facilities," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 99) T. T. Paschal, M. A. Turner, P. Parajuli, Y. Wang, E. L. Petersen, and W. D. Kulatilaka, "Single-Shot, OH Planar Laser-Induced Fluorescence (PLIF) Studies of Spherically Expanding Laminar Flames," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 100) P. Parajuli, T. T. Paschal, M. A. Turner, E. L. Petersen, and W. D. Kulatilaka, "High-Speed OH* and CH* Chemiluminescence Imaging Diagnostics in Spherically Expanding Laminar and Turbulent Flames," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 101) M. A. Turner, T. T. Paschal, W. D. Kulatilaka, and E. L. Petersen, "Laminar Flame Speed Measurements from OH* Chemiluminescence of Spherically Expanding CH₄-O₂-CO₂ Flames," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 102) K. P. Chatelain, R. Alharbi, Rémy Mével, E. L. Petersen, and D. A. Lacoste, "An Accurate Reaction Model for the High-Temperature Pyrolysis of Silane and Disilane," 11th U.S. National Combustion Meeting, Mar. 24 – 27, 2019, Pasadena, CA.
- 103) T. T. Paschal, M. A. Turner, P. Parajuli, E. L. Petersen, and W. D. Kulatilaka, "High-Speed OH* and CH* Chemiluminescence Imaging and OH Planar Laser-Induced Fluorescence (PLIF) Studies in Spherically Expanding Flames," AIAA Paper 2019-0574, AIAA Science and Technology Forum and Exposition 2019, San Diego, CA, Jan. 7 – 11, 2019.
- 104) C. A. M. Dillier, A. R. Demko, J. C. Thomas, E. L. Petersen, K. Grossman, and S. Seal, "Evaluation of Composite Propellants Utilizing Various Nano-Scale Aluminum and Boron

Incorporation Methods,” AIAA Paper 2019-1238, AIAA Science and Technology Forum and Exposition 2019, San Diego, CA, Jan. 7 – 11, 2019.

- 105) M. A. Turner, T. Paschal, P. Parajuli, W. Kulatilaka, and E. L. Petersen, “Laminar Flame Speed Measurements from Chemiluminescence of OH* and CH* in CH₄-Air Flames,” AIAA Paper 2019-2363, AIAA Science and Technology Forum and Exposition 2019, San Diego, CA, Jan. 7 – 11, 2019.
- 106) M. Shindo, O. Mathieu, E. L. Petersen, T. Tezuka, and H. Nakamura, “Study on Flame and ignition characteristics of NH₃/air and NH₃/N₂O/Inert Mixtures,” 56th Symposium (Japanese) on Combustion, Sakai City Industrial Promotion Center, Sakai, Osaka, Japan, Nov. 14 - 16, 2018.
- 107) M. Shindo, O. Mathieu, E. L. Petersen, T. Tezuka, and H. Nakamura, “Study on Chemical Structure of Ammonia/N₂O Weak flames in a Micro Flow Reactor with a Controlled Temperature Profile,” ICFD 2018: 15th International Conference on Flow Dynamics, Sendai, Japan, Nov. 7-9, 2018.
- 108) M. Shindo, O. Mathieu, E. L. Petersen, T. Tezuka, and H. Nakamura, “Study on Flame and Ignition Characteristics of NH₃/air and NH₃/N₂O/Ar mixtures,” JSME Thermal Engineering Conference 2018, Toyama University, Japan, Oct. 20-21, 2018.
- 109) J. C. Thomas, G. R. Morrow, C. A. M. Dillier, and E. L. Petersen, “Comprehensive Study of AP Particle Size and Loading Effects on the Burning Rates of Composite AP/HTPB Propellants,” AIAA Paper 2018-4874, AIAA Propulsion and Energy 2018, Cincinnati, OH, July 9-11, 2018.
- 110) J. C. Thomas, T. E. Sammet, C. A. M. Dillier, A. R. Demko, F. A. Rodriguez, and E. L. Petersen, “Aging Effects on the Burning Rates of Composite Solid Propellants with Nano-Additives,” AIAA Paper 2018-4960, AIAA Propulsion and Energy 2018, Cincinnati, OH, July 9-11, 2018.
- 111) O. Mathieu, C. R. Mulvihill, E. L. Petersen, and H. J. Curran, “NO_x-Hydrocarbon Kinetics Model Validation Using Measurements of H₂O in Shock-Heated CH₄/C₂H₆ Mixtures with NO₂ as Oxidant,” ASME Paper GT2018-75874, Turbo Expo 2018, Lillestrøm (Oslo), Norway, June 11 – 15, 2018.
- 112) K. Y. Lam, M. W. Crofton, J. H. Morehart, and E. L. Petersen, “Particle-Impact Ignition of Metals in High-Pressure, Oxygen-Rich Environments,” 65th JANNAF Propulsion Meeting, Long Beach, CA, May 21 – 24, 2018.
- 113) C. R. Mulvihill, C. L. Keesee, T. Sikes, R. Teixeira, O. Mathieu, and E. L. Petersen, “Ignition Delay Times, Laminar Flame Speeds, and Species Time-Histories in the H₂S/CH₄ System at Atmospheric Pressure,” 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.

- 114) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Shock-Tube Studies of Sarin Surrogates," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 115) N. Niemiec, C. Dillier, D. Guildenbecher, E. L. Petersen, and W. D. Kulatilaka, "Simultaneous Particle Flow-Field Characterization and Metal Speciation in the Reaction Zone of Metalized AP/HTPB Propellants," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 116) L. T. Pinzón, O. Mathieu, C. R. Mulvihill, I. Schoegl, and E. L. Petersen, "Ignition Delay Times and H₂O Measurements During Methanol Oxidation Behind Reflected Shock Waves," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 117) C. L. Keese and E. L. Petersen, "Laminar Flame Speed and Laser Absorption Measurements of Various Kerosene-Based Fuels," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 118) J. W. Hargis, O. Mathieu, S. P. Cooper, B. Guo, and E. L. Petersen, "A New Shock-Tube Facility for Studying Large-Hydrocarbon-Based Mixtures," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 119) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "A Shock-Tube Study of the H₂-N₂O System Using H₂O Absorption and Ignition Delay Times," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 120) T. Sikes, O. Mathieu, W. D. Kulatilaka, M. S. Mannan, and E. L. Petersen, "Laminar Flame Speeds of DEMP, DMMP, and TEP Added to H₂- and CH₄-Air Mixtures," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 121) S. A. Alturaifi and E. L. Petersen, "Shock-Tube Auto-Ignition Study of Multicomponent Fuels: Jet-A, RP-1 and DF-2," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 122) J. C. Thomas, G. D. Homan-Cruz, J. M. Stahl, and E. L. Petersen, "The Effects of SiO₂ and TiO₂ on the Two-Phase Burning Behavior of Aqueous HAN Propellant," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 123) C. B. Ahumada, M. S. Mannan, and E. L. Petersen, "Effects of Obstacle Configuration on Flame Propagation Regimes and Explosion Severity," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 124) M. A. Turner and E. L. Petersen, "Effect of Acetone Contamination on Laminar Flame Speed of Acetylene," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.

- 125) C. A. M. Dillier, A. R. Demko, J. C. Thomas, K. Grossman, S. Seal, and E. L. Petersen, "Performance of Aluminum-Coated Nano-Sized Boron Additives in AP/HTPB Propellants," 2018 Spring Technical Meeting, Central States Section of the Combustion Institute, Minneapolis, MN, May 20-22, 2018.
- 126) M. O'Neil, N. Niemiec, A. Demko, E. Petersen, and W. Kulatilaka, "Ultrashort-Pulse LIBS for Detecting Airborne Metal Particles from Energetic Material Reactions," 2018 CLEO Conference, San Jose, CA, May 13-18, 2018.
- 127) J. C. Thomas, A. R. Demko, J. M. Stahl, E. L. Petersen, B. B. Brady, J. D. DeSain, and J. H. Schilling, "Linear Burning Rates and Non-Catalytic Ignition Behavior of AF-M315E Over a Wide Pressure Range," JANNAF 48th Combustion Subcommittee Meeting, Newport News, VA, Dec. 4 – 8, 2017.
- 128) J. C. Thomas, A. R. Demko, J. M. Stahl, E. L. Petersen, B. B. Brady, J. D. DeSain, and J. H. Schilling, "Materials Compatibility and Corresponding Effects on the Combustion of AF-M315E," JANNAF 48th Combustion Subcommittee Meeting, Newport News, VA, Dec. 4 – 8, 2017.
- 129) D. L. Reid, C. Dillier, A. Demko, E. L. Petersen, T. Hedman, and F. Zalar, "Development of High Pressure Extinguishing Propellants for Insensitive Munitions," JANNAF 30th Propulsion Systems Hazards Subcommittee Meeting, Newport News, VA, Dec. 4 – 8, 2017.
- 130) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Ignition Delay Time Measurements of Sarin Surrogate (TEP, DMMP)-Based Mixtures in a Heated Shock Tube," Paper No. 1149, 26th International Colloquium on Detonations, Explosions, and Reactive Systems, July 30 – Aug. 4, 2017, Boston, MA, USA.
- 131) O. Mathieu, C. Mulvihill, and E. L. Petersen, "Experimental Study of Nitromethane Oxidation: CO and H₂O Time-Histories Behind Reflected Shock Waves," Paper No. 911, 26th International Colloquium on Detonations, Explosions, and Reactive Systems, July 30 – Aug. 4, 2017, Boston, MA, USA.
- 132) J. C. Thomas, M. W. Crofton, J. P. Anderson, M. Worshum, and E. L. Petersen, "Particle-Impact Characterization Results at Liquid Rocket Engine Conditions for a Miniature Shock Tube," AIAA Paper 2017-5072, AIAA Propulsion and Energy Forum and Exposition (Propulsion and Energy 2017), July 10 – 12, 2017, Atlanta, GA.
- 133) M. W. Crofton, J. Morehart, J. C. Thomas, and E. L. Petersen, "Particle-Impact Ignition Experiments at High Oxygen Pressure," AIAA Paper 2017-5073, AIAA Propulsion and Energy Forum and Exposition (Propulsion and Energy 2017), July 10 – 12, 2017, Atlanta, GA.
- 134) J. C. Thomas, J. M. Stahl, A. J. Tykol, F. A. Rodriguez, and E. L. Petersen, "Hybrid Rocket Studies Using HTPB/Paraffin Fuel Blends in Gaseous Oxygen Flow," 7th European Conference for Aeronautics and Space Sciences (EUCASS), July 3 – 6, 2017, Milan, Italy.

