

Michael J. Gollner

Assistant Professor
Department of Fire Protection Engineering
University of Maryland, College Park
3104A J.M. Patterson Building
College Park, MD 20742-3031

Contact Information:
Phone: (301) 405-6667
E-mail: mgollner@umd.edu
Web: <http://www.gollnerfire.com>
<http://fpe.umd.edu/faculty/gollner>

CURRICULUM VITAE

EDUCATION

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| 2010 – 2012 | Ph.D. in Mechanical Engineering from the University of California, San Diego
Thesis: <i>Studies on Upward Flame Spread</i>
Advisor: Prof. Forman A. Williams |
| 2008 – 2010 | M.S. in Mechanical Engineering from the University of California, San Diego
Thesis: <i>A Fundamental Approach towards Storage Commodity Classification</i>
Advisor: Prof. Forman A. Williams |
| 2003 – 2008 | B.S. in Mechanical Engineering from the University of California, San Diego |

PROFESSIONAL EXPERIENCE

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| 2012 – present | Assistant Professor
Affiliate Assistant Professor
Affiliate Assistant Professor | Department of Fire Protection Engineering
Department of Mechanical Engineering
Department of Aerospace Engineering
University of Maryland, College Park, MD |
| 2011 – 2012 | Graduate Research Assistant | MAE, University of California, San Diego |
| 2008 – 2011 | Teaching Assistant | MAE, University of California, San Diego |
| 2006 – 2008 | Consulting Engineer | Schirmer Engineering, CA |

UNIVERSITY AND SOCIETY SERVICE

Professional Leadership

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|----------------|-------------------------|--|
| 2016 – 2018 | Board of Directors | International Association of Wildland Fire |
| 2015 – 2018 | Research Advisory Board | NFPA Fire Protection Research Foundation |
| 2014 – present | Principal Member | NFPA Technical Committee on Wildland and Rural Fire Protection |
| 2014 – 2017 | Management Committee | International Association of Fire Safety Science (IAFSS) |
| 2012 – present | Chair | IAFSS Technology Subcommittee |

Editorial Positions

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|----------------|------------------------|--|
| 2014 – present | Associate Editor | Fire Technology |
| 2014 – present | Guest Editor | Fire Technology Special Issue on Detection and Suppression |
| 2014 – present | Editorial Board Member | Frontiers in Mechanical Engineering |
| 2014 – present | Editorial Board Member | Fire Safety Journal and Fire Technology |

Conference and Workshop Organization

2016 – 2018	Steering Committee	Fire Continuum Conference
2016 – 2018	Host Committee	10 th US National Combustion Meeting
2015	Co-Organizer	NSF-funded WIFIRE Workshop: “Towards Data-Driven Operational Wildland Spread Modeling.”
2015 – present	Task Leader	International Workshop on Measurement and Computation of Fire Phenomena (MaCFP Workshop)
2015 – 2017	Program Committee & Wildland Fire Co-Chair	8 th International Symposium on Fire Safety Science

Reviewer for Journals

Atomization and Sprays, Automation in Construction, Combustion and Flame, Combustion Science and Technology, Experimental Thermal and Fluid Science, Fire and Materials, Fire Safety Journal, Fire Technology, Fuel, International Journal of Production Economics, PLOS ONE, Proceedings of the Combustion Institute, Proceedings of the IAFSS, Science of the Total Environment.

Program and Grant Review Panels

National Science Foundation, Department of Homeland Security, Kentucky Science and Engineering Foundation, Natural Sciences and Engineering Research Council of Canada, International Space Station Concept Review and Grant Panels for NASA

CONTRACTS AND GRANTS

Research Funding received as a PI or co-I while at UMD: \$ 2 million.

Society of Fire Protection Engineers

7/16–6/17 \$5,000 An Introduction to Math and Physics through Fire Dynamics (PI)

National Science Foundation

04/16–4/21 \$500,000 CAREER: Understanding the Mechanisms of Wildland Fire Spread (PI)

National Institute for Standards and Technology Fire Research Grant

01/16–12/17 \$205,618 Understanding Ignition Susceptibility of Wildland Urban Interface (WUI) Fuels to Fire-brand Attack (PI)

National Science Foundation

01/16–12/16 \$63,090 EAGER: Fire Whirls on Water: Clean and Efficient Hydrocarbon Combustion (Co-PI)

Joint Fire Science Program

09/15–09/17 \$47,065 Fire Ember Production from Wildland and Structural Fuels (Subcontract-PI)

