

Nicole J. Labbe

University of Colorado Boulder, Department of Mechanical Engineering
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Assistant Professor of Mechanical Engineering

University of Colorado Boulder

Aug 2016 – Present

Boulder, CO

Education

Doctor of Philosophy in Chemical Engineering

University of Massachusetts Amherst

February 2013

Amherst, MA

Thesis: Determining detailed reaction kinetics for nitrogen- and oxygen-containing fuels

Advisors: Phillip R. Westmoreland and David M. Ford

Bachelor of Science in Chemical Engineering

Worcester Polytechnic Institute

May 2006

Worcester, MA

Thesis (MQP): Ab initio studies of cyclohexane adsorption in zeolites

Prior Professional Experience:

Postdoctoral Research Associate

*Argonne National Laboratory,
Chemical Sciences and Engineering Division*

Jan. 2013 – July 2016

Argonne, IL

Selected Collaborators (over the last 5 years):

Raghu Sivaramakrishnan (Argonne), Stephen Klippenstein (Argonne), Joe V. Michael (Argonne), James Miller (Argonne), Branko Ruscic (Argonne), Michael Davis (Argonne), Scott Goldsborough (Argonne), Phil Westmoreland (NCSU), Yiguang Ju (Princeton), Katharina Kohse-Hoinghaus (Bielefeld), Nils Hansen (Sandia), Ahren Jasper (Sandia), Tina Kasper (Duisberg-Essen), C. Franklin Goldsmith (Brown), Thomas Foust (NREL), G. Barney Ellison (CU Boulder), John Daily (CU Boulder), Henry Kapteyn (JILA), Margaret Murnane (JILA), David Robichaud (NREL), Stephen Tiffit (NREL), Seonah Kim (NREL), Nabila Huq (NREL), Robert Tranter (Argonne), David Couch (CU Boulder), Bret Windom (CSU), Anthony Marchese (CSU), Lisa Pfefferle (Yale), Charles McEnally (Yale), Kenneth Reardon (CSU), Jason Quinn (CSU)

Students Supervised (over the last 5 years):

Tanusree Chatterjee (Postdoctoral Associate, Started 2020)

Cory O. Rogers (Ph.D., In progress, Started 2016)
Katherine Cummins (Ph.D., In progress, Started 2017)
Jatinder Sampathkumar (Ph.D., In progress, Started 2018)
Osmar Aguirre (Ph.D., In progress, Started 2020)
Andres Cano Botero (M.S., thesis, In progress, Started 2021)
Samuel Morehead (M.S., thesis, In progress, Started 2021)
Sadie Stutzman (M.S., Started 2018)
Justice Calderon (M.S., Started 2019)
Tianzhu Fan (M.S. thesis, Graduated 2017)

Publications: (co-authors who are graduate students and post-doctoral advisees are underlined)

Diol Isomer Revealed as the Source of Methyl Ketene from Propionic Acid Unimolecular Decomposition, C. O. Rogers, K. S. Lockwood, N. J. Labbe, *Int. J. Chem. Kinetics* [Under Review: International Journal of Chemical Kinetics - Manuscript # KIN-19-0188]

Combustion Chemistry in the Twenty-First Century: Developing Theory-Informed Chemical Kinetics Models, James A. Miller, Raghu Sivaramakrishnan, Yujie Tao, C. Franklin Goldsmith, Michael P. Burke, Ahren W. Jasper, Nils Hansen, Nicole J. Labbe, Peter Glarborg, Judit Zádor, *Progress in Energy and Combustion Science* 83 (2021) 100886.

Detection of the Keto-Enol Tautomerization in Acetaldehyde, Acetone, Cyclohexanone, and Methyl Vinyl Ketone with a Novel VUV Light Source, D. E. Couch, Q. L. Nguyen, D. D. Hickstein, H. C. Kapteyn, M. M. Murnane, N. J. Labbe. *Proceedings of the Combustion Institute* [<https://doi.org/10.1016/j.proci.2020.06.139>]

Probing the Low-Temperature Chemistry of Methyl Hexanoate: Insights from Oxygenate Intermediates, C. O. Rogers, D. Kaczmarek, T. Kasper, N. J. Labbe. *Proceedings of the Combustion Institute* [<https://doi.org/10.1016/j.proci.2020.07.056>]

Insights on Keto-Hydroperoxide Formation from O₂ Addition to the Beta-Tetrahydrofuran Radical, K. S. Lockwood, N. J. Labbe. *Proceedings of the Combustion Institute* [<https://doi.org/10.1016/j.proci.2020.06.357>]

Ramifications of Including Non-Equilibrium Effects for HCO in Flame Chemistry, N. J. Labbe, R. Sivaramakrishnan, C. F. Goldsmith, Y. Georgievskii, J. A. Miller, S. J. Klippenstein. *Proceedings of the Combustion Institute* 36 (2017) 525-532.