- 135) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Effect of Dimethyl Methylphosphonate (DMMP) Addition on H₂, CH₄, and C₂H₄ Ignition behind Reflected Shock Waves," 31st International Symposium on Shock Waves, July 9-14, 2017, Nagoya, Japan.
- 136) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "CO and H₂O Time-Histories in a Shock-Heated H₂S/CH₄ Blend near Atmospheric Pressure," 31st International Symposium on Shock Waves, July 9-14, 2017, Nagoya, Japan. **Winner – ISSW31 Student Competition Award**
- 137) O. Mathieu, C. Mulvihill, E. L. Petersen, Y. Zhang, and H. J. Curran, "CO and H₂O Time-Histories in Shock-Heated Blends of Methane and Ethane for Assessment of a Chemical Kinetics Model," ASME Paper GT2017-64978, ASME Turbo Expo 2017 (GT2017), June 26-30, 2017, Charlotte, NC, USA.
- 138) C. A. M. Dillier, A. R. Demko, J. M. Stahl, T. Sammet, and E. L. Petersen, "Temperature Sensitivity and High-Pressure Characteristics of Nano-Sized Additives in AP/HTPB-Composite Propellants," 10th U.S. National Combustion Meeting, April 23-26, 2017, College Park, MD.
- 139) O. Mathieu, C. Mulvihill, and E. L. Petersen, "Shock-Tube Measurements by Laser Absorption of CO and H₂O Time-Histories from Nitromethane Pyrolysis," 10th U.S. National Combustion Meeting, April 23-26, 2017, College Park, MD.
- 140) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Shock-Tube Studies of Sarin Surrogates," 10th U.S. National Combustion Meeting, April 23-26, 2017, College Park, MD.
- 141) T. Sikes, N. Niemiec, W. D. Kulatilaka, and E. L. Petersen, "Laminar Flame Speeds of Dilute Sarin Simulants in H₂- and CH₄-Air Mixtures," 10th U.S. National Combustion Meeting, April 23-26, 2017, College Park, MD.
- 142) M. O'Neil, N. Niemiec, A. Demko, E. L. Petersen, and W. D. Kulatilaka, "Characterization of Emissions from Metalized Energetic Formulations Using Laser-Induced Breakdown Spectroscopy," AIAA Paper 2017-0385, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 143) N. A. Niemiec, T. G. Sikes, E. L. Petersen, and W. Kulatilaka, "Development of Spectroscopic Characterization Tools for Reactions Involving Counter-WMD Simulants," AIAA Paper 2017-0388, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 144) C. A. M. Dillier, A. R. Demko, J. M. Stahl, T. Sammet, E. L. Petersen, and D. L. Reid "Temperature Sensitivity of AP/HTPB-Based Rocket Propellants Using a New High-Pressure Strand Burner," AIAA Paper 2017-0830, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.

- 145) G. R. Morrow and E. L. Petersen, "The Effects of AP Particle Size and Concentration on AP/HTPB Composite Propellant Burning Rates," AIAA Paper 2017-0831, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 146) J. W. Hargis and E. L. Petersen, "Shock-Tube Boundary-Layer Growth Effects on Reflected-Shock Conditions in Bath Gases with and without CO₂," AIAA Paper 2017-1470, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 147) A. Morones, V. J. Leon, and E. L. Petersen, "Reconfigurable Fan-Stirred Flame Bomb with Optical Access," AIAA Paper 2017-1783, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 148) O. Mathieu, W. D. Kulatilaka, and E. L. Petersen, "Shock-Tube Studies of Tri-Ethyl-Phosphate (TEP) Kinetics at High Temperatures," AIAA Paper 2017-1795, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 149) C. R. Mulvihill, O. Mathieu, and E. L. Petersen, "Shock-Tube Time History Measurements of CO and H₂O Using IR Laser Absorption," AIAA Paper 2017-1797, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 150) T. Sikes, N. Niemiec, W. Kulatilaka, and E. L. Petersen, "Laminar Flame Speeds of Dilute Tri-Ethyl Phosphate in H₂- and CH₄-Air Mixtures," AIAA Paper 2017-1962, AIAA Science and Technology Forum and Exposition 2017, Jan. 9 – 13, 2017, Grapevine, TX.
- 151) A. R. Demko, C. Dillier, G. Morrow, T. Sammet, E. L. Petersen, K. Grossman, and S. Seal, "Laboratory-Scale Burning of Composite Propellant Using *In-Situ* Synthesized Iron Oxide," AIAA Paper 2016-5115, 52nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, July 25-27, 2016, Salt Lake City, UT.
- 152) G. R. Morrow, A. R. Demko, and E. L. Petersen, "Modern Scanning Electron Microscopy in the Study of Solid Propellant Combustion: Surface Structure and Elemental Identification via EDS," AIAA Paper 2016-4594, 52nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, July 25-27, 2016, Salt Lake City, UT.
- 153) C. A. M. Dillier, A. R. Demko, T. Sammet, J. C. Thomas, E. L. Petersen, K. Grossman, and S. Seal, "Burning Rate and Ignition Delay Times of AP/HTPB-Based Solid Rocket Propellants Containing Graphene," AIAA Paper 2016-4690, 52nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, July 25-27, 2016, Salt Lake City, UT.
- 154) J. C. Thomas, J. M. Stahl, G. R. Morrow, and E. L. Petersen, "Design of a Lab-Scale Hybrid Rocket Thrust Stand," AIAA Paper 2016-4965, 52nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, July 25-27, 2016, Salt Lake City, UT.
- 155) A. R. Demko and E. L. Petersen, "Relative Combustion Efficiency Measurement of Composite Propellants in a Constant-Volume Strand Burner," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.

- 156) J. W. Hargis and E. L. Petersen, "Effect of Mixture Composition on Boundary Layer Growth and Subsequent Variation in Test Conditions Behind Reflected Shock Waves," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.
- 157) O. Mathieu, C. Mulvihill, and E. L. Petersen, "Water Time-Histories and Ignition Delay Time Measurements in Shock Tubes for H₂S Near Atmospheric Pressure," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.
- 158) A. Morones, V. Leon, and E. L. Petersen, "Detailed Turbulence Characterization of a Fan-Stirred Vessel with Two Different Impeller Designs," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.
- 159) C. Mulvihill and E. L. Petersen, "A Shock-Tube Study of the Effects of Impurities on H₂/O₂ Kinetics Using Tunable Diode Laser Absorption at 1.38 Microns," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.
- 160) T. Sikes, M. S. Mannan, and E. L. Petersen, "Sensitivity Analysis of Stoichiometric Methane/Air Laminar Flame Speed Measurements Using a Spherical Flame," 2016 Spring Technical Meeting of the Central States Section of the Combustion Institute, May 15-17, 2016, Knoxville, TN.
- 161) Nakamura, Y., Iwai, Y., Itoh, M., Morisawa, Y., Sasaki, T., Cusano, D., Harris, M., and Petersen, E., "Development of Combustor for Supercritical CO₂ Turbine," International Gas Turbine Congress 2015 Tokyo, Nov. 15-20, 2015, Tokyo, Japan.
- 162) O. Mathieu, C. Gregoire, and E. L. Petersen, "Shock-Tube Study of the Addition Effect of CF₂BrCl on the Ignition of Light Hydrocarbons," 25th International Colloquium on the Dynamics of Explosions and Reactive Systems (25th ICDERS), Leeds, UK, Aug. 2 – 7, 2015.
- 163) O. Mathieu, B. Giri, J. D. Mertens, and E. L. Petersen, "Nitromethane Ignition Behind Reflected Shock Waves," 25th International Colloquium on the Dynamics of Explosions and Reactive Systems (25th ICDERS), Leeds, UK, Aug. 2 – 7, 2015.
- 164) A. R. Demko, J. C. Thomas, T. Sammet, E. L. Petersen, D. L. Reid, and S. Seal, "Ignition Delay Times of Composite Solid Propellants Using Novel Nano-Additive Catalysts," AIAA Paper 2015-4106, Propulsion and Energy 2015, July 27 – 29, 2015, Orlando, FL.
- 165) T. Sammet, G. Morrow, C. Dillier, A. R. Demko, and E. L. Petersen, "Aging Effects of Composite AP/HTPB Propellants Containing Nano-Sized Additives," AIAA Paper 2015-3973, Propulsion and Energy 2015, July 27 – 29, 2015, Orlando, FL.
- 166) J. C. Thomas, E. L. Petersen, J. D. DeSain, and B. B. Brady, "Enhancement of Regression Rates in Hybrid Rockets with HTPB Fuel Grains by Metallic Additives," AIAA Paper 2015-4041, Propulsion and Energy 2015, July 27 – 29, 2015, Orlando, FL.

- 167) S. Ravi, A. Morones, E. L. Petersen, and F. Güthe, "Effect of Hydrogen Addition on the Flame Speeds of Natural Gas Blends under Uniform Turbulent Conditions," ASME Paper GT2015-42903, ASME Turbo Expo 2015, June 15-19, 2015, Montreal, Canada.
- 168) C. L. Keesee, E. L. Petersen, K. Zhang, and H. J. Curran, "Laminar Flame Speed Measurements of Synthetic Gas Blends with Hydrocarbon Impurities," ASME Paper GT2015-42905, ASME Turbo Expo 2015, June 15-19, 2015, Montreal, Canada.
- 169) O. Mathieu, C. L. Keesee, C. Gregoire, and E. L. Petersen, "Effects of Halon 1211 (CF₂BrCl) on the Laminar Flame Speed and Ignition of CH₄, C₂H₄, and C₃H₈: Experimental and Chemical Kinetics Study," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 170) J. W. Hargis, M. Gill, and E. L. Petersen, "Methane Ignition in a Shock Tube with High Levels of CO₂ Dilution," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 171) O. Mathieu, B. Giri, N. Chaumeix, S. Abid, C. -E. Paillard, J. D. Mertens, and E. L. Petersen, "Nitromethane Combustion Study: Ignition Delay Times and Decomposition Profiles behind Reflected Shock Waves and Detailed Kinetics Modeling," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 172) T. Sikes, M. S. Mannan, and E. L. Petersen, "Effects of Nano-Aluminum on the Laminar Flame Speed of CH₄," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 173) A. R. Demko, C. A. Dillier, D. L. Reid, S. Seal, and E. L. Petersen, "Ignition Delay Times of Composite Solid Propellants Using Novel Nano-Additive Catalysts," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 174) C. Dillier, A. Demko, T. Sammet, K. Grossman, S. Seal, and E. L. Petersen, "Determining the Effects of Graphene on the Burning Rate and Strength of AP/HTPB-Based Solid Rocket Propellants," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 175) J. C. Thomas, E. L. Petersen, J. D. DeSain, and B. B. Brady, "Enhancement of Hybrid Rockets with HTPB Fuel Grains by Particulate Additives," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 176) C. Mulvihill and E. L. Petersen, "Shock-Tube Time-History Measurements of H₂O in the H₂/O₂ System Using IR Laser Absorption Spectroscopy," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.
- 177) J. Stahl, G. Homan-Cruz, and E. L. Petersen, "Comparison of Liquid Monopropellant Burning Rates from Pressure Data and High-Speed Video," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, OH.