National Fire Protection Association, Fire Protection Research Foundation

06/14–06/15 \$25,000 Pathways to Fire Spread in the Wildland-Urban Interface (PI)

University of Maryland Council on the Environment Seed Grant

2/14–2/16 \$90,000 Quantifying wildfire pollutant/aerosol emissions using simulations, data assimilation and satellite observations (Co-PI)

National Science Foundation

10/13–9/16 \$467,075 Hazards SEES Type 2: WIFIRE: A Scalable Data-Driven Monitoring, Dynamic Prediction and Resilience Cyberinfrastructure for Wildfires (Subcontract-PI)

USDA Forest Service Rocky Mountain Research Station

07/13–07/18 \$355,336 Entrainment, attachment, and turbulence structure of inclined flames. (PI, Cooperative Agreement, U.S. Forest Service, Missoula Fire Sciences Laboratory)

National Fire Protection Association, Fire Protection Research Foundation

07/13–07/14 \$5,000 Student Project on Hybrid Water Mist System (PI)

US Department of Homeland Security Fire Prevention and Safety Grant

06/13–06/14 \$368,224 Quantification of Green Building Features on Firefighter Safety, (Subcontract-PI)

AWARDS AND FELLOWSHIPS

2016	Fire Protection Research Foundation Medal	National Fire Protection Association
2016	Faculty Early CAREER Award	National Science Foundation
2015	Best Workshop Paper	International Conference on Computational Science
2015	Distinguished Paper	35 th International Symposium on Combustion
2014	3 Readers and Editors Choice Awards	HPCwire Magazine
2013	Jack Watts Award	Outstanding Reviewer for Fire Technology
2012	Doctoral Dissertation Fellowship	MAE Department, UC San Diego
2011	Best Poster Award	10 th International Symposium on Fire Safety Science
2011	Best Fire Science Image Award	10 th International Symposium on Fire Safety Science
2011	3 rd Place, Science Art Competition	US National Combustion Meeting, Atlanta, GA
2010	Gordon Scholar	Jacobs School of Engineering, UC San Diego
2010	Chancellor's Award for Sustainability	University of California, San Diego
2010	Recipient, Student Research Grant	SFPE Educational and Scientific Foundation
2010	Honorable Mention	NSF Graduate Student Researcher Program
2010	Rae K. Hepps Graduate Fellowship	University of California, San Diego

MENTORING AND ADVISING

Graduates

2012-2015	Ajay Singh, Ph.D.	<i>A Fundamental Study of Boundary Layer Diffusion Flames, (Now Postdoctoral Scholar at Stanford University)</i>
2012-2014	Brian Hall, M.S.	<i>Transient Fire Load on Aluminum Ferries, (Now at US Coast Guard)</i>
2012-2014	Zhao Zhao, M.S.	<i>Flame Spread through Wooden Dowels, (Now with City of Dallas)</i>
2013-2014	Daniel Gorham, M.S.	<i>Studying Wildland Fire Spread Using Stationary Burners, (Now at NFPA)</i>
2013-2014	Colin Miller, M.S.	<i>Upward Flame Spread over Discreet Fuels (Now PhD Student at UMD)</i>
2013-2014	Brian Cohen, M.S.	<i>In Situ Burning Alternatives, (Now at Arup, NYC)</i>

Current Students

Postdoctoral Scholars

2016-	Ali Tohidi	<i>Breakage and ignition from firebrands</i>
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PhD Candidates

2014-	Wei Tang	<i>Data Assimilation for Wildland Fire Spread</i>
2014-	Pietro Maisto	<i>Buoyant Flows in Green/Sustainable Buildings</i>
2014-	Colin Miller	<i>Wildland Fire Propagation</i>
2015-	Lin Jiang	<i>Horizontal Flame Spread (Co-advvisor, USTC)</i>
2016-	Kun Zhao	<i>Wind-Driven Flame Spread (Co-advvisor, USTC)</i>

MS Candidates

2015-	Raquel Hakes	<i>Ignition of Structural Fuels with Firebrands</i>
2015-	Sara Caton	<i>Generation of Firebrands</i>
2015-	Nathaniel May	<i>Large-Scale Deposition of Firebrands</i>
2015-	Sriram Barath Hariharan	<i>Fire Whirls</i>