Weakly-bound free radicals in combustion: "Prompt" dissociation of formyl radicals and its effect on laminar flame speeds, N. J. Labbe, R. Sivaramakrishnan, C. F. Goldsmith, Y. Georgievskii, J. A. Miller, S. J. Klippenstein, *J. Phys. Chem. Lett.* 7 (2015) 85-89.

The role of radical + fuel-radical well-skipping reactions in ethanol and methylformate low-pressure flames, N.J. Labbe, R. Sivaramakrishnan, S.J. Klippenstein, *Proc. Combust. Inst.* 35 (2015) 447-455.

Direct measurements of rate constants for the reactions of CH₃ radicals with C₂H₆, C₂H₄, and C₂H₂ at high temperatures, S.L. Peukert, N.J. Labbe, R. Sivaramakrishnan, J.V. Michael, **J. Phys. Chem. A** 117 (2013) 10228-10238.

Shock tube measurements and model development for morpholine pyrolysis and oxidation at high pressures, S. Li, D.F. Davidson, R.K. Hanson, N.J. Labbe, P.R. Westmoreland, P. Oßwald, K. Kohse-Höinghaus, **Combustion and Flame** 160 (2013) 1559-1571.

Combustion chemistry of a laminar, premixed tetrahydropyran flame as a model heteroatomic biofuel N.J. Labbe, V. Seshadri, T. Kasper, N. Hansen, P.R. Westmoreland, **Proc. Combust. Inst.** 34 (2013) 259-267.

Combustion chemistry and fuel-nitrogen conversion in a laminar premixed flame of morpholine as a model biofuel, A. Lucassen*, N.J. Labbe*, P.R. Westmoreland, K. Kohse-Höinghaus, **Combustion and Flame** 158 (2011) 1647-1666. (*co-authors contributed equally)

Conference Presentations (Oral, co-authors who are graduate students and post-doctoral advisees are underlined):

Detection of the Keto-Enol Tautomerization in Acetaldehyde, Acetone, Cyclohexanone, and Methyl Vinyl Ketone with a Novel VUV Light Source, D. E. Couch, Q. L. Nguyen, D. D. Hickstein, H. C. Kapteyn, M. M. Murnane, N. J. Labbe. **International Symposium on Combustion**, Adelaide, Australia, January 2021

Probing the Low-Temperature Chemistry of Methyl Hexanoate: Insights from Oxygenate Intermediates, C. O. Rogers, D. Kaczmarek, T. Kasper, N. J. Labbe. **International Symposium on Combustion**, Adelaide, Australia, January 2021

Insights on Keto-Hydroperoxide Formation from O₂ Addition to the Beta-Tetrahydrofuran Radical, K. S. Lockwood, N. J. Labbe. **International Symposium on Combustion**, Adelaide, Australia, January 2021

[Invited Talk] *The Pyrolysis Chemistry of Propionic Acid and Ethyl Propionate Revealed*. C. Rogers, K. Cummins, J. Porterfield, J.W. Daily, G.B. Ellison, N.J. Labbe, **International Conference on Chemical Kinetics**, June 2019.

Pyrolysis of Ethyl Esters in a Micro-Reactor. C. Rogers, J.P. Portefield, J.W. Daily, G.B. Ellison, N.J. Labbe. **International Symposium on Molecular Spectroscopy**, Champaign-Urbana, Illinois, June 2019.

[Invited Talk] *When Prompt Dissociation Matters*. N.J. Labbe **17th Numerical Combustion Meeting**, Aachen, Germany May 2019.

Modeling a Micro-Reactor with Transonic Regions. J. Glusman, N.J. Labbe, C. Rogers, G.B. Ellison J.W. Daily, **11th US National Combustion Meeting**. Pasadena, CA, March 2019.