- 178) A. R. Demko, J. C. Thomas, T. Sammet, E. L. Petersen, D. L. Reid, and S. Seal, "Temperature Sensitivity of Composite Propellants Containing Novel Nano-Additive Catalysts," AIAA Paper No. 2014-3691, 50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Cleveland, OH, July 28-30, 2014.
- 179) G. D. Homan-Cruz, K. W. McCown III, and E. L. Petersen, "Effects of Nano-Scale Additives and Methanol on the Linear Burning Rates of Aqueous HAN Solutions," AIAA Paper No. 2014-3566, 50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Cleveland, OH, July 28-30, 2014.
- 180) E. L. Petersen, T. E. Sammet, and D. Ranjan, "Texas Center for Undergraduate Research in Energy and Propulsion: An NSF REU Site at Texas A&M University," AIAA Paper No. 2014-3601, 50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Cleveland, OH, July 28-30, 2014.
- 181) J. Thomas, E. L. Petersen, B. Brady, and J. DeSain, "Hybrid Rocket Burning Rate Enhancement by Nano-Scale Additives in HTPB Fuel Grains," AIAA Paper No. 2014-3955, 50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Cleveland, OH, July 28-30, 2014.
- 182) O. Mathieu, E. L. Petersen, H. J. Curran, F. Güthe, and G. Bourque, "The Effect of Impurities on Ignition Delay Times and Laminar Flame Speeds of Syngas Mixtures at Gas Turbine Conditions," ASME Paper GT2014-25412, ASME Turbo Expo 2014, June 16-20, 2014, Düsseldorf, Germany.
- 183) A. Morones, S. Ravi, D. Plichta, E. L. Petersen, H. J. Curran, G. Bourque, F. Güthe, and T. Wind, "Laminar and Turbulent Flame Speed Measurements and Modeling for Natural Gas/Hydrogen Blends at Elevated Pressures," ASME Paper GT2014-26742, ASME Turbo Expo 2014, June 16-20, 2014, Düsseldorf, Germany.
- 184) T. Sikes, M. S. Mannan, and E. L. Petersen, "Laminar Flame Speeds of an Aerosol Mixture Containing Nano-Aluminum in CH₄/O₂/N₂," Tenth International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions, Bergen, Norway, 10-14 June, 2014.
- 185) A. Y. Chowdhury, B. Marks, H. G. Johnston, E. L. Petersen, and M. S. Mannan, "Effect of Shock Strength and Layer Depth on Dust Entrainment behind a Moving Shock Wave," Tenth International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions, Bergen, Norway, 10-14 June, 2014 – *Winner, Best Paper Award*.
- 186) K. W. McCown and E. L. Petersen, "Effects of Methanol and Fumed Silica on the Linear Burning Rates of Aqueous Hydroxylammonium Nitrate," 10th International Symposium on Special Topics in Chemical Propulsion & Energetic Materials (10-ISICP), Portiers, France, June 2-6, 2014.
- 187) O. Mathieu, J. Hargis, A. Camou, C. Mulvihill, and E. L. Petersen, "Ignition Delay Time Measurements Behind Reflected Shock Waves for a Representative Coal-Derived Syngas

With and Without NH₃ and H₂S Impurities,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.

- 188) O. Mathieu, J. Goulier, F. Gourmel, M. S. Mannan, N. Chaumeix, and E. L. Petersen, “Experimental Study of the Addition Effects of CF₃I on the Oxidation Properties of Light Hydrocarbons,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 189) E. Vivanco, D. Pastrich, J. Anderson, and E. L. Petersen, “A New Shock-Tube Facility for the Study of High-Temperature Chemical Kinetics,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 190) A. Camou, D. Cusano, and E. L. Petersen, “Development of a Mid-IR Carbon Monoxide Sensor for a High-Pressure Combustor,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 191) C. Mulvihill, C. Aul, S. Thion, and E. L. Petersen, “Using UV Absorption Spectroscopy to Measure the Time History of the Hydroxyl Radical in a Shock Tube,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 192) C. Rosas, H. Chen, E. Petersen, and M. S. Mannan, “The Effect of Non-Uniform Distribution of Obstacles on Deflagration-to-Detonation Transition (DDT),” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 193) A. R. Demko and E. L. Petersen, “Development of a CO₂ Laser Ignition System to Test Solid Propellant Strands,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 194) K. W. McCown III and E. L. Petersen, “Modified Burning Rates of Aqueous HAN Solutions Containing Methanol and Metal Oxides,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 195) J. C. Thomas, A. R. Demko, T. Sammet, E. L. Petersen, D. L. Reid, and S. Seal, “Mechanical Properties of Composite AP/HTPB Propellants with Titania Nanoparticles,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 196) O. Mathieu, C. L. Keesee, A. Morones, E. L. Petersen, S. M. Burke, and H. J. Curran, “Ignition Delay Time and Laminar Flame Speed Measurements of Propene,” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 197) S. Ravi, E. L. Petersen, and F. Güthe, “Effects of Hydrogen Addition on the Turbulent Displacement Speeds of Natural Gas Blends (C1-C5 Alkanes),” Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.

- 198) T. Sikes, M. S. Mannan, and E. L. Petersen, "Influence of Nano-Aluminum on Stoichiometric CH₄/O₂/N₂ Laminar Flame Speed" Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 199) S. Ravi, T. G. Sikes, A. Morones, C. L. Keesee, and E. L. Petersen, "Laminar Flame Speed of Methane with Ethane and Ethylene Addition," Spring Technical Meeting of the Central States Section of the Combustion Institute, Tulsa, Oklahoma, March 16-18, 2014.
- 200) S. Ravi and E. L. Petersen, "Global Displacement Speeds of Methane/Air Measured in a Fan-Stirred Flame Speed Vessel," ICDERS 2013, 24th International Colloquium on the Dynamics of Explosions and Reactive Systems, Taipei, Taiwan, July 28 – Aug. 2, 2013.
- 201) J. M. Pemelton, O. Mathieu, and E. L. Petersen, "Shock-Induced Ignition of Methane Sensitized by NO₂ and N₂O," ICDERS 2013, 24th International Colloquium on the Dynamics of Explosions and Reactive Systems, Taipei, Taiwan, July 28 – Aug. 2, 2013.
- 202) A. R. Demko, T. W. Allen, M. Johnson, D. L. Reid, S. Seal, and E. L. Petersen, "Comparison of Commercially Available and Synthesized Titania Nano-Additives on the Burning Rate of Composite HTPB/AP Propellant Samples," ICDERS 2013, 24th International Colloquium on the Dynamics of Explosions and Reactive Systems, Taipei, Taiwan, July 28 – Aug. 2, 2013.
- 203) A. Camou, J. E. Vivanco, D. M. Cusano, and E. L. Petersen, "Laser Absorption Measurements of CO at Elevated Pressures Behind Reflected Shock Waves," Paper 278, 29th International Symposium on Shock Waves, July 14-19, 2013, Madison, WI.
- 204) B. Marks, E. L. Petersen, A. Chowdhury, and M. S. Mannan, "A New Facility for Studying Shock Wave Passage Over Dust Layers," Paper 273, 29th International Symposium on Shock Waves, July 14-19, 2013, Madison, WI.
- 205) O. Mathieu, F. Deguillaume, and E. L. Petersen, "Reflected-Shock Ignition of H₂-O₂-Ar Mixtures with Addition of H₂S," Paper 232, 29th International Symposium on Shock Waves, July 14-19, 2013, Madison, WI.
- 206) M. L. Brower and E. L. Petersen, "Sensitivity of Shock-Tube Chemiluminescence Measurements to the Optical Setup," Paper 228, 29th International Symposium on Shock Waves, July 14-19, 2013, Madison, WI.
- 207) M. L. Brower, O. Mathieu, E. L. Petersen, N. Donohoe, A. Heufer, W. K. Metcalfe, H. J. Curran, G. Bourque, and F. Güthe, "Ignition Delay Time Experiments for Natural Gas/Hydrogen Blends at Elevated Pressures," ASME Paper GT2013-95151, Proceedings of ASME Turbo Expo 2013, June 3-7, 2013, San Antonio, TX.
- 208) O. Mathieu, E. L. Petersen, A. Heufer, N. Donohoe, W. Metcalfe, H. J. Curran, F. Güthe, and G. Bourque, "Numerical Study on the Effect of Real Syngas Compositions on Ignition Delay Times and Laminar Flame Speeds at Gas Turbine Conditions," ASME Paper GT2013-95156, Proceedings of ASME Turbo Expo 2013, June 3-7, 2013, San Antonio, TX.

- 209) D. Plichta, O. Mathieu, E. Petersen, G. Bourque, S. Burke, H. Curran, W. Metcalfe, and F. Güthe, "Laminar Flame Speeds of Natural Gas Blends with Hydrogen and Elevated Pressures and Temperatures," Paper #070LT-0329, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 210) K. W. McCown III and E. L. Petersen, "The Effects of Nanoscale Additives on the Linear Burning Rate of Nitromethane at High Pressure," Paper #070HE-0127, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 211) T. W. Allen, A. R. Demko, M. Johnson, T. Sammet, E. L. Petersen, D. L. Reid, R. Draper, and S. Seal, "Study of Laboratory-Scale Burning of Composite Solid Propellant for Novel Methods of Nanoparticle Synthesis," Paper #070HE-0091, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 212) C. H. Osorio, A. Morones, D. Plichta, E. L. Petersen, and M. S. Mannan, "Influence of C₂HF₅ and C₃HF₇ on CH₄ and C₃H₈ Combustion: Flame Speed and Ignition Delay Time Measurements," Paper #070FR-0098, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 213) S. Ravi, A. Morones, and E. Petersen, "Evaluation of Numerical Turbulent Combustion Models Using Flame Speed Measurements from a Recently Developed Fan-Stirred Explosion Vessel," Paper #070LT-0096, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 214) O. Mathieu and E. L. Petersen, "High-Pressure Ignition Kinetics of 2-Methyl-2-Butene Behind Reflected Shock Waves," Paper #070RK-0052, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 215) O. Mathieu and E. L. Petersen, "Shock-Tube Measurements of Ignition Delay Times for Ammonia," Paper #070RK-0053, 8th U.S. National Combustion Meeting, University of Utah, May 19-22, 2013.
- 216) C. Osorio, E. L. Petersen, and M. S. Mannan, "Can Fire Suppressants Promote Ignition? A Study of HFC-125 and HFC-227," for AIChE 2013 Spring Meeting and Global Congress on Process Safety, April 28 – May 2, 2013, San Antonio, TX.
- 217) T. W. Allen, A. R. Demko, M. Johnson, T. Sammet, E. L. Petersen, D. L. Reid, R. Draper, and S. Seal, "Laboratory-Scale Burning of Composite Solid Propellant for Studying Novel Nanoparticle Synthesis Methods," AIAA Paper 2013-0821, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 218) A. J. Vissotski, T. Sikes, A. Camou, M. S. Mannan, and E. L. Petersen, "Experimental Facility for Laminar, Heterogeneous Flame Propagation in a Nano-Aluminum Aerosol," AIAA Paper 2013-0297, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.