PUBLICATIONS AND PRESENTATIONS

Accepted Articles in Referred Journals

21. **Xiao, H.**, **Gollner, M.J.**, Oran, E.S., “From fire whirls to blue whirls and combustion with reduced pollution,” *Proc Natl Acad Sci USA*, 113(34):9457-9462, 2016.
20. **Gollner, M.J.** “Detection and Suppression of Fires: a Cornerstone of Fire Protection Engineering,” *Fire Technol.* 52(5), 1193-1196, 2016.
19. **Jiang, L.**, **Miller, C.H.**, **Gollner, M.J.** and Sun, J., “Sample Width Effects on Horizontal Flame Spread Over a Thin PMMA Surface”, *Proceedings of the Combustion Institute*, 2016.
18. **Tang, W.**, **Miller, C.H.** and **Gollner, M.J.**, “Local Flame Attachment and Heat Fluxes in Wind-Driven Line Fires,” *Proceedings of the Combustion Institute*, 2016
17. **Singh, A.V.** and **Gollner, M.J.**, “Steady and Transient Pyrolysis of a Non-charring Solid Fuel Under Forced Flow”, *Proceedings of the Combustion Institute*, 2016
16. Gorham, D.J., **Hakes, R.**, **Caton, S.**, **Gorham, D.J.**, **Gollner, M.J.**, “Pathways to Fire Spread in the Wildland Urban Interface Part II: Response of Components and Systems and Mitigation Strategies,” *Fire Technology*, 2016.
15. **Caton, S.**, **Hakes, R.**, Gorham, D.J., **Gollner, M.J.**, “Pathways to Fire Spread in the Wildland Urban Interface Part I: Exposure conditions,” *Fire Technology*, 2016.
14. **Singh, A.V.** and **Gollner, M.J.**, “Experimental Methodology for Estimation of Local Heat Fluxes and Burning Rates in Steady Laminar Boundary Layer Diffusion Flames,” *J. Vis. Exp.*, e54029.
13. **Miller, C.** and **Gollner, M.J.**, “Upward Flame Spread over Discrete Fuels”, *Fire Safety Journal*, Volume 77, 2015, pp. 36-45.
12. Finney, M., Cohen, J., Forthofer, J., McAllister, S., **Gollner, M.J.**, **Gorham, D.**, Saito, K., Adam, B. and English, J., “The Influence of Buoyant Dynamics on Wildfire Spread”, Vol. 112 No. 32, pp. 9833-9838 *Proceedings of the National Academy of Sciences*, 2015.
11. **Singh, A.V.** and **Gollner, M.J.**, “Local Burning Rates and Heat Flux for Boundary Layer Diffusion Flames Under Forced Flow”, In press, *AIAA Journal*.
10. **Singh, A.V.** and **Gollner, M.J.**, “A methodology for Estimation of Local Heat Fluxes in Steady Laminar Boundary Layer Diffusion Flames”, *Combustion and Flame*, Volume 162, 2015, pp. 2214-2230.
9. **Singh, A.V.** and **Gollner, M.J.**, “Estimation of local mass burning rates for steady laminar boundary layer diffusion flames”, *Proceedings of the Combustion Institute*, Volume 35, Issue 3, 2015, pp. 2527-2534.
Selected Distinguished Paper, 35th International Symposium on Combustion.
8. **Huang, X.** and **Gollner, M.J.**, “Correlations for Evaluation of Flame Spread over an Inclined Fuel Surface”, *Fire Safety Science*, Volume 11, pp. 222-233, 2015.
7. Zhang, Y., Bustamante, M.J., **Gollner, M.J.**, Sunderland, P.B., Quintiere, J.G., “Burning on Flat Wicks at Various Orientations”, *Journal of Fire Sciences*, Volume 32, Issue 1, 2014, Pages 51–71.
6. **Gollner, M. J.**, Sanchez, A. L., and Williams, F. A., “ On the heat transferred to the air surrounding a semi-infinite inclined hot plate”. *Journal of Fluid Mechanics*, Issue 732, 2013, Pages 304–315.
5. **Gollner, M. J.**, **Huang, X.**, **Cobian, J.**, Rangwala, A. S. and Williams, F. A., “Experimental Study of Upward Flame Spread of an Inclined Fuel Surface”, *Proceedings of the Combustion Institute*, Volume 34, Issue 2, 2013, Pages 2531–2538.
4. **Gollner, M. J.**, Xie, Y., Lee, M., Nakamura, Y., Rangwala, A.S., “Burning behavior of vertical matchstick arrays”, *Combustion Science and Technology*, Volume 184, Issue 5, 2012, Pages 585–607.