The Pyrolysis Chemistry of Propionic Acid and Ethyl Propionate in a Microreactor C. Rogers, K. Cummins, J. Porterfield, J.W. Daily, G.B. Ellison, N.J. Labbe, **11th US National Combustion Meeting**. Pasadena, CA, March 2019.

Micro-reactor design optimization and manufacturing for studying high temperature unimolecular decomposition of large molecules. J. Sampathkumar, T. Fan, J.W. Daily, G.B. Ellison, N.J. Labbe, **11th US National Combustion Meeting**. Pasadena, CA, March 2019.

[Invited Talk] *A new microreactor for gas phase chemical kinetics.* N.J. Labbe **International Workshop of Gas-phase Kinetics on Interstellar, Atmospheric and Combustion Chemistry**, Hefei, China, March 2019

Implications of High Accuracy Thermochemical Kinetics for $H + CH_3 (+M) \rightleftharpoons CH_4 (+M)$ on Combustion Models N.J. Labbe, A.W. Jasper, R. Sivaramakrishnan, S.J. Klippenstein, J.A. Miller, and B. Ruscic **2017 American Institute of Chemical Engineers National Meeting**, Minneapolis, MN, October 2017

The Numerical Design of a Combustion Microreactor for the study of Earlier Time Scale Reaction T. Fan, C. Rogers, J.W. Daily, G.B. Ellison, and N.J. Labbe **Western States Section of the Combustion Institute 2017 Fall Meeting**, Laramie, WY, October 2017.

Probing the Pyrolysis Chemistry of Ethyl Propionate in a Microreactor C. Rogers, J. Porterfield, J.W. Daily, G.B. Ellison, N.J. Labbe, **Western States Section of the Combustion Institute 2017 Fall Meeting**, Laramie, WY, October 2017.

Numerical Design of a Novel Microreactor to Study Short Residence Time Combustion T. Fan, C. Rogers, J.W. Daily, G.B. Ellison, and N.J. Labbe **Rocky Mountain Fluid Mechanics Research Symposium**, August 2017.

High Accuracy Thermochemical Kinetics for $H + CH_3 (+M) \rightleftharpoons CH_4 (+M)$ N.J. Labbe, A.W. Jasper, J.A. Miller, S.J. Klippenstein, B. Ruscic, R. Sivaramakrishnan **10th US National Combustion Meeting**. College Park, MD, April 2017

Ramifications of Including Non-Equilibrium Effects for HCO in Flame Chemistry N.J. Labbe, R. Sivaramakrishnan, C.F. Goldsmith, Y. Georgievskii, J.A. Miller, S.J. Klippenstein. **36th International Symposium on Combustion**, Seoul, Korea, July 2016.

[Invited Talk] *Elucidating the flame chemistry of common combustion radicals* N.J. Labbe **3rd International Flame Workshop**. Seoul, Korea, July 2016

The Role of Excited Radicals Formed from Exothermic Abstractions in Combustion N.J. Labbe, R. Sivaramakrishnan, C.F. Goldsmith, J.A. Miller, S.J. Klippenstein **9th US National Combustion Meeting**, Cincinnati, OH, May 2015

The role of radical + fuel-radical well-skipping reactions in ethanol and methylformate low-pressure flames. N.J. Labbe, R. Sivaramakrishnan, S.J. Klippenstein. **35th International Symposium on Combustion**, San Francisco, CA, Aug. 2014.

The Role of Addition-Elimination Reactions in Small Oxygenate Flames. N.J. Labbe, R. Sivaramakrishnan, S.J. Klippenstein. **Central States Spring Technical Meeting**, Tulsa, OK, March 2014.

Rate constants and branching ratios for hydrogen abstraction by OH, H, and CH₃ from methanol and its deuterated isomers. N.J. Labbe, S. Peukert, R. Sivaramakrishnan, J.V. Michael. **2013 American Institute of Chemical Engineers National Meeting**, San Francisco, CA, Nov. 2013.

A high temperature mechanism for methylformate combustion. R. Sivaramakrishnan, N.J. Labbe, W. Liu, and M.J. Davis. **8th US National Combustion Meeting**, Park City, UT. May 2013.

Modeling Ammonia Combustion to Develop a Comprehensive Reaction Set for N/H/O Kinetics. N.J. Labbe and P.R. Westmoreland. **2012 American Institute of Chemical Engineers National Meeting**, Pittsburgh, PA, Oct. 2012.