- 219) L. Sandberg, E. L. Petersen, D. Reid, and S. Seal, "Ignition of a Liquid Hydrocarbon Containing Nano-Sized Aluminum Using an Aerosol Shock Tube," AIAA Paper 2013-0295, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 220) B. Marks, O. Mathieu, R. Archuleta, E. L. Petersen, J. Bugler, A. Heufer, and H. Curran, "Ignition Delay Time Measurements and Modeling of *n*-Pentane and *iso*-Pentane at Elevated Pressures," AIAA Paper 2013-0160, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 221) C. Frazier, A. R. Demko, and E. L. Petersen, "Modeling Composite Solid Propellant with Catalytic Nanoadditives," AIAA Paper 2013-0820, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 222) K. W. McCown III, W. C. Warren, and E. L. Petersen, "Experimental Techniques to Study the Effects of Nano-Scale Additives on the Burning Rates of Liquid Monopropellants," AIAA Paper 2013-0298, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 223) B. Rotavera, A. J. Vissotski, M. C. Krejci, and E. L. Petersen, "Laminar Flame Speed Measurements of Methyl Octanoate, *n*-Nonane, and Methylcyclohexane," AIAA Paper 2013-1166, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 224) D. Plichta, E. L. Petersen, S. Burke, and H. Curran, "Laminar Flame Speeds of Hydrocarbons with Helium Dilution at Raised Pressures and Temperatures," AIAA Paper 2013-1164, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 225) C. J. Aul and E. L. Petersen, "Sensing Key Species During Fuel Oxidation in a Shock Tube Using Absorption Spectroscopy," AIAA Paper 2013-0561, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 226) M. Kopp, E. L. Petersen, and F. Güthe, "Towards an Updated Kinetics Model of CO₂* Chemiluminescence," AIAA Paper 2013-0559, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 227) S. Ravi, A. M. Ruelas, and E. L. Petersen, "Measurement of Turbulent Flame Propagation Rates of Methane Using a New Facility," AIAA Paper 2013-1184, 51st AIAA Aerospace Sciences Meeting, Jan. 7 – 10, 2013, Grapevine, TX.
- 228) Lamnaouer, M., Kassab, A. J., Divo, E., Garza-Urquiza, R., Polley, N., and Petersen, E. L., "A Conjugate Axi-symmetric Model of a High-Pressure Shock-Tube Facility," Numerical Heat Transfer 2012, ECCOMAS Special Interest Conference, Gliwice-Wrocław, Poland, 4-6 September, 2012.
- 229) M. Brower, E. Petersen, W. Metcalfe, H. J. Curran, N. Aluri, F. Güthe, M. Furi, and G. Bourque, "Ignition Delay Time and Laminar Flame Speed Calculations for Natural Gas/Hydrogen Blends at Elevated Pressures," ASME Paper GT2012-69310, 57th ASME Turbo Expo, June 11-15, 2012, Copenhagen, Denmark.

- 230) M. Krejci, O. Mathieu, A. Vissotski, S. Ravi, T. Sikes, E. Petersen, Kéromnès, A., Metcalfe, W., and H. Curran, "Laminar Flame Speed and Ignition Delay Time Data for the Kinetic Modeling of Hydrogen and Syngas Fuel Blends," ASME Paper GT2012-69290, 57th ASME Turbo Expo, June 11-15, 2012, Copenhagen, Denmark.
- 231) Mathieu, O., Levacque, A., and Petersen, E. L., "Shock-Tube Study of the Effects of NO₂ Addition on Hydrogen Ignition," Paper 12S-15, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 232) Mathieu, O., Kopp, M. M., and Petersen, E. L., "Ignition Kinetics of a Multi-Component Syngas Mixture with and without Ammonia Impurities," Paper 12S-23, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 233) M. L. Brower and E. L. Petersen, "A Study to Determine the Effects of the Optical Setup on Shock-Tube Chemiluminescence Measurements," Paper 12S-93, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 234) B. Rotavera and E. L. Petersen, "Detailed Chemical Kinetic Analysis of Blended Methyl Octanoate/n-Nonane/Methylcyclohexane," Paper 12S-14, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 235) M. M. Kopp, M. L. Brower, O. Mathieu, F. Güthe, and E. L. Petersen, "CO₂* Chemiluminescence Study at Low and Elevated Pressures," Paper 12S-45, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 236) S. Ravi, S. J. Peltier, R. A. Humble, and E. L. Petersen, "Design and Development of a Flame Speed Vessel to Study Flame Propagation in Homogeneous and Isotropic Turbulence," Paper 12S-92, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 237) C. H. Osorio, A. Vissotski, E. L. Petersen, and S. Mannan, "Kinetic Modeling and Experimental Evaluation of Un-Stretched Freely Expanding Flames in Halon 1301-Alkane-Air Mixtures," Paper 12S-81, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 238) T. Allen, D. Reid, A. Demko, R. Draper, S. Seal, and E. Petersen, "In-Situ Nano-Assembly of Titania Nanoparticle Burning Rate Enhancers in Solid Composite Propellant," Paper 12S-44, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 239) C. J. Aul, A. Hsu, M. Crofton, and E. L. Petersen, "A Shock-Tube Study on Petroleum-Derived Aerospace Fuels and a Fischer-Tropsch Surrogate," Paper 12S-52, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.

- 240) B. Marks, O. Mathieu, R. Archuleta, E. L. Petersen, and G. Bourque, "Ignition Delay Time Measurements of n-Pentane at Elevated Pressures," Paper 12S-74, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 241) A. R. Demko, M. Johnson, T. W. Allen, D. L. Reid, S. Seal, and E. L. Petersen, "Comparison of Commercially Available and Synthesized Titania Nanoadditives on the Burning Rate of HTPB/AP Composite Propellant Samples," Paper 12S-71, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 242) M. C. Krejci, A. J. Vissotski, S. Ravi, W. J. Metcalfe, A. Keromnes, H. J. Curran, and E. L. Petersen, "Effect of Steam Dilution on Laminar Flame Speeds of Syngas Fuel Blends at Elevated Pressures and Temperatures," Paper 12S-02, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 243) A. Vissotski, A. Camou, S. Mannan, and E. Petersen, "Development of an Experimental Facility for Flame Speed Measurements in Powdered Aerosols," Paper 12S-03, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 244) W. C. Warren, K. McCown, and E. L. Petersen, "Experimental Techniques for the Study of Ionic Liquid Combustion at High Pressure," Paper 12S-51, Spring Technical Meetings of the Central States Section of the Combustion Institute, April 22-24, 2012, Dayton, Ohio.
- 245) A. Levacque, O. Mathieu, and E. L. Petersen, "Effects of N₂O Addition on the Ignition of H₂-O₂ Mixtures: Experimental and Detailed Modeling Study," 2012 Spring Meeting of the Western States Section of the Combustion Institute, March 19-20, 2012, Phoenix, AZ.
- 246) Rotavera, B., Warren, W. C., Petersen, E. L., and Kidd, B., "Progress in Development of an Ignition Kinetics Model of Ionic Liquid-Based Monopropellants," JANNAF 8th Modeling and Simulation/6th Liquid Propulsion/5th Spacecraft Propulsion Joint Subcommittee Meeting, Dec. 5-9, 2011, Huntsville, AL.
- 247) Warren, W. C., Rotavera, B., and Petersen, E. L., "Burning Rate and Spectroscopic Investigation of an Ionic Liquid-Based Monopropellant at Pressures up to 310 Atmospheres," JANNAF 8th Modeling and Simulation/6th Liquid Propulsion/5th Spacecraft Propulsion Joint Subcommittee Meeting, Dec. 5-9, 2011, Huntsville, AL.
- 248) N. Polley, M. Q. Egbert, and E. L. Petersen, "Experimentally Observed Methods of Re-Initiation during Detonation Diffraction into a Confined Volume," 23rd International Colloquium on the Dynamics of Explosions and Reactive Systems, July 24 – 29, 2011, Irvine, CA.
- 249) C. J. Aul, E. L. Petersen, H. Curran, M. Fikri, and C. Schulz, "Interpretation of Low-Temperature, High-Pressure Ignition Data from a Shock Tube with Significant Pre-Ignition Pressure Rise," 23rd International Colloquium on the Dynamics of Explosions and Reactive Systems, July 24 – 29, 2011, Irvine, CA.

- 250) M. W. Crofton, P. T. Stout, M. M. Micci, and E. L. Petersen, "Particle-Impact Ignition Measurements in a High-Pressure Oxygen Shock Tube," 28th International Symposium on Shock Waves, July 17-22, 2011, Manchester, UK.
- 251) B. Rotavera and E. Petersen, "Shock-Induced Ignition of n-Undecane and Comparison to Other High-Molecular-Weight n-Alkanes," 28th International Symposium on Shock Waves, July 17-22, 2011, Manchester, UK.
- 252) C. J. Aul, M. W. Crofton, J. D. Mertens, and E. L. Petersen, "Measurement of H₂O₂ Broadening Parameters Near 7.8 μm with a Shock Tube," 28th International Symposium on Shock Waves, July 17-22, 2011, Manchester, UK.
- 253) B. Hogan, A. Khalizov, E. Petersen, and R. Zhang, "Characterization of Soot Particles Produced from the Combustion of Hydrocarbon Fuels in a Shock Tube," 28th International Symposium on Shock Waves, July 17-22, 2011, Manchester, UK.
- 254) W. K. Metcalfe, S. M. Burke, C. J. Aul, E. L. Petersen, and H. J. Curran, "A Detailed Chemical Kinetic Modelling and Experimental Study of C₁-C₂ Hydrocarbons," Fifth European Combustion Meeting, June 28 – July 1, 2011, Cardiff, Wales.
- 255) E. Petersen, M. Kopp, N. Donato, and F. Güthe, "Assessment of Current Chemiluminescence Kinetics Models at Engine Conditions," ASME Paper GT2011-45914, 56th ASME Turbo Expo, June 6-10, 2011, Vancouver, Canada.
- 256) Y. Kochar, J. Seitzman, T. Lieuwen, W. Metcalfe, S. Burke, H. Curran, M. Krejci, W. Lowry, E. Petersen, and G. Bouque, "Laminar Flame Speed Measurements and Modeling of Alkane Blends at Elevated Pressures with Various Diluents," ASME Paper GT2011-45122, 56th ASME Turbo Expo, June 6-10, 2011, Vancouver, Canada.
- 257) K. R. Kreitz, E. L. Petersen, D. L. Reid, and S. Seal, "Catalytic Nanoparticle Additives in Composite Solid Propellant with Emphasis on Additive Dispersion and Burning Rate," 44th JANNAF Combustion Subcommittee Meeting, April 18-22, 2011, Arlington, VA.
- 258) W. Warren, B. Rotavera, K. McCown, C. J. Aul, E. Petersen, and B. Kidd, "Investigating the Ignition Kinetics of HAN/HEHN Propellant Mixtures," 44th JANNAF Combustion Subcommittee Meeting, April 18-22, 2011, Arlington, VA.
- 259) B. Hogan, A. Khalizov, E. Petersen, and R. Zhang, "Analysis of Shock Tube Generated Particulates from Fuel-Rich Mixtures of Propane, Oxygen, and Argon," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 260) M. C. Krejci, A. J. Vissotski, W. B. Lowry, S. Ravi, and E. L. Petersen, "Development of a High-Temperature and High-Pressure Vessel for Laminar Flame Speed Measurements," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.