3. Overholt, K., Gollner, M. J., Williams, F. A., Rangwala, A. S. and Perricone, J., “Warehouse commodity classification from fundamental principles. Part II: flame height prediction,” *Fire Safety Journal*, Volume 46, Issue 6, August 2011, Pages 317–329.
2. Gollner, M. J., Overholt, K., Williams, F. A., Rangwala, A. S. and Perricone, J., “Warehouse commodity classification from fundamental principles. Part I: commodity and burning rates,” *Fire Safety Journal*, Volume 46, Issue 6, August 2011, Pages 305–316.
1. Gollner, M. J., Williams, F. A. and Rangwala, A. S. “Upward flame spread over corrugated cardboard,” *Combustion and Flame*, Volume 158, Issue 7, 2011, Pages 1401–1412.

Refereed and Published Conference Proceedings

4. Altintas, I., Block, J., de Callafon, R., Crawl, D., Cowart, C., Gupta, A., Gollner, M.J., Trouve, A., Smarr, L., “Towards an Integrated Cyberinfrastructure for Scalable Data-Driven Monitoring, Dynamic Prediction and Resilience of Wildfires”, *Procedia Computer Science*, International Conference On Computational Science, ICCS 2015 – Computational Science at the Gates of Nature, Volume 51, 2015, Pages 1633–1642.
Awarded Best Conference Paper.
3. A.V. Singh and M.J. Gollner, “Local Burning Rates and Heat Flux for Boundary Layer Diffusion Flames Under Forced Flow,” *53rd AIAA Aerospace Sciences Meeting*, January, 2015
2. M.A. Finney, J. Cohen, J. Forthofer, S. McAllister, B. Adam, N. Akafuah, J. English, K. Saito, M.J. Gollner and D. Gorham, “ Experimental Evidence of Buoyancy Controlled Flame Spread in Wildland Fires,” *Advances in Forest Fire Research*, D. Viegas, ed., *VII International Conference on Forest Fire Research*, Coimbra, Portugal, 14 to 20 Nov, 2014.
1. D.J. Gorham, R. Hakes, A. Singh, J. Forthofer, M.A. Finney and M.J. Gollner, “Studying Wildland Fire Spread Using Stationary Fires,” *Advances in Forest Fire Research*, D. Viegas, ed., *VII International Conference on Forest Fire Research*, Coimbra, Portugal, 14 to 20 Nov, 2014.

PRESENTATIONS AND CONFERENCES

Invited Seminars

16. “Understanding the Mechanisms of Flame Spread: From Bench-Scale Experiments to Field-Scale Wildfires,” Invited Seminar, Department of Mechanical Engineering, **Brigham Young University**, Salt Lake City, Utah. November, 2016.
15. “The Role of Buoyant Flame Dynamics in Wildfire Spread,” Invited Seminar, Fluid Mechanics and Combustion Seminar, Department of Mechanical and Aerospace Engineering, **University of California, San Diego**. October, 2015.
14. “The Dynamics of Wind-Blown Flames,” Invited Seminar, BRE Center for Fire Safety Engineering, **University of Edinburgh**, Scotland, August, 2015.
13. “The Dynamics of Wind-Blown Flames,” Invited Thermofluids Seminar, **Imperial College, London**, UK, July, 2015.
12. “Pathways to Fire Spread in the Wildland-Urban Interface: A Literature Review and Gap Analysis,” Invited Seminar, **National Institute for Standards and Technology**, Gaithersburg, MD, April, 2015.
11. “Fire Protection Engineering - A Unique Program in the American Educational System,” Invited Seminar, **Toyo-hashi University of Technology**, Toyohashi, Japan, March, 2015.
10. “International Exchange Programs at the University of Maryland,” Invited Seminar, **Toyo-hashi University of Technology**, Toyohashi, Japan, March, 2015.
9. “Modeling Wildfires: Past, Present and Future,” Invited Seminar, Engineering Colloquium and Safety Week, **NASA Goddard Space Flight Center**, Greenbelt, MD, April, 2014.

8. "Exploring the Dynamics of Laminar and Turbulent Boundary Layer Diffusion Flames," Invited Seminar, **Hokkaido University**, Japan. December, 2013.
7. "Exploring the Dynamics of Laminar and Turbulent Boundary Layer Diffusion Flames," Invited Seminar, **Muro-ran Institute of Technology**, Japan. December, 2013.
6. "Buoyancy Effects on Burning Behavior and Flame Spread," Invited Seminar, **U.S. Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory**, Missoula, Montana. January, 2013.
5. "Flame Spread and Commodity Behavior in Warehouse Fires," Invited Seminar, **Underwriter Laboratories, Inc.** Deerfield, IL. November, 2012.
4. "Buoyancy Effects on Burning Behavior and Flame Spread," Invited Seminar, **University of Maryland, College Park**, Department of Fire Protection Engineering. May, 2012.
3. "Buoyancy Effects on Burning Behavior and Flame Spread," Invited Seminar, **University of California, Merced**, Department of Mechanical Engineering and Applied Mechanics. May, 2012.
2. "An Experimental Study of Inclined Flame Spread," Invited Seminar, **Worcester Polytechnic Institute**, Department of Fire Protection Engineering. May, 2011, MA.
1. "Warehouse Commodity Classification and Upward Flame Spread," Invited Seminar, **University of Edinburgh**, Department of Fire Safety Engineering. June, Edinburgh, UK. 2010.

