10th U.S. National Combustion Meeting, College Park, Maryland

Sunday, 23 April 2017
XX:XX – XX:XX Registration Open – LOCATION
XX:XX – XX:XX Welcome Reception and Exhibits – LOCATION

Monday, 24 April 2017
07:00 – 08:00 Continental Breakfast – LOCATION
07:00 – 16:00 Registration Open – LOCATION
XX:XX – XX:XX Combustion Artwork is displayed in LOCATION
XX:XX – XX:XX Sponsors are displayed in LOCATION

Work in Progress Posters (Display Set up XX:XX – XX:XX, Poster Session XX:XX – XX:XX) – LOCATION

LOCATION
07:50 Welcome: NAME, AFFILIATION, POSITION
07:55 Opening Remarks: Arnaud Trouvé, University of Maryland, Local Host

08:00 – 09:00 Plenary Lecture
JoAnn Lighty, National Science Foundation
Session Chair: NAME

09:00 – 09:10 TRANSITION TO MORNING SESSIONS

Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics I *Session Chair:*	Fire I *Session Chair:*	Suppression/ Protection I *Session Chair:*	Heterogeneous Combustion I *Session Chair:*	Turbulent Flames I *Session Chair:*	Diagnostics I *Session Chair:*	IC Engine Chemistry I *Session Chair:*	PDF Models *Session Chair:*	Extinction and Ignition I *Session Chair:*	Soot in Laminar Flame *Session Chair:*
09:10	1A01: High Accuracy Thermochemical Kinetics for H + CH3 (+M) ⇄ CH4 (+M) *N.J. Labbe, A.W. Jasper, J.A. Miller, S.J. Klippenstein, B. Ruscic, R. Sivaramakrishnan*	1B01: The Thermal Structure of the Blue Whirl using Different Liquid Fuels *S.B. Hariharan, P.M. Anderson, Y. Hu, H. Xiao, M.J. Gollner, E.S. Oran*	1C01: Structure and thermal characterization of expanded intumescent coatings for fire protection *J. Kang, F. Takahashi, J.S. T'ien*	1D01: Ignition of B_4C and B Containing Solid Ramjet Fuel *J. Kalman, T. Hedman, E. Tolmachoff, T. Tran*	1E01: Theoretical and Numerical Analysis of Oscillatory Diffusion Flames *M. Miklavčič, I.S. Wichman*	1F01: Characterization of a Jet Above a Catalytic Combustor Using Wavelength Modulation Spectroscopy *T.R. S. Hayden, C. LaPointe, N.T. Wimer, J.D. Christopher, P.E. Hamlington, G.B. Rieker*	1G01: Observations of soot optical property characteristics using high-speed, multiple wavelength, extinction imaging in heavy-duty diesel sprays *K. Yasutomi, S.A. Skeen*	1H01: Variance consistent mean shift particle model for treating differential molecular diffusion in transported PDF methods for turbulent reactive flows *P. Zhang, H. Wang*	1J01: Study of auto-ignition and extinction characteristics of diesel blended with oxygenates in laminar opposed non-premixed flames *R. Khare, K. Narayanaswamy, V. Raghavan*	1K01: Effect of aromatic fuels on aromatic species and soot distributions in laminar, co-flow, non-premixed flames at atmospheric pressure. *A. Makwana, S. Iyer, M. Linevsky, R. Santoro, T. Litzinger, J. O'Connor*
09:30	1A02: Quantum chemical and kinetic modelling of methyl-vinyl+O2	1B02: Burning Behavior of a Pool Fire on a Water Layer with a Thin Metal Wool *H. Sezer, K.S. Arsava, A.S. Rangwala*	1C02: Flame spread over a fire resistant fabric under external heating *M. Thomsen, X. Huang, A. Alonso, C. Fernandez-Pello, D.L. Urban, G.A. Ruff*	1D02: Enhancement of HTPB Combustion in a Hybrid Rocket Motor Using Amorphous Ti–Al–B Nanopowder	1E02: Intermittency in Turbulent Premixed Hydrogen-Air Flames *S. Whitman, A.Y. Poludnenko, P.E. Hamlington*	1F02: A New Diagnostic for Hydrocarbon Fuels using 3.41-μm Diode Laser Absorption *S. Wang, T. Parise,*	1G02: Soot and Spectral Radiation Modeling for a High-Pressure Turbulent Spray Flame *S. Ferreyro Fernandez, C. Paul,*	1H02: Joint scalar probability density function modeling for multiscalar turbulent mixing	1J02: The effect of residence time on the ignitability of ethylene and air mixtures in a toroidal jet-stirred reactor	1K02: Detailed Modelling of CO2 Addition Effects on the Evolution of Soot Particle Size Distribution Functions in