- 261) C. Frazier and E. L. Petersen, "Toward a Complete Modeling of Solid Propellant Strand Burner Experiments with Catalytic Additives," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 262) K. R. Kreitz, M. Johnson, D. L. Reid, S. Seal, and E. L. Petersen, "Burning Rate Enhancement of Solid Propellants Using Catalytic Nanoparticles with Emphasis on Additive Dispersion," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 263) B. Rotavera, P. Dagaut, P. Diévert, and E. L. Petersen, "High-Temperature Chemical Kinetics of Excited-State Hydroxyl Radicals during n-Nonane Oxidation," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 264) J. Pemelton, N. Marquet, W. Metcalfe, H. J. Curran, and E. L. Petersen, "Oxidation of Dimethyl Ether and Methane in Air at Low and High Pressures," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 265) C. H. Osorio, E. L. Petersen, and S. Mannan, "Kinetic Modeling and Experimental Study of CF₃Br Effect on Methane and Ethane Oxidation behind Reflected Shock Waves," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 266) M. M. Kopp, M. L. Brower, F. Güthe, and E. L. Petersen, "Effect of Filter Choice on OH* Chemiluminescence Kinetics at Low and Elevated Pressures," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 267) C. J. Aul, E. L. Petersen, and M. W. Crofton, "Determination of H₂O₂ Pressure Broadening Near 7.8 μm at Varying Conditions within a Shock Tube Experiment," 7th U.S. National Technical Meeting of the Combustion Institute, March 20-23, 2011, Atlanta, GA.
- 268) M. C. Krejci, A. J. Vissotski, W. B. Lowry, E. L. Petersen, W. Metcalfe, S. Burke, H. Curran, and G. Bourque, "Effect of Helium Dilution on Flame Stability and Laminar Flame Speeds of Hydrocarbon Fuel Blends at Elevated Pressures," AIAA Paper 2011-244, 49th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, Jan. 4 – 7, 2011.
- 269) K. R. Kreitz, E. L. Petersen, D. L. Reid, and S. Seal, "Relative Dispersion of Catalytic Nanoparticle Additives and AP Particles in Composite Solid Propellant and the Effect on Burning Rate," AIAA Paper 2011-418, 49th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, Jan. 4 – 7, 2011.
- 270) N. L. Polley, M. Q. Egbert, and E. L. Petersen, "Experimental Study of the Diffraction of a Planar Detonation Wave into a Confined Volume," AIAA Paper 2011-796, 49th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, Jan. 4 – 7, 2011.
- 271) M. W. Crofton, P. T. Stout, T. V. Albright, M. D. Worshum, J. L. Emdee, and E. L. Petersen, "Development and Characterization of a Particle-Impact Ignition Facility," AIAA Paper 2010-7133, AIAA/ASME/SAE/ASEE 46th Joint Propulsion Conference, Nashville, TN, 25-28 July 2010.

- 272) M. W. Crofton and E. L. Petersen, "Particle Impact Ignition in High Pressure Oxygen: Initial Results," AIAA Paper 2010-7134, AIAA/ASME/SAE/ASEE 46th Joint Propulsion Conference, Nashville, TN, 25-28 July 2010.
- 273) W. Lowry, J. de Vries, M. Krejci, E. Petersen, Z. Serinyel, W. Metcalfe, H. Curran, and G. Bourque, "Laminar Flame Speed Measurements and Modeling of Pure Alkanes and Alkane Blends at Elevated Pressures," ASME Paper No. GT2010-23050, 55th ASME Turbo Expo, Glasgow, U.K., June 14-18, 2010.
- 274) B. Rotavera, N. Polley, E. Petersen, K. Scheu, M. Crofton, and G. Bourque, "Ignition and Combustion of Heavy Hydrocarbons Using an Aerosol Shock-Tube Approach," ASME Paper No. GT2010-22844, 55th ASME Turbo Expo, Glasgow, U.K., June 14-18, 2010.
- 275) N. S. Donato, B. Hogan, E. L. Petersen, and F. Guethe, "Assessment of Current Chemiluminescence Kinetics Models at Elevated Pressures," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 276) C. Frazier, M. Lamnaouer, A. Kassab, E. Divo, and E. Petersen, "Simulation of Heat Transfer Effects in Shock Tubes over Long Test Times," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 277) N. L. Polley, M. Q. Egbert, and E. L. Petersen, "A Facility for Studying the Propagation of a Planar Detonation into a Confined Volume" 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 278) B. Rotavera, E. L. Petersen, P. Diévert, C. Togbé, and P. Dagaut, "Behavior of OH* Species during Oxidation of n-Nonane," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 279) C. J. Aul, M. W. Crofton, J. D. Mertens, and E. L. Petersen, "A Diagnostic for Measuring H₂O₂ Concentration in a Shock Tube using Tunable Laser Absorption near 7.8 μm ," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 280) W. B. Lowry, J. de Vries, E. L. Petersen, Z. Serinyel, and H. Curran, "High-Pressure Flame Speed Measurements of Dimethyl Ether in Air with Uncertainty Analysis," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 281) K. Kreitz, J. Johnson, E. Petersen, D. Reid, and S. Seal, "Scale-up Effects of Nanoparticle Production on the Burning Rate of Composite Propellant," 2010 Technical Meeting of the Central States Section of the Combustion Institute, March 21 – 23, 2010, Champaign, IL.
- 282) W. B. Lowry, M. C. Krejci, E. L. Petersen, Z. Serinyel, H. Curran, and G. Bourque, "Effect of Methane-Dimethyl Ether Fuel Blends on Flame Stability, Laminar Flame Speed, and Markstein Length," 2010 Technical Meeting of the Western States Section of the Combustion Institute, March 22 – 23, 2010, Boulder, CO.

- 283) M. Lamnaouer, A. J. Kassab, E. Divo, R. Garza Urquiza, N. L. Polley, and E. L. Petersen, "Time Accurate Simulation of Shock Propagation and Reflection in an Axisymmetric Shock Tube," AIAA Paper 2010-926, 48th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, FL, 4-7 Jan., 2010.
- 284) M. M. Kopp, N. S. Donato, E. L. Petersen, W. K. Metcalfe, Z. Serinyel, and H. J. Curran, "Ignition and Oxidation of Ethylene-Air Mixtures at Elevated Pressures," AIAA Paper 2010-1512, 48th AIAA Aerospace Sciences Meeting and Exhibit, 4-7 Jan., 2010.
- 285) N. Donato, C. Aul, E. Petersen, C. Zinner, H. Curran, and G. Bourque, "Ignition and Oxidation of 50/50 n-Butane/iso-Butane Blends," ASME Paper GT2009-59673, *Proceedings of ASME Turbo Expo 2009: Power for Land, Sea and Air*, June 8-12, 2009, Orlando, FL.
- 286) C. J. Aul and E. L. Petersen, "Early Ignition Phenomena in Low-Temperature, High-Pressure Shock-Tube Experiments for Non-diluted Alkane Blends in Air," 6th U.S. National Combustion Meeting, May 17-20, 2009, Ann Arbor, MI.
- 287) N. S. Donato, C. Aul, N. Polley, and E. L. Petersen, "High-Pressure Ignition and Oxidation of Ethylene-Air Mixtures," 6th U.S. National Combustion Meeting, May 17-20, 2009, Ann Arbor, MI.
- 288) N. Donato, C. Aul, E. Petersen, H. Curran, and G. Bourque, "Oxidation Kinetics of Butane Isomer Blends at Elevated Pressure," Paper 12F3, 6th U.S. National Combustion Meeting, May 17-20, 2009, Ann Arbor, MI.
- 289) J. de Vries, W. Lowry, E. L. Petersen, and G. Bourque, "Laminar Flame Speeds of Methane, Ethane, and Methane/Ethane Mixtures at Elevated Pressures," 6th U.S. National Combustion Meeting, May 17-20, 2009, Ann Arbor, MI.
- 290) K. Kreitz, M. Stephens, C. Frazier, E. Petersen, D. Reid, and S. Seal, "Tailoring the Burning Rate of Composite Propellants using Nano-Particle Additives," 6th U.S. National Combustion Meeting, May 17-20, 2009, Ann Arbor, MI.
- 291) Z. Serinyel, H. J. Curran, C. M. Zinner, C. J. Aul, N. S. Donato, and E. L. Petersen, "Shock-Tube Ignition Delay Time Measurements and Chemical Kinetics Modelling for Mixtures of Dimethyl Ether and Methane in Air," 4th European Combustion Meeting, April 14-17, 2009, Vienna Austria.
- 292) D. Healy, C. Zinner, D. Kalitan, C. J. Aul, G. Bourque, E. L. Petersen, and H. J. Curran, "Natural Gas—A Study of the Autoignition of C1-C5 Blends," 4th European Combustion Meeting, April 14-17, 2009, Vienna Austria.
- 293) M. Stephens, E. Petersen, R. Carro, D. Reid, and S. Seal, "Nano Additives and Plateau Burning Rates in Composite Propellants," AIAA Paper 2008-4790, 44th AIAA /ASME /SAE /ASEE Joint Propulsion Conference & Exhibit, July 20 – 23, 2008, Hartford, CT.
- 294) C. J. Aul, E. L. Petersen, B. C. Walker, and H. J. Curran, "Ignition of Methane and Ethane Blends with Oxygen at Engine Conditions," AIAA Paper 2008-4768, 44th AIAA

/ASME /SAE /ASEE Joint Propulsion Conference & Exhibit, July 20 – 23, 2008, Hartford, CT.