Invited Conference Presentations

7. "Pathways to Fire Spread in the Wildland-Urban Interface: Research Summary," Invited Talk, *National Fire Protection Association, Fire Protection Research Foundation Wildfire and WUI Research Planning Workshop*, Denver, CO, July, 2015.
6. "Pathways to Fire Spread in the Wildland-Urban Interface," Invited Online Webinar, *National Fire Protection Association*, Quincy, MA, April, 2015.
5. "Hybrid Water Mist Fire Protection Systems," Invited Talk, *NFPA Fire Protection Research Foundation Suppression and Detection Conference*, Orlando, FL, March, 2014.
4. "Flammability Characterization of Warehouse Commodities," Invited Talk, *Chesapeake Chapter of the Society of Fire Protection Engineers*, Columbia, MD. October, 2013.
3. "Overview of Fire Research," Invited Talk, University of Maryland, College Park Chapter of the Society of Fire Protection Engineers, College Park, MD. April, 2013.
2. "High Challenge Warehouse Workshop at the SUPDET 2010 Conference," Co-Chair, National Fire Protection Association. February 2010.
1. "A Fundamental Approach towards Fire Hazard Classification," Invited Talk, San Diego Chapter of the Society of Fire Protection Engineers. April, 2009

Conference Papers: Refereed Abstracts

21. Gollner, M.J., **Tang, W., Gorham, D.J.**, Finney, M.A., McAllister, S., Cohen, J. and Forthofer, J., "Dynamic Behavior and Structure of Wind Blown Flames," 25th International Colloquium on the Dynamics of Explosions and Reacting Systems, August 2-7, Leeds, UK, 2015.
20. Finney, M.A., Cohen, J., Forthofer, J., McAllister, S., Saito, K., Akafuah, N., Gollner, M.J., **Gorham, D.J.**, "Buoyant Instabilities and Flame Spread in Wildland Fires: Implication of the Need for Scaling Instability Analysis," 25th Canadian Congress of Applied Mechanics (CANCAM 2015), London, Ontario, Canada, May 31, 2015.
19. **A.V. Singh**, M.J. Gollner, "Boundary Layer Combustion Under Forced Flow," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, Ohio.