	reaction *X. Chen, C.F. Goldsmith*			Additives *T.L. Connell Jr., Z.J. Huba, A. Epshteyn, R.A. Yetter, B.T. Fisher*		*D.F. Davidson, R.K. Hanson*	*A. Sircar, A. Imren, D.C. Haworth, S. Roy, M.F. Modest*	*B.A. Perry, M.E. Mueller*	*R.D. Stachler, J.K. Lefkowitz, T.M. Ombrello, S.D. Stouffer, J.S. Heyne, J.D. Miller*	Premixed Laminar Ethylene Flames *A. Naseri, A. Veshkini, M.J. Thomson*
09:50	1A03: Inference of H_2O_2 thermal decomposition rate parameters from experimental statistics *T.A. Casey, M. Khalil, H. Najm*	1B03: Large-scale Wind-tunnel Experiments and Numerical Study on Moving-type Fire Whirls *K. Kuwana, T. Suzaki, K. Sekimoto, Y. Nakamura, K. Saito*	1C03: Characterization of thermal degradation behavior for polymers containing reactive flame retardants: Application to glass fiber reinforced polyamide 66 blended with red phosphorous *Y. Ding, S.I. Stoliarov, R.H. Kraemer*	1D03: Temperature Sensitivity and High-Pressure Characteristics of Nano-Sized Additives in AP/HTPB-Composite Propellants *C.A.M. Dillier, A.R. Demko, J.M. Stahl, T. Sammet, E.L. Petersen*	1E03: Analytical study on near-field entrainment in a transient turbulent free jet *M.E. Feyz, R. Nalim, J.P. Gore, A. Tarraf*	1F03: A Bayesian Processing Model for High Speed, Transient Engine Exhaust Characterization *D. Wilson, C. Allen*	1G03: Reducing the Emissions and Efficiency Penalties of Low Temperature Combustion (LTC) through Low Heat Rejection (LHR) *T. Kroeger, T. Jacobs*	1H03: A co-located particle method for transported PDF simulations of coal flames *J. Cai*	1J03: Autoignition of Jet Fuels and Surrogates in Nonpremixed Flows at Elevated Pressures *G. Mairinger, A. Frassoldati, A. Cuoci, E. Pucher, K. Seshadri*	1K03: Electronic properties of polycyclic aromatic hydrocarbons and their derivatives *D. Chen, H. Wang*
10:10	1A04: Criteria of filtering the best set of kinetic parameters from the literature database *M. Ferreira Martins, F.H. Sepúlveda Palm*	1B04: Thermal and Flow Structures of a Porous Burner Flame and an Array of Micro Flame Burners: Implications to Simulate Large Scale Mass Fires and Fire Whirls in Laboratory *A.A. Salaimeh, T. Hirasawa, M. Fuchihata, N. Akafuah, K. Saito*	1C04: Kinetics Effect on Carbon Monoxide Yield in Burning of Polymeric Solids Containing Flame Retardants *H. Guo, R.E. Lyon, N. Safronava, R.N. Walters, S. Crowley*	1D04: Assembly and Encapsulation of Aluminum NP's within AP/NC Matrix and their Reactive Properties *H. Wang, R.J. Jacob, J.B. DeLisio, M.R. Zachariah*	1E04: A jet-stirred chamber for combustion in homogeneous, isotropic, near-zero mean flow turbulence. *A.A. Davani, P.D. Ronney*	1F04: Measurements of low concentration hydrocarbons at elevated temperatures and pressures using supercontinuum laser absorption spectroscopy *M. Halloran, N. Traina, T. Lee, J. Yoo*	1G04: Role of Turbulence-Chemistry Interactions at Low Temperature Engine Conditions *P. Kundu, M. Ameen, S. Som*	1H04: Propagation of Kinetic Uncertainty through Surrogate Subspace in Combustion Simulations *W. Ji, J. Wang, B. Yang, Z. Ren, C.K. Law*	1J04: Multi-Modal Counterflow Flame Structure under Autoignitive Conditions *T. Grenga, M.E. Mueller*	1K04: Flame temperature effect on the transition between soot and graphitic carbon products in premixed stagnation flames *J. Bonpua, J. Camacho*
10:30 – 10:50 BREAK										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics II *Session Chair:*	Fire II *Session Chair:*	Suppression/ Protection II *Session Chair:*	Heterogeneous Combustion II *Session Chair:*	Micro-Combustion/ New Concepts I *Session Chair:*	Diagnostic II *Session Chair:*	Coal Chemistry *Session Chair:*	Turbulent Flame Models I *Session Chair:*	Extinction and Ignition *Session Chair:*	Stationary Combustion Systems *Session Chair:*
10:50	1A05: HONO decomposition kinetics *C.F. Goldsmith*	1B05: Large-Scale Diesel Pool Fire Modeling	1C05: Models for Absorption and Scattering	1D05: Combustion Behavior of Surface	1E05: Effects of Non-Equilibrium Plasma	1F05: Shock Tube Study of Jet Fuel Pyrolysis and	1G05: PREDICTING THE CONVERSIO	1H05: Comparative Analysis of	1J05: Chemical explosive mode analysis on extinction	1K05: A Modeling Tool for Household Biogas Burner