- 295) T. Sammet, M. Stephens, E. Petersen, and B. Corbin, “Assessing the Mixedness of Composite Solid Rocket Propellants Using Fluorescent Particles,” AIAA Paper 2008-5054, 44th AIAA /ASME /SAE /ASEE Joint Propulsion Conference & Exhibit, July 20 – 23, 2008, Hartford, CT.
- 296) B. Rotavera, E. L. Petersen, A. Kumar, S. Seal, and T. D. Hain, “Toluene Combustion in the Presence of Ceria Nanoparticles: A Shock-Tube Study,” AIAA Paper 2008-4765, 44th AIAA /ASME /SAE /ASEE Joint Propulsion Conference & Exhibit, July 20 – 23, 2008, Hartford, CT.
- 297) G. Bourque, D. Healy, H. Curran, C. Zinner, D. Kalitan, J. de Vries, C. Aul, and E. L. Petersen, “Ignition and Flame Speed Kinetics of Two Natural Gas Blends with High Levels of Heavier Hydrocarbons,” ASME Paper GT2008-51344, ASME Turbo Expo 2008, Berlin, Germany, June 9-13, 2008. **Winner – Best Paper Award, Combustion & Fuels Subcommittee**
- 298) A. Srinivasan, W. Ellis, J. F. Crittenden, W. E. Lear, B. Rotavera, and E. L. Petersen, “Fischer-Tropsch Fuel Characterization via Microturbine Testing and Fundamental Combustion Measurements,” ASME Paper GT2008-51447, ASME Turbo Expo 2008, Berlin, Germany, June 9-13, 2008.
- 299) M. A. Stephens, E. L. Petersen, D. L. Reid, and S. Seal, “Multi-Parameter Study of Nanoscale TiO₂ and CeO₂ Additives in Composite AP/HTPB Solid Propellants,” 42nd JANNAF Combustion Subcommittee Meeting, Newton, Massachusetts, May 12-16, 2008.
- 300) N. S. Donato and E. L. Petersen, “Simplified Correlation Models for CO/H₂ Chemical Reaction Times,” Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 301) J. de Vries, E. L. Petersen, and G. Bourque, “Laminar Flame Speeds of Methane and Ethane Fuel Mixtures in Air at Intermediate Pressures,” Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 302) B. Rotavera, E. L. Petersen, A. Kumar, and S. Seal, “Effect of Ceria Nanoparticles on Early Soot Formation in Toluene/Oxygen/Argon Mixtures,” Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 303) M. A. Stephens, E. L. Petersen, D. L. Reid, M. Janish, and S. Seal, “High-Powered Microscopy and Burning Rates of Solid Composite Propellants Containing Nanoparticles,” Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.

- 304) A. B. Barrett and E. L. Petersen, "Vaporization of Single- and Two-Component TiO₂ and SiO₂ Nanoparticles and their Resulting Emission Spectra," Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 305) E. L. Petersen and H. J. Curran, "Interpretation of Shock-Tube Ignition Measurements of Certain Undiluted Alkane-Air Mixtures at Higher Pressures and Lower Temperatures," Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 306) C. J. Aul, E. L. Petersen, B. C. Walker, and H. J. Curran, "Experiments and Kinetics Modeling of Methane-Ethane-Oxygen Mixtures Diluted in Argon," Proceedings of the 2008 Technical Meeting of the Central States Section of the Combustion Institute, April 20-22, 2008, Tuscaloosa, AL.
- 307) J. D. Mertens, S. S. Mussmann, D. M. Kalitan, and E. L. Petersen, "A Chemical Kinetics Model for the Fast Ignition of Syngas at Lower Temperatures and Higher Pressures," Paper 08S-3, 2008 Spring Meeting, Western States Section of the Combustion Institute, University of Southern California, March 16-18, 2008.
- 308) E. L. Petersen, "Ignition Delay Time Measurements at Practical Conditions Using a Shock Tube," Paper No. 0914, 26th International Symposium on Shock Waves, July 15-20, 2007, Göttingen, Germany.
- 309) J. de Vries, C. Aul, A. Barrett, D. Lambe, and E. Petersen, "Shock-Tube Development for High-Pressure and Low-Temperature Chemical Kinetics Experiments," Paper No. 0913, 26th International Symposium on Shock Waves, July 15-20, 2007, Göttingen, Germany.
- 310) B. Rotavera and E. Petersen, "Atomized Fuel Combustion in the Reflected-Shock Region," Paper No. 0912, 26th International Symposium on Shock Waves, July 15-20, 2007, Göttingen, Germany.
- 311) E. Petersen, M. Lamnaouer, J. de Vries, H. Curran, J. Simmie, M. Fikri, C. Schulz, and G. Bourque, "Discrepancies between Shock Tube and Rapid Compression Machine Ignition at Low Temperatures and High Pressures," Paper No. 0911, 26th International Symposium on Shock Waves, July 15-20, 2007, Göttingen, Germany.
- 312) C. Frazier, A. Kassab, and E. Petersen, "Wall Heat Transfer in Shock Tubes at Long Test Times," Paper No. 0910, 26th International Symposium on Shock Waves, July 15-20, 2007, Göttingen, Germany.
- 313) E. Petersen, J. Arvanetes, A. LePage, R. Carro and A. Powell, "Monitoring Strand Burner Combustion Products Using Emission Spectroscopy," AIAA Paper 2007-5767, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 8-11 July, 2007, Cincinnati, OH.
- 314) M. Stephens, T. Sammet, A. LePage, R. Carro, and E. Petersen, "Comparison of Hand and Mechanically Mixed AP/HTPB Solid Composite Propellants," AIAA Paper 2007-5765,

43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 8-11 July, 2007, Cincinnati, OH.

- 315) V. Antonovski, B. M. Rotavera, E. L. Petersen, J. F. Crittenden, and W. E. Lear, "Combustion Measurements of Synthetic Fuels at Gas Turbine Conditions," AIAA Paper 2007-5667, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 8-11 July, 2007, Cincinnati, OH.
- 316) B. Rotavera and E. Petersen, "Shock-Tube Combustion Studies of Atomized Fuels in the Reflected-Shock Region," AIAA Paper 2007-5687, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 8-11 July, 2007, Cincinnati, OH.
- 317) M. Lamnaouer, C. Zinner, B. Rotavera, E. Petersen, and G. Bourque, "Butane Oxidation at Elevated Temperatures," AIAA Paper 2007-5658, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 8-11 July, 2007, Cincinnati, OH.
- 318) G. Bourque, D. Healy, H. Curran, J. Simmie, J. de Vries, V. Antonovski, B. Corbin, C. Zinner, and E. Petersen, "Effect of Higher Order Hydrocarbons on Methane-Based Fuel Chemistry at Gas Turbine Pressures," ASME Paper GT2007-28039, 52nd ASME Turbo Expo, May 14-17, 2007, Montreal, Canada.
- 319) S. C. Reehal and E. L. Petersen, "Reflected-Shock Ignition of Syngas at Engine Pressures and Comparison to Kinetics Models," AIAA Region II Student Conference, April 2-3, 2007, Savannah, GA. **Winner—Best Paper, Undergraduate Category.**
- 320) M. A. Stephens and E. L. Petersen, "Addition Methods of Nanoscale Additives in Solid Composite Propellants," AIAA Region II Student Conference, April 2-3, 2007, Savannah, GA.
- 321) A. LePage and E. L. Petersen, "Combustion Product Analysis of HTPB/AP Composite Propellants Using Emission Spectroscopy," AIAA Region II Student Conference, April 2-3, 2007, Savannah, GA.
- 322) B. A. Corbin and E. L. Petersen, "Laminar Flame Speed Measurements in a New Constant-Volume Vessel," AIAA Region II Student Conference, April 2-3, 2007, Savannah, GA.
- 323) V. Antonovski, C. Zinner, A. Barrett, D. Kalitan, and E. Petersen, "Ignition of Methane/Ethane/Propane Mixtures at Engine Pressures," Paper E13, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.
- 324) D. M. Kalitan and E. L. Petersen, "Nano-Aluminum Aerosol Characterization with Application to Heterogeneous Shock-Tube Combustion," Paper D18, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.
- 325) J. de Vries, B. A. Corbin, and E. L. Petersen, "A Facility for High-Pressure Laminar Flame Speed Measurements," Paper A20, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.

- 326) S. C. Reehal, D. M. Kalitan, T. Hair, A. Barrett, and E. L. Petersen, "Ignition Delay Time Measurements of Synthesis Gas Mixtures at Engine Pressures," Paper C24, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.
- 327) A. B. Barrett, S. C. Reehal, and E. L. Petersen, "Measurement of Ignition Delay Time for a Syngas/Air Mixture Containing Water Vapor," Paper C25, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.
- 328) E. L. Petersen, "On the Use of Endwall Emission as a Shock-Tube Ignition Diagnostic," Paper G8, 5th U.S. Combustion Meeting, March 25-27, 2007, San Diego, CA.
- 329) M. Lamnaouer, E. L. Petersen, R. C. Ryder, and A. Brankovic, "Reduced Combustion Time Model for Methane in Gas Turbine Flow Fields," AIAA Paper 2007-0385, 45th AIAA Aerospace Sciences Meeting and Exhibit, 8 - 11 Jan 2007, Reno, NV.
- 330) E. L. Petersen, "Hydrocarbon-Air Ignition Experiments at Elevated Pressures," 41st JANNAF Combustion Subcommittee Meeting, 4 - 8 Dec., 2006, San Diego, CA.
- 331) M. Stephens, A. Powell, D. Miranda, H. Shah, L. Nguyen, and E. Petersen, "A New Lab-Scale Mixing Facility for Composite Solid Propellants with Nanoadditives," 41st JANNAF Combustion Subcommittee Meeting, 4 - 8 Dec., 2006, San Diego, CA.
- 332) M. A. Stephens, T. Sammet, R. Carro, A. LePage, D. Reid, S. Seal, and E. Petersen, "New Additives for Modifying the Burn Rate of Composite Solid Rocket Propellants," AIAA Paper 2006-4948, 42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 9-12 July, 2006, Sacramento, CA.
- 333) B. Rotavera, A. R. Amadio, V. Antonovski, and E. L. Petersen, "New Approaches for Fundamental Rocket Injector Studies Using a Shock Tube," AIAA Paper 2006-4725, 42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 9-12 July, 2006, Sacramento, CA.
- 334) D. M. Kalitan, E. L. Petersen, and M. W. Crofton, "A Shock-Tube Study of Aluminum Oxidation at Elevated Temperatures," AIAA Paper 2006-4405, 42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, 9-12 July, 2006, Sacramento, CA.
- 335) D. M. Kalitan, E. L. Petersen, J. Mertens, and M. W. Crofton, "Ignition of Lean CO/H₂/Air Mixtures at Elevated Pressures," ASME Paper GT2006-90488, 51st ASME Turbo Expo, May 8-11, 2006, Barcelona, Spain.
- 336) T. Lieuwen, V. McDonnell, E. Petersen, and D. Santavicca, "Fuel Flexibility Influences on Premixed-Combustor Blowout, Flashback, Autoignition, and Instability," ASME Paper GT2006-90770, 51st ASME Turbo Expo, May 8-11, 2006, Barcelona, Spain.
- 337) A. Brankovic, R. C. Ryder, and E. L. Petersen, "Time-Dependent Simulation of Fuel-Flexible Burners," AIAA Paper 2006-0806, 44th AIAA Aerospace Science Meeting and Exhibit, Jan. 9-12, 2006, Reno, NV.