18. **M.F. Maisto**, T. Layton, **M. J. Gollner**, A. W. Marshall, "Salt-Water Modeling to Probe Sub-Grid Scale Turbulent Mixing of Fire Plumes", 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, Ohio.
17. **C.H. Miller**, **M.J. Gollner**, M.A. Finney, **D.J. Gorham**, "An Investigation of Wildfire Dynamics via Fixed Inclinable Burners", 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, Ohio.
16. **C.H. Miller**, **M.J. Gollner**, "Upward Flame Spread over Discrete Fuels," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, Ohio.
15. **Tang, D.J., Gorham, D.J., Gollner, M.J., Forthofer, J., Finney, M.A.**, "Forward pulsation behavior of wind-driven line fires," 9th U.S. National Combustion Meeting, May 17-20, 2015, Cincinnati, Ohio.
14. Zhang, C., Durand, M., **Tang, W.**, **Gollner, M.**, Trouve, A., Rochoux, M.C., Ricci, S., Cuenot, B., Filippi, J.-B., and Clements, C.B., "Evaluation of a Sensor-Driven Wildland Fire Spread Modeling Strategy Using the FireFlux Experiment," 15th International Conference on Numerical Combustion, Avignon, France, April 19-22, 2015.
13. You, Y-G., Yin, M., Martin, D., Meacham, B., Dembsey, N., **Gollner, M.J.**, Marshall, A., **Maisto, P.**, Ahrens, M., Grant, C. and Rodrigue, T., "Quantification of Green Building Features on Firefighter Safety: Problem Definition, Data Collection, Preliminary Analysis and Experimental Plan," SFPE 10th International Conference on Performance-Based Codes and Fire Safety Design Methods, Queensland, Australia, 2014.
12. Altintas, I., Block, J., Braun, H.W., de Callafon, R., **Gollner, M.J.**, Smarr, L. and Trouve, A., "WIFIRE: A Real-Time Cyberinfrastructure for Wildfire Sensing and Prediction." Large Wildland Fires Conference, Missoula, MT, May 19-22, 2014
11. **Singh, A.V.** and **Gollner, M.J.**, "Thermal and burning rate characteristics of laminar boundary layer diffusion flames." Fall Technical Meeting of the Eastern States Section of the Combustion Institute, Clemson, SC, October, 2013.
10. **Gorham, D.** and **Gollner, M. J.**, "Buoyancy-enhanced flame spread over continuous surfaces," Eighth U.S. National Meeting of the Combustion Institute, Park City, UT, May, 2013.
9. **Zhao, Z., Gorham, D.** and **Gollner, M. J.**, "Flame Spread through Arrays of Wooden Dowels," Eighth U.S. National Meeting of the Combustion Institute, Park City, UT, May, 2013.
8. Zhang, Y., Bustamante, M.J., **Gollner, M.J.**, Sunderland, P.B., Quintiere, J.G., "Burning on Flat Wicks at Various Orientations," 7th International Seminar on Fire and Explosion Hazards, May, 2013.
7. **Gollner, M. J., Huang, X., Cobian, J.**, Rangwala, A. S. and Williams, F. A., "Burning of Inclined Fuel Surfaces," Western States Section of the Combustion Institute, Spring Technical Meeting, Tempe, AZ, March 2012.
6. **Gollner, M. J., Huang, X., Rangwala, A. S.** and Williams, F. A., "Effects of Inclination on Upward Flame Spread," Western States Section of the Combustion Institute, Fall Technical Meeting, Riverside, CA, October 2011.
5. **Gollner, M. J., Xie, Y., Lee, M., Nakamura, Y.** and Rangwala, A.S., "Flame spread on vertical matchstick arrays," Western States Section of the Combustion Institute, Fall Technical Meeting, Riverside, CA, October 2011.
4. **Gollner, M. J., Huang, X., Williams, F. A.** and Rangwala, A.S., "Buoyancy-enhanced flame spread over continuous surfaces," Seventh U.S. National Meeting of the Combustion Institute, Atlanta, GA, March 2011.
3. **Gollner, M. J., Williams, F. A., Overholt, K., Rangwala, A. S.** and Perricone, J., "Nondimensional Commodity Classification and an Analysis of Upward Spread." InterFlam, Nottingham, UK. July, 2010.
2. **Gollner, M. J., Overholt, K., Rangwala, A. S., Williams, F. A.** and Perricone, J., "The B-number as a Criterion for Commodity Classification." Combustion Institute Western States Fall Meeting, Irvine, CA, October 2009.
Overholt, K., **Gollner, M.J.** and Rangwala, A.S., "Characterizing the Flammability of Corrugated Cardboard Using a Cone Calorimeter." Sixth U.S. National Meeting of the Combustion Institute, Ann Arbor, MI, May 2009.
1. **Gollner, M.J., Hetrick, T., Rangwala, A.S., Perricone, J.** and Williams, F. A., "Controlling parameters involved in the burning of standard storage commodities: a fundamental approach towards fire hazard classification." Sixth U.S. National Meeting of the Combustion Institute, Ann Arbor, MI, May 2009.