		C. Cao, M. Corn, V. Sankaran	of Radiation by Water Droplets in Fire Suppression Environments *A. Gupta, K.V. Meredith, Y. Wang, M. Chaos*	Functionalized Aluminum Nanoparticle Dispersions in Kerosene *M.N. Bello, D.K. Smith, M. Pantoya*	Discharge on Ignition and LTC of DME/O2/Ar Mixtures: A Numerical Investigation *Y. Zhang, S. Yang, W. Sun, V. Yang*	Ignition at Elevated Pressure *J. Shao, Y. Zhu, S. Wang, D.F. Davidson, R.K. Hanson*	N EFFICIENCIES OF ANY COAL TYPE IN CFBCS *S. Niksa, Y. Sakurai, N. Fujiwara*	Methods for Heat Losses in Physically-Derived Reduced-Order Manifolds *A.C. Nunno, T. Grenga, M.E. Mueller*	of 1-D premixed counterflow flames *J.-W. Park, T. Lu*	Flame Port Design *T. Decker, M. Baumgardner, T. Bradley, J. Prapas*
11:10	1A06: Automated transition state theory calculations of abstraction reactions by hydroperoxyl, compared to literature model values *N. Harms, B. Slakman, J. Cain, R.H. West*	1B06: A Model for Fire-Whirl Movement along Fire Lines *K. Kuwana, K. Saito, F.A. Williams*	1C06: Firefighting Nozzle Reaction and Hose Tension *S.K. Chin, G. Jomaas, P.B. Sunderland*	1D06: Combustion Characteristics of Hydrocarbon Droplets Induced by Photoignition of Aluminum Nanoparticles *A. Badakhshan, J.W. Bennewitz, D.G. Talley*	1E06: Plasma-Assisted Combustion in Spray Flames at Elevated Temperatures and Pressures *F.G. del Campo, D.E. Weibel, C. Wen, F. Takahashi*	1F06: FTIR absorption cross section measurements of Organo Phosphorus Compounds *S. Neupane, C.E. Bishop, R. Peale, S. Vasu*	1G06: Modeling Soot in Coal Systems *A.J. Josephson, T.H. Fletcher, D.O. Lignell*	1H06: Turbulent spray combustion modeling using flamelet generated manifolds and direct integration of reaction rates *A. Goyal, O.S. Abianeh, L. Bravo*	1J06: Flame Quenching Dynamics in a Rectangular Cross Section Channel for Different Velocity Regimes *A.M. Mahuthannan, D.A. Lacoste, J. Damazo, E. Kwon, W.L. Roberts*	1K06: The effects of inert-placement (Z_{st}) on soot and radiative heat flux in turbulent diffusion flames *A. Gopan, Z. Yang, B.M. Kumfer, R.L. Axelbaum*
11:30	1A07: Importance of Pericyclic Reactions for Biomass Pyrolysis and Combustion *P.R. Westmoreland, A. Bose, C.J. McGill*	1B07: Numerical description of fire-whirl dynamics over liquid fuel pools *W. Coenen, D. Moreno-Boza, A.L. Sánchez, F.A. Williams*	1C07: An Analytical Framework for Fire Sprinkler Plume Penetration *E. Link, H. Baum, A. Marshall*	1D07: Investigating the Reaction Mechanism of Al/PVDF Films at 1 atm *M.C. Rehwoldt, J.B. DeLisio, H. Wang, M.R. Zachariah*	1E07: Reduction of Flame Development Time Using Nanosecond-Pulsed High-Frequency Discharges in Flowing Mixtures *J.K. Lefkowitz, T. Ombrello*	1F07: Hyperspectral Imaging Diagnostics of a Laminar Hydrogen Flame *M.R. Rhoby, K.C. Gross*	1G07: Formation of Acid Gases from Co-firing of Coal with Raw and Torrefied Biomasses *E. Rokni, A. Panahi, Y.A. Levendis*	1H07: Physically-Derived Reduced-Order Manifolds for Multi-Modal Turbulent Combustion *M.E. Mueller*	1J07: Quenching, Ignition, Flame Propagation, and Extinction in Hot-Spots at Elevated Temperature and Pressure *J. Santner, S.S. Goldsborough*	1K07: Laser-Optical Investigation of Highly Radiative, High Temperature Homogeneous Combustion *K. Aanjaneya, W. Cao, Y. Chen, A. Atreya*
11:50	1A08: Reaction Mechanisms of R and QOOH Radicals Produced in Low-Temperature Oxidation of Butanone *R.L. Caravan, B. Rotavera, E. Papajak, I.O. Antonov, K. Ramasesha, J. Zádor, D.L. Osborn, C.A. Taatjes*	1B08: An experimental study of the flame intermittent frequencies of wind-driven line fires *W. Tang, M. Finney, S. McAllister, M. Gollner*	1C08: Mechanisms for fire suppression with aqueous foams and the role of surfactants *R. Ananth, K. Hinnant*	1D08: Ignition and Combustion Characteristics of Al/RDX/NC Nanostructered Microparticles *G. Young, D.P. Wilson, J.B. DeLisio, M.R. Zachariah*	1E08: Low Temperature Kinetics of Pentane Oxidation in a Nanosecond-pulsed Plasma Discharge *A. Rousso, X. Mao, Y.Ju*	1F08: Fourier Transform Microwave Spectroscopic Studies of Dimethyl Ether and Ethylene Flames *N. Hansen, J. Wullenkord, D.A. Obenchain, K. Kohse-Höinghaus, J.-U. Grabow*	1G08: Reducing Pollutant Emissions in a Wood Burning, Natural Draft Cookstove Using Lab-Based Fire Power Sweep Measurements *G. Allawatt, D. Udensen, A. Pundle, B. Sullivan, C. Garland, M. Johnson, P. Means, J. Kramlich, J.D. Posner*	1H08: Effect of numerical approaches for flamelet table integration on flamelet modeling of a turbulent jet flame and a self-excited resonance combustor *C. Han, T. Pant, H. Wang*	1J08: Experimental Investigation of Laminar Premixed Methane-Air Flame Extinction with Sand and Sodium Bicarbonate Particles *S. Ranganathan, D. Petrow, S. Rockwell, A.S. Rangwala*	1K08: kW Scale Combustor for Power Generation *A. Frank, P. Therkelsen, J.-Y. Chen, R.K. Cheng*