Combustion chemistry of a laminar, premixed tetrahydropyran flame as a model heteroatomic biofuel. N.J. Labbe, V. Seshadri, T. Kasper, N. Hansen, P.R. Westmoreland. **34th International Symposium on Combustion**. Warsaw, Poland. July 2012.

Combustion chemistry of a laminar premixed tetrahydropyran flame as a model heteroatomic biofuel. N.J. Labbe, V. Seshadri, and P.R. Westmoreland. **30th Annual Meeting on Kinetics and Dynamics**, Albany, NY, Jan. 2012.

Reaction Kinetics for TMEDA as an Alternative Hypergolic Rocket Fuel. N.J. Labbe and P.R. Westmoreland. **2011 American Institute of Chemical Engineers National Meeting**, Minneapolis, MN, Oct. 2011.

Reaction Kinetics for TMEDA combustion with Red Fuming Nitric Acid. N.J. Labbe and P.R. Westmoreland. **Eastern States Section of the Combustion Institute Fall Technical Meeting**, Storrs, CT, Oct. 2011.

Extrapolating Flame Kinetics from Cyclohexane to Heteroatomic Rings. P.R. Westmoreland, N.J. Labbe, W. Li, M.E. Law, T. Kasper, N. Hansen, A. Lucassen, K. Kohse-Höinghaus **7th International Conference on Chemical Kinetics**, Cambridge, MA, July 2011.

Mechanistic Insights into Nitrogen Fate in a Morpholine Flat Flame. N.J. Labbe, A. Lucassen, P.R. Westmoreland, K. Kohse-Höinghaus. **7th US National Combustion Meeting**, Atlanta, GA, Mar. 2011.

Combustion Behavior of Nitrogen-Containing Model Biofuels. A. Lucassen, P. Oßwald, N.J. Labbe, K. Kohse-Höinghaus, P.R. Westmoreland **Deutsche Gesellschaft für Massenspektrometrie**. Dortmund, Germany, Mar. 2011.

Kinetics of Nitrogen Containing Fuels. N.J. Labbe and P.R. Westmoreland. **29th Annual Meeting on Kinetics and Dynamics**, Amherst, MA, Jan. 2011.

Mechanism Development for Hypergolic Propellant Systems: MMH and DMAZ. N.J. Labbe, Y. Kim, and P.R. Westmoreland. **2010 American Institute of Chemical Engineers National Meeting**, Salt Lake City, UT, Nov. 2010.

Combustion of Nitrogen Containing Fuels: Morpholine and Hypergolic MMH. N.J. Labbe and P.R. Westmoreland. **28th Regional Meeting on Kinetics and Dynamics**, Trinity College, Jan. 2010.

Mechanism Development for Combustion of Morpholine, a Model Compound for Oxygen- and Nitrogen-Containing Fuels. N.J. Labbe, P.R. Westmoreland, A. Lucassen. P. Oßwald, U. Struckmeier, K. Kohse-Höinghaus, T. Kasper, N. Hansen, and T. Cool. **2009 American Institute of Chemical Engineers National Meeting**, Nashville, TN, Nov. 2009.

Inferring Fuel-Rich Toluene Flame Chemistry from Photo-Ionization MBMS Analysis and Modeling W. Li, N.J. Labbe, P.R. Westmoreland, B. Yang, J. Wang, T. Cool. T. Kasper, N. Hansen, K. Kohse-Höinghaus. **2009 American Institute of Chemical Engineers National Meeting**, Nashville, TN, Nov. 2009.

Reaction Pathways in Hypergolic MMH/RFNA Combustion N.J. Labbe and P.R. Westmoreland. **Eastern States Section of the Combustion Institute Fall Technical Meeting**, College Park, MD, Oct. 2009.

Molecular-beam Mass Spectrometry for Flame Structure Analysis of Nitrogen-Containing Model Substances with Various Structural Motifs, A. Lucassen, P. Oßwald, U. Struckmeier, N.J. Labbe, T. Kasper, K. Kohse-Höinghaus, N. Hansen, W. Li, P.R. Westmoreland, B. Yang, J. Wang, and T. Cool. **18th International Mass Spectrometry Conference**, Bremen, Germany, Sept. 2009.