Conference Presentations

17. **Maisto, P.F.**, Marshall, A.W., Gollner, M.J., “Quantitative saltwater modeling for validation of sub-grid scale LES turbulent mixing and transport models for fire,” 68th Annual Meeting of the APS Division of Fluid Dynamics, November 22–24, 2015, Boston, Massachusetts.
16. **Miller, C.H.**, Verma, S., Trouve, A., Finney, M.A., Forthofer, J., McAllister, S, and Gollner, M.J., “An Investigation of Hydrodynamic Instabilities in Wind-Driven Flames,” 68th Annual Meeting of the APS Division of Fluid Dynamics, November 22–24, 2015, Boston, Massachusetts.
15. **Miller, C.H., Tang, W.**, Verma, S., Trouve, A., Gollner, M.J., “A fundamental exploration of Flame Structure in Wildland Fires,” 6th International Fire Ecology & Management Congress, November 16–20, 2015, San Antonio, Texas.
14. Trouve, A., Verma, S., **Miller, C.H.**, Gollner, M.J., “Numerical Simulations of the Structure of Wildland Fire Flames,” 6th International Fire Ecology & Management Congress, November 16–20, 2015, San Antonio, Texas.
13. Gorham, D.J. and Gollner, M.J., “Pathways For Building Fire Spread at the Wildland Urban Interface,” NFPA’s 2015 Backyards & Beyond Wildland Fire Education Conference, October 22–24, 2015, Myrtle Beach, South Carolina.
12. Gollner, M.J., **Singh, A.S.**, Trouve, A., **Gorham, D.J.**, Verma, S., **Tang, W.**, **Miller, C.**, Forthofer, J. and Finney, M.A., “Probing the Structure of Wall-Bounded Flames,” FM Global Open Source CFD Fire Modeling Workshop, Norwood, MA, May, 2015.
11. Gollner, M.J., **Caton, S.**, **Kohler, K.** and **Hakes, R.** “Pathways for Building Fire Spread at the Wildland Urban Interface,” Workshop on Structure Ignition in Wildland-Urban Interface (WUI) Fires, Sponsored by ASTM International Committee E05, Anaheim, CA, June, 2015.
10. Meacham, B. Martin, D. and Gollner, M.J., “Impact of Green Building Features on Firefighter Safety,” National Fire Protection Association Conference and Expo, Chicago, IL, June, 2015.
9. **Caton, S.**, **Kohler, K.**, **Hakes, R.** and Gollner, M.J., “Pathways for Building Fire Spread at the Wildland Urban Interface,” National Fire Protection Association Conference and Expo, Chicago, IL, June, 2015.
8. Gollner, M.J. and Trouve, A., “Modeling Wildland Fire Propagation: Physical Processes and Real Time Data-Driven Modeling, Operation Tomodachi - Fire Research, Joint US-Japan workshop for fire-structure interaction and large outdoor fires,” National Institute for Standards and Technology, March 16-18, Gaithersburg, MD, 2015.
7. Gollner, M.J. and **Raia, P.**, “Hybrid Water Mist Fire Protection Systems,” National Fire Protection Association Conference and Expo, Las Vegas, NV, June, 2014.
6. Gollner, M.J., **Gorham, D.** and **Zhao, Z.**, “Determining the Flammability and Flame Spread Properties Between Discrete Fuels,” Society of Fire Protection Engineers Annual Engineering Technology Conference, Austin, TX, October, 2013.
5. Gollner, M.J., Sanchez, A. S. and Williams, F. A., “Effects of buoyancy on heat transfer under an inclined flat plate,” 65th Annual Meeting of the APS Division of Fluid Dynamics, Volume 57, Number 17, November 18–20, 2012; San Diego, California.
4. Gollner, M.J., Williams, F.A., and Rangwala, A.S., “Upward flame spread over corrugated cardboard,” Society of Fire Protection Engineers Annual Engineering Technology Conference, New Orleans, LA, October, 2010.
3. Gollner, M.J., Olney, K., Kleissel, J., “Clean Renewable Energy Bonds - A funding case study in San Diego, CA,” 2010 International Conference on Environment and Alternative Energy, San Diego, CA, 2010.
2. Gollner, M.J., “Redefining Suppression, Presentation at SUPDET 2010 Conference - High Challenge Warehouse Workshop.” National Fire Protection Association, Fire Protection Research Foundation. February, 2010.
1. Gollner, M. J., Overholt, K., Rangwala, A. S., Williams, F. A. and Perricone, J., “A Fundamental Approach towards Storage Commodity Classification,” Society of Fire Protection Engineers Annual Engineering Technology Conference, Scottsdale, AZ, October, 2009.

Technical Reports and other Publications

5. Gollner, M.J., "Pathways to Building Fire Spread in the Wildland-Urban Interface", *Society of Fire Protection Engineers Emerging Trends Magazine*, Issue 101, August, 2015.
4. Gollner, M.J., "The Flammability of a Storage Commodity." *Fire Protection Engineering Magazine*, April, 2014.
3. Goller, M.J., *Hakes, R., Caton, S.*) and *Kohler, K.*, "Pathways for Building Fire Spread at the Wildland Urban Interface," Fire Protection Research Foundation, National Fire Protection Association, March, 2015.
2. *Raia, P.* and Gollner, M.J., "Literature Review on Hybrid Fire Suppression Systems," Fire Protection Research Foundation, National Fire Protection Association, 2014.
1. Gollner, M.J., Kimball, A. and Vecchiarelli, T., "Fire Safety Design and Sustainable Buildings: Challenges and Opportunities: Report of a National Symposium," Fire Protection Research Foundation, National Fire Protection Association, 2013.