12:10	1A09: An updated comprehensive chemical kinetic model of C8-C20 n-alkanes. *G. Kukkadapu, S.W. Wagnon, M. Mehl, K. Zhang, C.K. Westbrook, W.J. Pitz, M.J. Mcnenly, S.M. Sarathy, A. Rodriguez, O. Herbinet, F. Battin-Leclerc, C.-J. Sung*	1B09: Measured and simulated temperature statistics in a buoyancy-driven turbulent line fire *S. Verma, J. White, E. Keller, A. Marshall, P. Sunderland, A. Trouvé*	1C09: Development of an analytical AFFF formulation for the evaluation of alternative surfactants *K. Hinnant, A. Snow, J. Farley, S. Giles, R. Ananth*	1D09: Effect of Milling Temperature on Structure and Reactivity of Al-Ni Composites *O.S. Lagoviyer, M. Schoenitz, E.L. Dreizin*	1E09: Ignition and Flame Propagation Enhancement by Dual-Pulsed Laser-Induced Breakdown *L. Wermer, J.K. Lefkowitz, T. Ombrello, S.-k. Im*	1F09: Combined Laser Absorption and Gas Chromatography (GC) Speciation in a Shock Tube: Validation and Application to Ethylene Pyrolysis *A.M. Ferris, D.F. Davidson, R.K. Hanson*	1G09: Ignition of a dispersed coal particle stream and measurement of ultrafine particle size distributions *A. Adeosun, Q. Huang, T. Li, X. Wang, A. Gopan, Z. Yang, S. Li, R.L. Axelbaum*	1H09: Modeling effective Lewis numbers in non-premixed flames: insights from DNS data of Sandia flame B *N. Burali, G. Blanquart*	1J09: The Influence of Stoichiometric Mixture Fraction on Extinction of Laminar, Nonpremixed DME Flame *M. Hunyadi-Gall, G. Mairinger, R. Khare, K. Narayanaswamy, V. Raghavan, K. Seshadri*	1K09: A Study of Radiative Flameless Combustion in a Furnace *A. Atreya, H.R. Baum*
12:30 – 13:30 Section Meetings Lunch Please report to your Section meeting rooms: Eastern States Section: LOCATION Central States Section and International Members: LOCATION Western States Section: LOCATION										
NSF Panel: Combustion and Fire Systems Program (Song-Charng Kong, Program Director) 13:30 – 14:10 LOCATION										
14:10 – 14:15 TRANSITION TO AFTERNOON SESSIONS										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetic III *Session Chair:*	Fire III *Session Chair:*	Droplets/Spray I *Session Chair:*	Computational Analysis I *Session Chair:*	Micro-Combustion/ New Concepts II *Session Chair:*	Soot Diagnostics *Session Chair:*	Coal Combustion on Modeling *Session Chair:*	Turbulent Flame Models II *Session Chair:*	Laminar Flames I *Session Chair:*	Detonation I *Session Chair:*
14:15	1A10: Kinetic Study of Low Temperature Oxidation of N-pentane with Nitric Oxide Addition in a Jet Stirred Reactor *H. Zhao, L. Wu, C. Patrick, Z. Zhang, Y. Rezgui, G. Wysocki, Y. Ju*	1B10: Modeling Thermal Runaway in Lithium-ion Packs as a Function of Scale and Heat Source *R.C. Shurtz, J.C. Hewson*	1C10: Drop Bouncing on Liquid Film: Evolution of Gas Layer *X. Tang, A. Saha, C.K. Law, C. Sun*	1D10: Uncertainty of a Foundational Fuel Chemistry Model *Y. Tao, G.P. Smith, H. Wang*	1E10: Exploring the Mechanisms of Spontaneous Combustion of H2/O2 in Nanobubbles Generated by Water Electrolysis *S. Jain, L. Qiao*	1F10: Estimating soot primary particle diameter using time-resolved laser-induced incandescence *J.P. Abrahamson, M. Singh, R.L. Vander Wal*	1G10: Large Eddy Simulation of Dynamic Ash Deposition in a Pulverized Coal Boiler M. Zhou, B. Isaac, S.T. Smith, J.N. Thornock, P.J. Smith	1H10: CFD Modeling of a Homogeneously Charged Turbulent Jet Ignition System using Large Eddy Simulations *M. Gholamisheeri, E. Toulson*	1J10: Fuel wall film effects on premixed flame propagation, quenching and emission *H. Ge, P. Zhao*	1K10: Simulations of the Linear Model Detonation Engine *D. Schwer, K. Kailasanath, J. Burr, K. Yu*
14:35	1A11: Effect of stereoisomeric structure and bond location	1B11: A Formulation for the Mechanisms of	1C11: Bouncing to Merging Transition in Drop Impact on Liquid Film:	1D11: ChemKED: a human- and machine-	1E11: Flame Propagation Through Converging-	1F11: Repeatability and reproducibility	1G11: Development of a Neural Network Model for	1H11: On the Comparison of Finite-Rate Kinetics and Flamelet Based	1J11: Acoustic Suppression of Alkane Fueled Line-Flames	1K11: Detailed Comparison of High-order and Low-order Methods for