- 338) J. M. Hall and E. L. Petersen, "A High-Pressure Kinetics Model for the Ignition of Natural-Gas Fuel Blends," AIAA Paper 2006-0353, 44th AIAA Aerospace Science Meeting and Exhibit, Jan. 9-12, 2006, Reno, NV.
- 339) E. L. Petersen and R. N. Kumar, "Aerospace Science and Engineering Research Experience for Teachers: the First Two Years," AIAA Paper 2006-0679, 44th AIAA Aerospace Science Meeting and Exhibit, Jan. 9-12, 2006, Reno, NV.
- 340) J. Ward, A. Leonessa, and E. Petersen, "Reduction of Vortex-Driven Oscillations in a Choked Duct Through Adaptive Control," ASME paper IMECE2005-81378, 2005 ASME International Mechanical Engineering Congress and Exposition, Nov. 5-11, 2005, Orlando, FL.
- 341) J. de Vries and E. Petersen, "Design and Validation of a Reduced Test Matrix for the Autoignition of Gas Turbine Fuel Blends," ASME Paper IMECE2005-80040, 2005 ASME International Mechanical Engineering Congress and Exposition, Nov. 5-11, 2005, Orlando, FL.
- 342) D. M. Kalitan, E. L. Petersen, and M. W. Crofton, "A Shock-Tube Study of The Ignition and Oxidation Characteristics for CO/H₂ Fuel Blends in Air," Fall 2005 Meeting of the Western States Section of the Combustion Institute, Oct. 17-18, 2005, Stanford, CA.
- 343) J. M. Hall and E. L. Petersen, "Direct Determination of the Dominant CH(A) Formation Reaction and its Rate Coefficient for 1200 < T < 2300 K," Fall 2005 Meeting of the Western States Section of the Combustion Institute, Oct. 17-18, 2005, Stanford, CA.
- 344) J. L. Small, M. A. Stephens, S. Deshpande, E. L. Petersen, and S. Seal, "Burn Rate Sensitization of Solid Propellants Using a Nano-Titania Additive," Paper No. 150, 20th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 31-August 5, 2005, Montreal, Canada.
- 345) E. L. Petersen, J. M. Hall, J. de Vries, A. R. Amadio, S. D. Smith, and M. W. Crofton, "Acceleration of Shock-Induced Ignition in CH₄/Air and CO/Air Mixtures Using Hydrogen Addition," 20th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 31-August 5, 2005.
- 346) J. de Vries, J. M. Hall, M. W. Crofton, and E. L. Petersen, "A Shock-Tube Study of CH₄/C₂H₆ and CH₄/C₃H₈ Fuel Blends under Gas Turbine Conditions," 25th International Symposium on Shock Waves, July 17-22, 2005, Bangalore, India.
- 347) D. M. Kalitan, M. W. Crofton, and E. L. Petersen, "Hydroxyl Radical Measurements in Highly Diluted CO/H₂/O₂/Ar Mixtures," 25th International Symposium on Shock Waves, July 17-22, 2005, Bangalore, India.
- 348) A. R. Amadio, E. L. Petersen, and M. W. Crofton, "Driver-Gas Tailoring for Chemical Kinetics Experiments using Unconventional Driver Mixtures," 25th International Symposium on Shock Waves, July 17-22, 2005, Bangalore, India.

- 349) M. Stephens, R. Carro, S. Wolf, T. Sammet, E. Petersen, and C. Smith, "Performance of AP-Based Composite Propellant Containing Nanoscale Aluminum," AIAA Paper 2005-4470, 41st AIAA/ASME/ASEE Joint Propulsion Conference & Exhibit, July 10-13, 2005, Tucson, AZ.
- 350) D. M. Kalitan and E. L. Petersen, "Ignition and Oxidation of Lean CO/H₂ Fuel Blends in Air," AIAA Paper 2005-3767, 41st AIAA/ASME/ASEE Joint Propulsion Conference & Exhibit, July 10-13, 2005, Tucson, AZ.
- 351) J. M. Hall and E. L. Petersen, "Development of a Chemical Kinetics Mechanism for CH₄/H₂/Air Ignition at Elevated Pressures," AIAA Paper 2005-3768, 41st AIAA/ASME/ASEE Joint Propulsion Conference & Exhibit, July 10-13, 2005, Tucson, AZ.
- 352) R. Carro, J. Arvanetes, A. Powell, M. Stephens, E. Petersen, and C. Smith, "High-Pressure Testing of Composite Solid Propellant Mixtures: Burner Facility Characterization," AIAA Paper 2005-3617, 41st AIAA/ASME/ASEE Joint Propulsion Conference & Exhibit, July 10-13, 2005, Tucson, AZ.
- 353) E. L. Petersen, S. D. Smith, J. M. Hall, J. de Vries, A. Amadio, and M. W. Crofton, "Ignition of Fuel-Lean Natural Gas Blends at Gas Turbine Pressures," ASME Paper GT2005-68517, 50th ASME Turbo Expo, June 6-9, 2005, Reno, NV.
- 354) M. A. Stephens and E. L. Petersen, "Burn Rate Measurements of Bimodal Ammonium Perchlorate in HTPB/Al Composite Rocket Propellant," AIAA Region II Student Conference, April 4-5, 2005.
- 355) J. de Vries and E. L. Petersen, "Toward a Reduced DOE Matrix for the Combustion of Gas Turbine Fuel Blends," AIAA Region II Student Conference, April 4-5, 2005.
- 356) J. M. Hall and E. L. Petersen, "A High-Pressure Kinetics Model for the Ignition of Natural-Gas Fuel Blends," AIAA Region II Student Conference, April 4-5, 2005. **Winner—Best Paper, Graduate Category**
- 357) E. L. Petersen, D. M. Kalitan, J. M. Hall, J. de Vries, A. Amadio, and M. W. Crofton, "Ignition of Fuel-Lean CO/H₂/Air Fuel Blends," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.
- 358) A. R. Amadio, J. de Vries, J. M. Hall, E. L. Petersen, and M. W. Crofton, "Shock-Tube Tailoring for Low-Temperature Chemical Kinetics," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.
- 359) J. Arvanetes, M. A. Stephens, R. Carro, A. Powell, S. Wolf, E. L. Petersen, C. Smith, and G. Whittinghill, "Burn Rate Measurements of AP-Based Composite Propellants at Elevated Pressures," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.

- 360) J. M. Hall, J. de Vries, and E. L. Petersen, "Development of a Chemical Kinetics Mechanism for C₂H_x Ignition in the Presence of Silane," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.
- 361) J. M. Hall and E. L. Petersen, "An Optimized Chemical Kinetics Model for OH Chemiluminescence," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.
- 362) J. de Vries, J. M. Hall, A. Amadio, E. L. Petersen, and M. W. Crofton, "Reflected-Shock Ignition of CH₄/C₂H₆/Air Fuel Blends," Proceedings of The 4th Joint Meeting of the U.S. Sections of the Combustion Institute, March 21-23, 2005.
- 363) E. L. Petersen and J. de Vries, "Measuring the Ignition of Fuel Blends using a Design of Experiments Approach," AIAA Paper 2005-1165, 43rd AIAA Aerospace Sciences Meeting & Exhibit, Jan. 10-13, 2005, Reno, NV.
- 364) J. M. Hall, J. de Vries, A. R. Amadio, and E. L. Petersen, "Towards a Kinetics Model of CH Chemiluminescence," AIAA Paper 2005-1318, 43rd AIAA Aerospace Sciences Meeting & Exhibit, Jan. 10-13, 2005, Reno, NV.
- 365) J. M. Hall and E. L. Petersen, "Evaluation of Several Detailed Chemical Kinetics Mechanisms for the High-Temperature Oxidation of C₂H_x Fuels," AIAA Paper 2005-0138, 43rd AIAA Aerospace Sciences Meeting & Exhibit, Jan. 10-13, 2005, Reno, NV. **Winner—Best Paper, National Undergraduate Paper Competition.**
- 366) E. L. Petersen, D. M. Kalitan, M. J. A. Rickard, and M. W. Crofton, "Silane Oxidation behind Reflected Shock Waves," Paper No. 2162, 24th International Symposium on Shock Waves, Beijing, China, July 11-16, 2004.
- 367) M. W. Crofton and E. L. Petersen, "Application of the FM Spectroscopic Technique to SiH₂ Detection in a Shock Tube," Paper No. 2161, 24th International Symposium on Shock Waves, Beijing, China, July 11-16, 2004.
- 368) J. de Vries, J. M. Hall, E. L. Petersen, D. M. Kalitan, and M. J. A. Rickard, "A Shock-Tube Study of the Oxidation of C₂H₆/O₂/Ar and C₂H₆/SiH₄/O₂/Ar Mixtures," AIAA Paper 2004-3370, 40th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, July 11-14, 2004, Fort Lauderdale, FL.
- 369) J. M. Hall and E. L. Petersen, "Kinetics of OH Chemiluminescence in the Presence of Hydrocarbons," AIAA Paper 2004-4164, 40th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, July 11-14, 2004, Fort Lauderdale, FL.
- 370) J. M. Hall and E. L. Petersen, "Evaluation of Several Detailed Kinetics Mechanisms for the High-Temperature Oxidation of C₂H_x Fuels," AIAA 55th Annual Southeastern Regional Student Conference, April 5-6, 2004, Memphis, TN. **Winner—Best Paper, Undergraduate Category.**