TEACHING

Courses Taught

- ENFP 300: Undergraduate Fire Protection Fluid Mechanics (Spring 2013, 2014, 2016)
- ENFP 350: Professional Development Course (Spring 2014)
- ENFP 630: Graduate Diffusion Flames and Burning Rate Theory (Fall 2013, Spring 2015)
Highest Teaching Evaluations in Department (Fall 2013, Spring 2015)
- ENFP 489W: Undergraduate Wildland Fires: Science and Applications (Fall 2014, 2015)
- ENFP 629W: Graduate Wildland Fires: Science and Applications (Fall 2014, 2015)

Curriculum Development

- ENFP 489W/629W (Fall 2014) Wildland Fires: Science and Applications
New course created. First engineering-based wildland fire course.

MEDIA COVERAGE

Television

1. Feature Story on "Science Presents DNews," "Scientists are Creating Fire TORNADOS" on the Science Channel, September 5, 2016.
2. Appearance and Feature story on "Daily Planet" on Discovery Canada discussing "Boreal Fire Science," following the Ft. McMurray Fires in Canada, May 18, 2016.
3. Appearance and Feature story on "Daily Planet" on Discovery Canada and the Science Channel in the USA. Feature entitled "Forces of Nature: Fire Tornado" covers our lab's wildland fire research and a large-scale fire whirl demo, 2014.
4. Appearance and Feature story for "William Shatner's Weird or What," which appeared on History Channel (USA) and Discovery Channel (Europe/Australia) in Spring, 2012.

Print Media

1. "An Effort to Put a Blue, Whirling Vortex of Fire to Good Use," James Goran, The New York Times, Aug. 30, 2016.
2. "Video of Jim Beam fire tornado could help clean up oil spills," Fernando Alfonso III, Lexington Herald Leader, Aug. 30, 2016.
3. "Controlled fire storms could be a greener way to clean up marine oil spills," The Economist, Aug. 12, 2016.
4. "Introducing the 'blue whirl,' a new kind of fire," Nicole Orttung, the Christian Science Monitor, Aug. 9, 2016.
5. "Scientists have discovered a new kind of fire, and it's beautiful," Rafi Letzter, Business Insider, Aug. 8, 2016.
6. "Into the Wildfire," Paul Tullis, New York Times Magazine, Sept. 19, 2013.
7. "Missoula lab's fire science breakthrough explains wildfire spread," Rob Chaney, the Missoulan, July 25, 2015.
8. "County wins big share of solar funds," San Diego Union Tribune, Onell R. Soto, Oct. 30, 2009.

Digital Media

1. "Is a Blue Fire Tornado the Future of Oil Spill Cleanup," Kacey Deamer, Fox News, Aug. 31, 2016.
2. "New Form of Fire, Inspired by Bourbon, Might Help with Oil Spills," James Gorman, The New York Times, Aug. 29, 2016.
3. "Why Scientists are Creating Fire Tornadoes!" Discovery News, Aug. 29, 2016.
4. "Flaming 'blue whirl' could help clean oil spills, researchers hope," Jessica Dolcourt, CNET, Aug. 18, 2016.
5. "Scientists just discovered a new kind of fire," David Nield, Science Alert, Aug. 9, 2016.
6. "Scientists Discovered a New Type of Fire," Andrew Liszewski, Gizmodo, Aug. 8, 2016.
7. "Researchers Discover a New Type of Fire Called 'Blue Whirl'," Michele Debczak, Mental Floss, Aug. 8, 2016.
8. "To Clean up an Oil Spill, Light a Fire Tornado," Nathaniel Scharping, Discover Magazine D-brief, Aug. 8, 2016.
9. "Recent research shows us wildfire behavior like never before," Matt Makens, Denver ABC Channel 7, July 28, 2015.
10. "WIFIRE helps firefighters get a jump on wildfires," Science Nation, National Science Foundation, July 28, 2014.
11. "Missoula scientists share new findings on how wildland fires spread," Kevin Maki, NBC Montana, July 28, 2015.
12. "Scientists upend assumptions about how wildfires spread," Bob Lafley, Colorado Public Radio, July 27, 2015.
13. "Gorgeous 'Blue Whirl' Flame Might Help Produce Cleaner Energy," Kate Baggaley, Popular Science, Aug. 5, 2016.
14. "New research findings reveal how wildfires spread," PhysOrg, July 21, 2015.
15. "New research Reveals how Wildfires Spread," Fire Engineering, July 20, 2015.
16. "The best combustion art goes up in flames," New Scientist, July 1, 2011.
17. "Engineers Predict how Fires Spread in Warehouses," Science Daily Website Feature , Feb. 7, 2011.