	on the ignition and reaction pathways of hexenes *C. Liu, C.L. Barraza-Botet, S.W. Wagnon, M.S. Wooldridge*	Flashover in Spreading Room Fires *J.G. Quintiere*	Role of Viscosity *X. Tang, A. Saha, C.K. Law, C. Sun*	readable data standard for chemical kinetics experiments *B.W. Weber, K.E. Niemeyer*	Diverging (C-D) Microchannels *S. Biswas, L. Qiao*	of semi-automated measurements of soot primary particle size distributions from TEM images *P.M. Anderson, H. Guo, P.B. Sunderland*	Prediction of Methane Number of Producer Gas Mixtures *D. Wise, R. Seiser, R. Cattolica, D.B. Olsen*	Subgrid Models for LES of Turbulent Premixed Flame *M. Rieth, R. Ranjan, S. Menon, A. Kempf*	*A.N. Friedman, S.I. Stoliarov*	Simulating DDT in Obstacle-laden Channels *H. Xiao, V.N. Gamezo, R.W. Houim, C.R. Kaplan, E.S. Oran*
14:55	1A12: Mechanistic Analysis of *n*-Propylcyclohexane and *n*-Butylcyclohexane Oxidation in Low Temperature Regime *J.A. Corrubia, N.P. Cernansky, D.L. Miller*	1B12: Comparison of thermal decomposition models in chaparral fuels *D.R. Weise, W.E. Mell, X. Zhou, S. Mahalingam*	1C12: Simulation of Drop Impact on a Hot Wall using SPH Method with Peng-Robinson Equation of State *M. Ray, X. Yang, S.-C. Kong*	1D12: Analysis of the errors associated with molecular transport parameters in combustion modeling and their effects on one-dimensional flame simulations *D.I. Pineda, X. Shi, T.A. Casey, J.-Y. Chen*	1E12: Rich-burn, Quick-mix, Lean-burn Combustor with Flame-assisted Fuel Cells *R.J. Milcarek, M.J. Garrett, J. Ahn*	1F12: Extinction Measurements Near 3.0 Micrometers in Nitrogendiluted, Ethylene, Non-Premixed Flames *R.S. Jacobson, D.M. Bailey, E.M. Adkins, J.H. Miller*	1G12: Predicting the Performance of a Natural Draft Cookstove for the Developing World using Computational Fluid Dynamics *A. Pundle, B. Sullivan, G. Allawatt, J. Kramlich, J. Posner*	1H12: High-Fidelity Simulation of Combustion Processes in Liquid Rocket Engines *X. Wang, V. Yang*	1J12: Extracting length scales of a thermodiffusively unstable laminar Flame *J. Schlup, G. Blanquart*	1K12: Optimization of Chemical-Diffusive Models for Deflagration-to-Detonation Transition Calculations *C. Kaplan, W. Zheng, H. Xiao, R. Houim, E. Oran*
15:15	1A13: Autoignition of *trans*-Decalin, a Diesel Surrogate Compound: Rapid Compression Machine Experiments and Chemical Kinetic Modeling *M. Wang, G. Kukkadapu, K. Zhang, W.J. Pitz, C.-J. Sung*	1B13: Modeling Porous PMDI-based Polyurethane Foam Decomposition in Pressurizing Systems *S.N. Scott, R.M. Keedy, V.E. Brunini, A.B. Dodd*	1C13: Secondary Breakup of Liquid Drops in an Accelerating Flow at High Weber Numbers *N. Ciarlini, M. Gamba*	1D13: Evaluating Multi-Component Pressure Dependence of Mixture Rules for Multi-Well Multi-Channel Reacting Systems *L. Lei, M.P. Burke*	1E13: Biogas Combustion Characterization for Flame Fuel Cell Utilization *M.J. Garrett, R. Falkenstein-Smith, R.J. Milcarek, J. Ahn*	1F13: Chemical Composition of Carbon Inksticks Revealed through Raman Spectroscopy *J.A. Giaccai, J.H. Miller*	1G13: Coupling an explicit low-Mach projection scheme to various chemistry models and interphase source terms *J. McConnell, T. Saad, J.C. Sutherland*	1H13: Accounting for real gas effects in CFD simulations of high density combustion *C. Zheng , D. Coombs, B. Akih-Kumgeh*	1J13: Structure of Nonpremixed Swirl-Type Tubular Flames Burning Condensed Fuels with Unity Lewis Numbers *V.M. Sauer, F.F. Fachini, D. Dunn-Rankin*	1K13: Role of Low-Temperature Chemistry in Detonation of n-Heptane/Oxygen/Diluent Mixtures *W. Liang, R. Mével, C.K. Law*
15:35	1A14: New and realistic pathways from cyclopentadiene (CPD) to naphthalene, phenanthrene, and other soot precursors *A.E. Long, C.A.*	1B14: Radiation characteristics of fire-inspired heterogeneous mixtures: a Monte Carlo ray tracing study *B. Wu, X. Zhao*	1C14: Fuel Vapor Cloud Formation During and After Low Temperature Droplet Burning in Microgravity *D.L. Dietrich, V.*	1D14: Automated Discovery of Non-Boltzmann Bimolecular Pathways in NO_x Formation *M. Barbet, K. McCullough, M.P. Burke*	1E14: Micro-Combustion of Gaseous Fuels in the FREI Regime *I. Schoegl, P. Sharma, M.J. McNenly*	1F14: Dual-Pump Coherent Anti-Stokes Raman Scattering Measurements in Sooting Ethylene Diffusion Flames	1G14: Validation and uncertainty quantification analysis (VUQ) of a char oxidation model *O. Díaz-Ibarra, J.*	1H14: Hierarchical Model Form Uncertainty Quantification for Turbulent Combustion Modeling *M.E. Mueller*	1J14: Dynamics of Pulsating Planar Premixed Flames. *J. Graña-Otero, A. Liñán*	1K14: Magnetic Reconnection Detonation in Supernova Remnants *H. Zhang, Y. Gao, C.K. Law*