Determining Oxidation and Growth Kinetics through Photoionization MBMS Analysis and Modeling of Cyclohexane Flames W. Li, M. Law, N.J. Labbe, P.R. Westmoreland, T. Kasper, N. Hansen, J. Wang, T. Cool, and K. Kohse-Höinghaus. **6th US National Combustion Meeting**, Ann Harbor, MI, May 2009.

Morpholine Flame Modeling and Mechanism Development N.J. Labbe and P.R. Westmoreland, **27th Regional Meeting on Kinetics and Dynamics**, UMass Amherst, Jan. 2009.

Determining the Kinetics of C₃H₂ and C₃H₃ Reactions Using Ab Initio Methods N.J. Labbe, P.R. Westmoreland, **26th Regional Meeting on Kinetics and Dynamics**, Albany, NY, Jan. 2008.

Ab Initio Studies of Cyclohexane Adsorption in Zeolites N.J. Labbe, J. Wilcox, **International Conference on Engineering Education 2006**, San Juan, Puerto Rico, July 2006.

Using Computational Chemistry to Understand Effective Adsorption Strategies for Separating Contaminants from Water J. Caulkins, N.J. Labbe, C. Luth, P. Vallieres, **American Society for Engineering Education 2006**, Worcester, MA, March 2006.

The Effective Use of Technology in a Graduate Molecular Modeling Class B. Padak, N.J. Labbe, C. Callahan, **American Society for Engineering Education 2006**, Worcester, MA, March 2006.

Seminars:

How to Create Change N.J. Labbe **1st Year Mechanical Engineering Lunch Seminars**, University of Colorado Boulder, Boulder, CO, March 2019.

From Electrons to Engines: How Free-Radicals Change the Chemistry of Transportation Fuels N.J. Labbe **University of Wyoming Chemical Engineering Seminar Series**, Laramie, WY, February 2018.

Professional Behavior N.J. Labbe **Introduction to Research Seminar Series**, University of Colorado Boulder, Boulder, CO October. 2016

How "minor" effects in common radicals change our understanding of global combustion observables N.J. Labbe **JILA/Chemistry Supergroup Seminar Series**, Boulder, CO, September 2016.

Advances in Understanding the Kinetics of Common Combustion Radicals N.J. Labbe **University of Colorado Mechanical Engineering Graduate Seminar**, Boulder, CO, Sept 2016

Insights from Kinetic Modeling of Small Oxygenated Fuel Combustion N.J. Labbe. **Chemical Sciences and Engineering Division Postdoctoral Seminar**, Argonne, IL, April 2014.

Conference Presentations (Posters):

Development of a Compact Fiber-Laser-Based 6-11 eV VUV Light Source D. Couch, W. Peters, J.W. Daily, G.B. Ellison, N.J. Labbe, H. Kapteyn, M. Murnane, D. Winters, S. Backus, **Laser Diagnostics in Energy and Combustion Science Gordon Conference**, Les Diablerets, Switzerland, June 2019.

Tabletop line-tunable vacuum-UV light source for identifying radicals, isomers, and fragmenting ions D. Couch, C. Rogers, J. Sampathkumar, D. Hickstein, S. Backus, M. Murnane, H. Kapteyn, N.J. Labbe, G.B. Ellison, **11th US National Combustion Meeting**. Pasadena, CA, March 2019.

Development of a Compact Fiber-Laser-Based 6-11 eV VUV Light Source D. Couch, W. Peters, J.W. Daily, G.B. Ellison, N.J. Labbe, H. Kapteyn, M. Murnane, D. Winters, S. Backus, **37th International Symposium on Combustion**, Dublin, Ireland, July. 2018.

High Accuracy Thermochemical Kinetics for $\text{H} + \text{CH}_3 (+\text{N}_2) \rightleftharpoons \text{CH}_4 (+\text{N}_2)$ N.J. Labbe, A.W. Jasper, R. Sivaramakrishnan, S.J. Klippenstien, J.A. Miller, and B. Ruscic **International Conference on Chemical Kinetics**, Chicago, IL, May 2017

Kinetics for OH + CH₃OH: Isotopic labeling studies reveal mechanistic features of CH₂OH decomposition. N.J. Labbe, S.L. Peukert, R. Sivaramakrishnan, S.J. Klippenstein, J.V. Michael. **35th International Symposium on Combustion**, San Francisco, CA, Aug. 2014.