- 371) E. L. Petersen, J. M. Hall, D. M. Kalitan, and M. J. A. Rickard, "Ignition Delay Time Measurements of C_2H_x Fuels and Comparison to Several Detailed Kinetics Mechanisms," ASME Paper GT2004-53926, ASME Turbo Expo 2004, Vienna Austria, June 14-17, 2004.
- 372) E. L. Petersen and S. D. Smith, "Interaction of Reflected Shock Waves with Solid or Liquid Particulates," AIAA Paper 2004-0973, 42nd Aerospace Sciences Meeting & Exhibit, Jan. 5-8, 2004, Reno, NV.
- 373) D. M. Kalitan, M. J. A. Rickard, J. M. Hall, and E. L. Petersen, "Ignition Measurements of Ethylene-Oxygen-Diluent Mixtures with and without Silane Addition," AIAA Paper 2004-1323, 42nd Aerospace Sciences Meeting & Exhibit, Jan. 5-8, 2004, Reno, NV.
- 374) J. M. Hall, E. L. Petersen, and M. J. A. Rickard, "Comparison of Characteristic Time Diagnostics for Ignition and Oxidation of Fuel/Oxidizer Mixtures Behind Reflected Shock Waves," Paper No. 03F-57, 2003 Fall Meeting, Western States Section of the Combustion Institute, Oct. 20 & 21, Los Angeles, CA.
- 375) E. L. Petersen, D. M. Kalitan, and M. J. A. Rickard, "Calibration and Chemical Kinetics Modeling of an OH Chemiluminescence Diagnostic," AIAA Paper 2003-4493, 39th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, July 20-23, 2003, Huntsville, AL.
- 376) E. L. Petersen, S. Bhosale, Z. El-Zahab, P. Mack, and S. Smith, "A Shock-Tube Facility for Spray-Combustion Studies and Reacting-Flow Visualization," AIAA Paper 2003-3881, 33rd AIAA Fluid Dynamics Conference and Exhibit, June 23-26, 2003, Orlando, FL.
- 377) E. L. Petersen, Kalitan, D. M., and Rickard, M. J. A., "Chemical Kinetics of OH* Chemiluminescence in High-Temperature Reacting Flows," Proceedings of the Third Joint Meeting of the U.S. Sections of The Combustion Institute, March 16-19, 2003 Chicago, IL.
- 378) Crofton, M. W. and Petersen, E. L., "Application of the FM Spectroscopic Technique to SiH_2 Shock-Tube Detection," Proceedings of the Third Joint Meeting of the U.S. Sections of The Combustion Institute, March 16-19, 2003 Chicago, IL.
- 379) Rickard, M. J. A. and Petersen, E. L., "Effects of Silane Addition on Acetylene and Ethane Ignition Behind Reflected Shock Waves," Proceedings of the Third Joint Meeting of the U.S. Sections of The Combustion Institute, March 16-19, 2003 Chicago, IL.
- 380) E. L. Petersen and M. W. Crofton, "Ignition and Oxidation of Dilute Silane-Oxidizer Mixtures behind Reflected Shock Waves," AIAA Paper 2002-3875, 38th AIAA/ASME/-SAE/ASEE Joint Propulsion Conference & Exhibit, July 7-10, 2002, Indianapolis, IN.
- 381) E. L. Petersen and R. P. Welle, "Studies on Single- and Two-Component Nanoparticle Decomposition Using a Shock Tube," Paper No. 2376, 23rd International Symposium on Shock Waves, Fort Worth, TX, July 22-27, 2001.

- 382) E. L. Petersen and R. K. Hanson, "Measurements of Reflected-Shock Bifurcation in a High-Pressure Shock Tube," Paper No. 2377, 23rd International Symposium on Shock Waves, Fort Worth, TX, July 22-27, 2001.
- 383) E. L. Petersen and R. K. Hanson, "An Improved Turbulent Boundary-Layer Model for Shock Tubes," AIAA Paper 2001-2855, AIAA 31st Fluid Dynamics Conference, Anaheim, CA, June 11-14, 2001.
- 384) E. L. Petersen, R. P. Welle, M. J. Traum, E. D. Abbey, and M. J. A. Rickard, "A New Shock-Tube Facility for Studying Combustion Phenomena in Mixtures Containing Condensed Species," ASME Paper NHTC2001-20136, *Proceedings of NHTC '01, 35th National Heat Transfer Conference*, June 10-12, 2001.
- 385) E. L. Petersen, "Solid- and Liquid-Phase Combustion Measurements Using a Shock Tube: A Review," JANNAF 37th Combustion Subcommittee Meeting, Nov. 13-17, 2000.
- 386) E. L. Petersen and J. W. Murdock, "Coupling between Internal Vortex Shedding and the Axial Acoustic Modes in a Choked Duct Flow: New Experiments," *Proceedings of the ASME Fluids Engineering Division—2000*, FED-Vol. 253, ASME, 2000, pp. 645-652.
- 387) E. L. Petersen and J. W. Murdock, "Secondary Injection in a Model Solid Rocket Motor for the Suppression of Vortex-Driven Instability," AIAA Paper 2000-3697, 36th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, Huntsville, July 16-19, 2000.
- 388) E. L. Petersen and R. P. Welle, "Shock Tube Studies of Hypersonic Flow Fields Generated by a Chemical-Laser Nozzle System," *Proceedings of The 22nd International Symposium on Shock Waves*, Ball, G. J., Hillier, R., and Roberts, G. T. (Eds.), University of Southampton, Southampton, Paper 1631, pp. 483-488, 2000.
- 389) E. L. Petersen and J. W. Murdock, "Control of Vortex-Induced Oscillations in a Model Solid Rocket Motor: Flow Characterization and Secondary Injection Experiments," AIAA Paper 99-2506, 35th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Los Angeles, June 20-24, 1999.
- 390) E. L. Petersen and J. W. Murdock, "Active Control of Vortex-Driven Oscillations in a Solid Rocket Motor Using a Cold-Flow Simulation," AIAA Paper 99-0860, 37th AIAA Aerospace Sciences Meeting, Reno, NV, 11-14 Jan. 1999.
- 391) M. R. Kamel, C. I. Morris, A. Ben-Yakar, E. L. Petersen, and R. K. Hanson, "Experimental Investigation of Ram-Accelerator Flow Fields and Combustion Kinetics," *Ram Accelerators: Proceedings of the Third International Workshop on Ram Accelerators*, Takayama, A. and Sasoh, A. (Ed.), Springer, Berlin, 1998, pp. 281-294.
- 392) E. L. Petersen, R. W. Bates, D. F. Davidson, and R. K. Hanson, "Development of Laser Absorption Techniques for Shock Tube Studies at Elevated Pressures," *Proceedings of the 21st International Symposium on Shock Waves*, Houwing, A. F. P. (Ed.), Paper No. 4605, 1997.

- 393) E. L. Petersen, D. F. Davidson, and R. K. Hanson, "Reduced Kinetics Mechanisms for Ram Accelerator Combustion," AIAA Paper 97-2892, 33rd Joint Propulsion Conference, 7-9 July 1997, Seattle, WA.
- 394) E. L. Petersen, D. F. Davidson, and R. K. Hanson, "Ram Accelerator Mixture Chemistry: Kinetics Modeling and Ignition Measurements," CPIA pub. 653, *1996 JANNAF Combustion Subcommittee Meeting*, Vol. I, 1997, 395-407.
- 395) D. F. Davidson, E. L. Petersen, R. W. Bates, and R. K. Hanson, "Real Gas Effects at High Pressures and Temperatures in Shock Tube Studies," CPIA Pub. 653, *1996 JANNAF Combustion Subcommittee Meeting*, Vol. I, 1997, pp. 49-56.
- 396) E. L. Petersen, R. W. Bates, D. F. Davidson, and R. K. Hanson, "Laser Absorption and Infrared Emission Measurements in a High-Pressure Shock Tube," AIAA Paper 97-0316, 35th Aerospace Sciences Meeting, 6-9 Jan. 1997, Reno, NV.
- 397) D. F. Davidson, R. W. Bates, E. L. Petersen, and R. K. Hanson, "Shock Tube Measurements of the Equation of State of Argon," AIAA Paper 97-0984, 35th Aerospace Sciences Meeting, 6-9 Jan. 1997, Reno, NV.
- 398) E. L. Petersen, D. F. Davidson, M. Röhrig, and R. K. Hanson, "High-Pressure Shock-Tube Measurements of Ignition Times in Stoichiometric $H_2/O_2/Ar$ Mixtures," *Shock Waves - Proceedings of the 20th International Symposium on Shock Waves*, Sturtevant, B., Shephard, J. E., and Hornung, H. G. (Ed.), World Scientific, New Jersey, 1996, pp. 941-946.
- 399) D. F. Davidson, M. Röhrig, E. L. Petersen, M. D. DiRosa, and R. K. Hanson, "Measurements of the Absorption Spectrum of the OH A-X (0,0) 306-nm Bandhead at High Pressures," *Shock Waves - Proceedings of the 20th International Symposium on Shock Waves*, Sturtevant, B., Shephard, J. E., and Hornung, H. G. (Ed.), World Scientific, New Jersey, 1996, pp. 923-928.
- 400) E. L. Petersen, D. F. Davidson, and R. K. Hanson, "Ignition Delay Times of Ram Accelerator Mixtures," AIAA Paper 96-2681, 32nd Joint Propulsion Conference, 1-3 July 1996, Lake Buena Vista, FL.
- 401) E. L. Petersen, M. Röhrig, D. F. Davidson, and R. K. Hanson, "Shock-Induced Ignition of High-Pressure H_2-O_2-Ar and CH_4-O_2-Ar Mixtures," AIAA Paper 95-3113, 31st Joint Propulsion Conference and Exhibit, 10-12 July 1995, San Diego, CA.
- 402) D. J. Howell, E. L. Petersen, and J. A. Clark, "Performance Characteristics of LOX/ H_2 , Tangential-Entry, Swirl-Coaxial, Rocket Injectors," AIAA Paper 93-0228, 31st Aerospace Sciences Meeting & Exhibit, 11-14 Jan. 1993, Reno, NV.
- 403) E. L. Petersen, V. P. Roan, and J. N. Pfahler, "Experimental Investigation of Supersonic-Primary Dissimilar-Fluid Ejectors," AIAA Paper 92-3793, 28th Joint Propulsion Conference & Exhibit, 6-8 July 1992, Nashville, TN.

- 404) G. B. Cox Jr. and E. L. Petersen, "Liquid Stability Mechanisms Program Summary," 28th JANNAF Combustion Meeting, 28 Oct - 1 Nov. 1991, San Antonio, TX.
- 405) E. L. Petersen, R. Rozelle, and P. J. Borgel, "Characterization and Wall Compatibility Testing of a 40K Pound Thrust Class Swirl-Coaxial Injector and Calorimeter Combustion Chamber," AIAA Paper 91-1873, 27th Joint Propulsion Conference, 24-26 June 1991, Sacramento, CA.

Published Reports and Magazines

- 1) C. H. Osorio, E. L. Petersen, and M. S. Mannan, "Understanding Halon 1301 Properties," *Fire and Safety Magazine*, Fall 2013.
- 2) E. L. Petersen, M. W. Crofton, and T. V. Albright, "Performance Analysis of Setup for Particle-Impingement Oxidation Experiment," Aerospace Report No. ATR-2008(8267)-2, January 19, 2009.
- 3) E. L. Petersen, "A Shock Tube and Diagnostics for Chemistry Measurements at Elevated Pressures with Application to Methane Ignition," Ph.D. Thesis, Department of Mechanical Engineering, Stanford University, March 1998; also: Topical Report TSD-111.
- 4) E. L. Petersen, G. B. Cox Jr., and Evans, T. T., "Final Report - Liquid Stability Mechanisms," PL-TR-93-3044, Edwards AFB, April 1994.
- 5) E. L. Petersen, "Experimental and Theoretical Investigation of Ejectors Employing Dissimilar Fluids," M. S. Thesis, Department of Mechanical Engineering, University of Florida, May 1990.