	Grambow, A.G. Vandeputte, S.S. Merchant, W.H. Green		*Nayagam, F.A. Williams*			Stabilized on a Yale burner *A. Satija, A. Lowe, L. Thomas, A.R. Masri, R.P. Lucht*	*Spinti, P. Smith, C. Shaddix, E. Hecht*			
15:55 – 16:15 BREAK										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics IV *Session Chair:*	Fire IV *Session Chair:*	Droplets/Spray II *Session Chair:*	Computational Analysis II *Session Chair:*	IC Engine Modeling *Session Chair:*	Diagnostics III *Session Chair:*	Biomass Combustion *Session Chair:*	Turbulent Flame Propagation *Session Chair:*	Laminar Flame Propagation I *Session Chair:*	Detonation II *Session Chair:*
16:15	1A15: Atomistic scale investigation of PAH curvature effects on soot oxidation *A. Jain, A. C.T. Van Duin*	1B15: Thermogravimetric Analysis and Modeling of NOMEX Fabric Pyrolysis *Y. Li, Y.-T. T. Liao*	1C15: Comprehensive Study of the Initial Diameter for Combustion of *n*-Heptane/*iso*-Octane Mixture Droplets *Y. Xu, T. Farouk, Y. Shen, M.C. Hicks, C.T. Avedisian, Y. Xie, A.P. Reeves, F.L. Dryer*	1D15: A midpoint-rule-based extrapolation solver for combustion CFD *A. Imren, D C. Haworth*	1E15: A Numerical Investigation of CO Formation and Consumption Pathway in a Diesel Engine *Y. Li, H. Li, J. Guo*	1F15: Measurement of Carbon Monoxide (CO) in Sooting Flames Using Femtosecond Two-Photon Laser-Induced Fluorescence (fs-TPLIF) *Y. Wang, W. Kulatilaka*	1G15: Effect of water-leaching on the fine particle formation during biomass combustion *X. Wang, A. Adeosun, Z. Hu,T. Li, H. Tan, R.L. Axelbaum*	1H15: Effect of stoichiometric mixture fraction on hydrogen edge-flames in a counter-flow burner *Z. Zhou, P.D. Ronney*	1J15: Unsteady deflagration speed in an auto-ignitive DME/Air mixture at NTC conditions *S. Desai, R. Sankaran, H.G. Im*	1K15: Investigation of Flame Acceleration in Gaseous and Liquid Fuels in the Sandia/Purdue 20 ft. Combustion Tube Facility *T.J. Graziano, P.B. Venkatesh, S.P. M. Bane, S.E. Meyer, M.C. Grubelich*
16:35	1A16: Computations of Physical and Electronic Structure of Stacks of Polynuclear Aromatic Hydrocarbons of Varying Topologies *J.A. Giaccai, E.M. Adkins, J.H. Miller*	1B16: Numerical study of pyrolysis and combustion of a carbon fiber-epoxy composite *H. Koo, A.L. Brown, T. Voskuilen, F. Pierce*	1C16: Extinction Characteristics of Isolate n-Alkane Fuel Droplets During Low Temperature Cool Flame Burning *T.I. Farouk, F.L. Dryer*	1D16: Modeling study of the anti-knock tendency of substituted phenols as additives *N.W. Yee, P. Zhang, S. Filip, C. Hetrick, B. Yang, W.H. Green*	1E16: Large Eddy Simulation of Dimethyl Ether (DME) Reacting Spray Flame in Compression Ignition (CI) Engine-Relevant Conditions *A.A. Moiz, K.D. Cung, L. Zhao, M.M. Ameen, S. Som, S.-Y. Lee*	1F16: High-Resolution OH and CH_2O Visualization in a Premixed Cavity-Anchored Ethylene-Air Flame in a M = 0.6 Flowfield *C.M. Geipel, R.D. Rockwell, H.K. Chelliah, A.D. Cutler, C.A. Spelker, Z. Hashem, P.M. Danehy*	1G16: Biomass Gasification Study Applied to Biomass Integrated Gasification Combined Cycle *G. Zang, S. Tejasvi, A. Ratner*	1H16: Turbulent Flame Speeds at High Pressures: Effects of Flamefront Instability *S. Yang, A. Saha, C.K. Law*	1J16: Effect of Higher Hydrocarbon Content on Laminar Burning Velocity and Flame Stability of Natural Gas *A.R.Khan, M.R.Ravi, A. Ray*	1K16: Experiments in the Linear Model Detonation Engine *J.R. Burr, K.H. Yu, D. Schwer, K. Kailasanath*
16:55	1A17: A comprehensive detailed kinetic mechanism for the simulation of transportation fuels *M. Mehl, K. Zhang, S. Wagnon, G.*	1B17: Pyrolysis and burning of leaf-like fuel by convective heating: A computational study *B. Shotorban, B. Yashwanth, S. Mahalingam, D.J.*	1C17: Cool Flame Combustion of Sub-Millimeter Sized Higher n-Alkane Droplets at Atmospheric Condition *F.E. Alam, F.L. Dryer, T.I. Farouk*	1D17: LOW-ORDER DISCRETE DYNAMICAL SYSTEM FOR JET DIFFUSION FLAME *W. Zeng, J.M. McDonough*	1E17: Modeling Radiative Heat Transfer and Turbulence-Radiation Interactions in Engines *C. Paul, A. Sircar, S. Ferreyro-Fernandez, A. Imren, D.C.*	1F17: High pressure effects on PLIF of a nonpremixed coflow flame *D. Escofet-Martin, Y.-C. Chien, D. Dunn-Rankin*	1G17: Predicting fast pyrolysis of biomass particles with different geometries *Y. Pan, S.-C. Kong*	1H17: Effect of Sodium Bicarbonate on the burning velocity of Premixed Turbulent Iron-Methane Air Flames *S.R. Rockwell, J. Taveau, D. Petrow*	1J17: Predicting Real Transportation Fuel Combustion Properties: Distinct Chemical Functionalities in Hydrocarbon	1K17: Experimental and numerical study of flame acceleration and transition to detonation in narrow channels *J. Melguizo-Gavilanes, R. Houim*