Effect of nitrogen addition to low-pressure, premixed flat ethanol flames. T. Bierkandt, T. Kasper, N.J. Labbe, P.R. Westmoreland, D.A. Knyazkov, S.A. Yakimov, O.P. Korobeinichev, and S. Skeen. **34th International Symposium on Combustion**, Warsaw, Poland, July 2012.

Pyrolysis and combustion of biomass-related compounds. V. Seshadri, P. Fahey, J. Keith, N.J. Labbe, P.R. Westmoreland. **Schoenborn Symposium**, NCSU, Raleigh, NC, Jan. 2012.

Computational Mechanism Development for Hypergolic Propellant Systems: MMH and DMAZ. N.J. Labbe, Y. Kim, and P.R. Westmoreland. **CoMSEF Poster Session, 2010 AIChE National Meeting**, Salt Lake City, UT, Nov. 2010.

Mechanism Development for Combustion of Morpholine N.J. Labbe, P.R. Westmoreland, A. Lucassen, P. Oßwald, U. Struckmeier, K. Kohse-Hoeninghaus, T. Kasper, N. Hansen, and T. Cool. **CoMSEF Poster Session, 2009 AIChE National Meeting**, Nashville, TN, Nov. 2009.

Applying Computational Quantum Chemistry to Devise a Reaction Mechanism for Use of Morpholine, a Surrogate Biofuel, P.R. Westmoreland and N.J. Labbe. **FOMMS 2009**, Blaine, WA, July 2009.

Measuring and Predicting Reaction Kinetics for Clean Use of Biofuels P.R. Westmoreland, N.J. Labbe, W. Li, and A. Pereverzev., **1st Annual TIMBR conference**, UMass Amherst, Sept. 2008.

Development of a Combustion Mechanism for Morpholine N.J. Labbe, W. Li, P.R. Westmoreland, A. Lucassen, P. Oßwald, U. Struckmeier, K. Kohse-Hoinghaus, T. Kasper, N. Hansen, T. Cool, **32nd International Symposium on Combustion**, Montreal, Canada, Aug. 2008.

Press Releases and Media Coverage:

“Co-Optimization of Fuels & Engines March FY19 Highlight: Combining Microreactor Experiments with Computational Chemistry Informs Rational Approach to Advanced Fuel Design”, March 2019

Classes Taught:

MCEN 3012: Thermodynamics I Undergraduate Core Course	Spring 2018
MCEN 4045/4085: Mechanical Engineering Design Project 1 & 2 Undergraduate Core Course	Fall 2018-Spring 2019
MCEN 4152/5152: Introduction to Combustion Undergraduate/Graduate Technical Elective, New course development.	Fall 2017, 2018, 2019
MCEN 6228: Kinetics of Chemically Reacting Systems Graduate Technical Elective. New course development.	Spring 2017, 2019
MCEN 5022: Classical Thermodynamics Graduate core course.	Fall 2016, 2019

Invited Reviewer:

Combustion and Flame

Proceedings of the Combustion Institute

International Journal of Chemical Kinetics

Journal of Physical Chemistry

Chemical Engineering Journal

Chemical Physics Letters

Fuel

Energy & Fuels

Journal of Chemical Physics

Service:

Department committee service

- Graduate committee (AY 16-17 and AY 17-18).
- External relations committee (AY 18-19)
- Undergraduate committee (AY 19-20, AY 20-21)

Thesis committee member for students in Mechanical Engineering, Aerospace, Civil Engineering, Chemical Engineering, Physics, and Chemistry departments

Co-Led a workshop on negotiating faculty positions through the Office of Postdoctoral Affairs

Lead for Women in Combustion events for the Western States Section of the Combustion Institute Meetings, the US National Combustion Meetings, and the International Combustion Symposium in Dublin

Co-established, organized, and ran two Junior Faculty in Combustion Workshops held prior to the US National Combustion Meetings in 2017 & 2019

Developed a brand-new Mentorship Mixer event that was piloted at the US National Combustion Meeting in March 2019

Founding member of the Early Career Advisory Committee to the International Board of the Combustion Institute

Secretary of the Western States Section of the Combustion Institute 2017 - 2019

Treasurer of the Western States Section of the Combustion Institute 2019 - present