	Kukkadapu, C.K. Westbrook, W.J. Pitz, Y. Zhang , H. Curran, M. Al Rachidi, N. Atef, S.M. Sarathy	*Haring, P.R. Borujerdi*			*Haworth, S. Roy, W. Ge, M.F. Modest*				Laminar Burning Velocities *K. Dussan, F.L. Dryer, S.H. Won, S. Dooley*	
17:15	1A18: The Development and Validation of a Chemical Kinetic Model for Anisole, a Compound to Represent Biomass Pyrolysis Fuels *S.W. Wagnon, S. Thion, E. J.K. Nilsson, M. Mehl, Z. Serinyel, K. Zhang, P. Dagaut, A.A. Konnov, G. Dayma, W.J. Pitz*	1B18: Numerical Investigation of Fire Dynamics in the Presence of Burning Obstacles under a Unidirectional Wind *S.P. Kozhumal, G. Di Cristina, N.S. Skowronski, A. Simeoni, S.-k. Im, A.S. Rangwala*	1C18: Distillation-Resolved Evolution of Key Combustion Properties *J.A. Lefkowitz, F.M. Haas*	1D18: Modeling of Plasma Assisted Combustion in Alkali-Doped Methane Flames *J.E. Lynch, T.R. Sippel*	1E18: An assessment of CFD-based wall heat transfer models in piston engines *A. Sircar, C. Paul, S. Ferreyro-Fernandez, A. Imren, D.C. Haworth*	1F18: A simplified approach to multi-scalar imaging for turbulent premixed flames *A.W. Skiba, C.D. Carter, S.D. Hammack, T. Lee*	1G18: Torrefied Biomass Size for Combustion in Existing Boilers *A. Panahi, M. Tarakcioglu, Y.A. Levendis*	1H18: Premixed Syngas Flame Propagation in an Enclosed Constant Volume Chamber *Y.M. Najim, N. Müller, I.S. Wichman*	1J18: Uncertainty Reduction in Laminar Flame Speed Extrapolation from Expanding Spherical Flames *J. Huo, S. Yang, Z. Ren, C.K. Law*	1K18: Physics and Flame Structure of a Staged Transverse Jet and Pulsed Detonation in Supersonic Crossflow *Y.M. Abul-Huda, M. Gamba*
17:35	1A19: Experimental and kinetic modeling study of trans-methyl 2-octenoate oxidation using reaction rate rules from alkanes *K. Zhang, C. Togbé, P. Dagaut, W. Pitz, S. Wagnon*	1B19: Large Eddy Simulations of a turbulent wall fire and a turbulent line burner using FireFOAM *A. Marchand, S. Verma, H. Li, A. Trouvé*	1C19: A UNIFAC-based Approach to Gasoline Droplet Evaporation and the Role of Oxygenates on PM Precursor Vaporization *S. Burke, M. Ratcliff, R. McCormick, R. Rhoads, B. Windom*	1D19: A Quantum Mechanics Study on Early Decomposition Reactions for Liquid-phase HMX *L. Patidar, M. Khichar, S.T. Thynell*	1E19: Multi-cycle large eddy simulation to capture cycle-to-cycle variation (CCV) in spark-ignited (SI) engines *L. Zhao, A.A. Moiz, S. Som, N. Fogla, M. Bybee, S. Wahiduzzaman, M. Mirzaeian, F. Millo, J. Kodavasal*	1F19: Flame structure and chemiluminescence in premixed flames. *J. Graña-Otero, S. Mahmoudi*	1G19: Pseudo-components of hemicellulose and lignin for the kinetic modelling of biomass pyrolysis *K. Dussan, S. Dooley, R.F.D. Monaghan*	1H19: Lift-off of non-premixed turbulent CH4 jet flames at elevated pressures *T.F. Guiberti, W.R. Boyette, A.M. Elbaz, A.R. Masri, W.L. Roberts*	1J19: Laminar Flame Speeds of Dilute Sarin Simulants in H2-CH4-Air Mixtures *T. Sikes, N. Niemiec, W. Kulatilaka, E.L. Petersen*	1K19: Flame Acceleration and DDT in Ethylene/Nitrous Oxide at Elevated Pressures *P. B. Venkatesh, T.J. Graziano, S.P.M. Bane, S.E. Meyer, M.C. Grubelich*
17:55	1A20: Multidimensional Numerical Investigation of NO_x Formation in a Burner Coupled Flow Tube Configuration: NO_x Kinetics in Post, Pre and Flame Locations *S.F. Ahmed, A.*	1B20: Characterization of sloped ceiling jet flow using laser-assisted saltwater modeling technique *P.M. F. Maisto, A.W. Marshall, M.J. Gollner*	1C20: Subgrid Mixing and Evaporation Modeling in Large Eddy Simulation of Two-Phase Reacting Flows *A. Panchal, R. Ranjan, S. Menon*	1D20: Computational Analysis of RDX Thermolysis in Liquid State *M. Khichar, L. Patidar, S.T. Thynell*	1E20: Dynamic adaptive combustion modeling of diesel spray flames based on chemical explosive mode analysis *C. Xu, M.M. Ameen, S. Som, J.H. Chen, T. Lu*	1F20: Continuous wave CEMOR for measurement of HO_2 *M. Stichter, N. Cernansky, D. Miller*	1G20: Spontaneous Ignition of Hydrothermal Flames in Supercritical Ethanol/Water Solutions *M.C. Hicks, U.G. Hegde, J.J. Kojima*	1H20: Turbulent Flame Speed Measurements of Multi-Component Fuels *H. Johnson, II, D. Dasgupta, A. Steinbrenner, D. Wu, D. Noble, T. Asai, T. Lieuwen*	1J20: Laminar flame speeds of lean H_2/O_2/He at low and elevated pressures *W. Zhang, X. Gou, Z. Chen*	1K20: Effect of Combustion Products on Detonation Velocities *D.R. Bean, M.F. Zaiger, R. Nelke, P. Beck, I. Walters, D.L. Blunck*

	Dasgupta, F.L. *Dryer, T.I. Farouk*									

TUESDAY, 25 April 2017										
07:00 – 08:00 Continental Breakfast – LOCATION 07:00 – 16:00 Registration Open – LOCATION XX:XX – XX:XX Combustion Artwork is displayed in LOCATION XX:XX – XX:XX Sponsors are displayed in LOCATION Work in Progress Posters (Display Set up XX:XX – XX:XX, Poster Session XX:XX – XX:XX) – LOCATION **LOCATION** 07:55 Announcements: Arnaud Trouvé, University of Maryland, Local Host **08:00 – 09:00 Plenary Lecture** **Donald Truhlar, University of Minnesota** *Session Chair*: NAME									
09:00 – 09:10 TRANSITION TO MORNING SESSIONS										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics V *Session Chair:*	Fire V *Session Chair:*	Oxygenated Fuels I *Session Chair:*	Norbert Peters Memorial Session *Session Chair:*	Laminar Flames II *Session Chair:*	IC Engine Measurements *Session Chair:*	Turbulent Flame Measurements	DNS I *Session Chair:*	Soot in Laminar Flames II *Session Chair:*	Cool Flames *Session Chair:*

				F.A. Williams			I *Session Chair:*			
09:10	2A01: A new jet-stirred reactor for chemical kinetics investigations *A.A. Davani, P.D. Ronney*	2B01: Low Pressure Flame Blowoff from the Forward Stagnation Region of a Blunt-nosed Cast PMMA Cylinder in Axial Mixed Convective Flow *J. W. Marcum, P. Rachow, P. V. Ferkul, S.L. Olson*	2C01: Autoignition of Methyl Valerate at Low to Intermediate Temperatures and Elevated Pressures in a Rapid Compression Machine *B.W. Weber, J. Bunnell, K. Kumar, C.-J. Sung*	2D01: What Causes Hydrocarbon Autoignition? An Ongoing Debate *C.K. Westbrook*	2E01: Thermal-Diffusional Instability in White Dwarf Flames: Regimes of Flame Pulsation *G. Xing, Y. Zhao, M. Modestov, C. Zhou, Y. Gao, C.K. Law*	2F01: Spark and Laser Ignition of Iso-octane and Ethanol Blends *N.D. Peters, B. Akih-Kumgeh*	2G01: Effects of fuel properties on the structure of a turbulent bluff-body stabilized conical premixed flame *B.R. Chowdhury, B.M. Cetegen*	2H01: A novel flamelet-based model for 3D DNS of Mild combustion with CH_4/H_2 fuels *E. Abtahizadeh, J. van Oijen, R. Bastiaans, P. de Goey*	2J01: A numerical study of the effects of *n*-propylbenzene addition to *n*-dodecane on soot formation and aggregate structure in a laminar coflow diffusion flame *T. Zhang, M.J. Thomson*	2K01: Kinetic effects of *n*-propylbenzene on *n*-dodecane diffusion cool flame extinction *O.R. Yehia, C.B. Reuter, Y. Ju*
09:30	2A02: Investigation of pressure measurements in a high-pressure shock tube *M. Karimi, S. Carpenter, D. Ranjan, W. Sun*	2B02: The Saffire Experiment: Large-Scale Combustion aboard Spacecraft *P. Ferkul, D.L. Urban, S. Olson, G.A. Ruff, J. Easton, J.S. T'ien, Y.-T. T. Liao, A.C. Fernandez-Pello, J.L. Torero, G. Legros, C. Eigenbrod, N. Smirnov, O. Fujita, S. Rouvreau, B. Toth, G. Jomaas*	2C02: Development of a chemical kinetic mechanism for biodiesel Surrogate A.D. Lele, A. Krishnasamy, K. Narayanaswamy	2D02: The impact of thermal diffusion on the structure of non-premixed laminar flames *A. Scholtissek, F. Hunger, F. Dietzsch, C. Hasse*	2E02: The Impact of Pressure on Methane Combustion with CO2 dilution *K.R. V Manikantachari, S. Martin, J.O. Bobren-Diaz, S. Vasu*	2F02: The impact of carbon dioxide and water on single-pulse nanosecond discharge behavior at elevated density *B. Wolk, I. Ekoto*	2G02: Flame Stabilization Behavior of a Heated Reacting Premixed Jet in a Hot Vitiated Crossflow *J. Dayton, B.M. Cetegen*	2H02: DNS of spherically expanding turbulent premixed flames of pressurized lean methane/air mixtures in homogeneous isotropic turbulence *R. Buttay, T. Kulkarni, S. Luca, A. Attili, F. Bisetti*	2J02: On the Effects of Oxygen-Enrichment and Fuel Unsaturation on PAHs and Soot Emissions in Ethylene, Propane, and Propene Flames *K.C. Kalvakala, V.R. Katta, S.K. Aggarwal*	2K02: Experimental characterization of freely propagating propane cool flames at sub-atmospheric pressures *M. Hajilou, E. Belmont*
09:50	2A03: Laser absorption measurements of ethylene and carbon monoxide time-histories during n-heptane oxidation at low temperatures behind reflected shock waves *A.M. Tulgestke, D.F. Davidson, R.K. Hanson*	2B03: Emulation of condensed fuel flames using a Burning Rate Emulator (BRE) in microgravity *A. Markan, J.G. Quintiere, P.B. Sunderland, J. L. de Ris, D. P. Stocker*	2C03: A Detailed Cyclic Ether Oxidation Mechanism for Tetrahydrofuran Radicals: A Theoretical Study H. Wang, S.M. Sarathy	2D03: Constrained-Temperature Solutions of Coflow Laminar Diffusion Flames *N.J. Kempema, R.R. Dobbins, M.B. Long, M.D. Smooke*	2E03: Global and Local Response of Premixed Flames during Flame-Vortex Interactions under Distinct Configurations *P.L. K. Paes, J.G. Brasseur, Y. Xuan*	2F03: Comparing infrared emission from hydrocarbon C-H stretch during direct injection with and without reaction in an optical heavy duty engine *W.E. Eagle, G. Roberts, M. P.B. Musculus, L.-M. Malbec, L. Sequino, E. Mancaruso*	2G03: A detailed characterization of a high pressure experimental apparatus for flame dynamic studies *F. Di Sabatino, D.A. Lacoste, W.L. Roberts*	2H03: Direct Numerical Simulation of a Turbulent Nonpremixed "Cool" Flame *A.G. Novoselov, M.E. Mueller*	2J03: Effect of Distillate Fraction of Real Jet Fuel on Sooting Propensity – Part 1: Nascent Soot Formation in Premixed Stretch-Stabilized Flames *C. Saggese, A.V. Singh, J. Camacho, H. Wang*	2K03: The effects of CH_4 addition on DME non-premixed cool flames *R. Zhang, C.B. Reuter, Y. Ju*

10:10	2A04: End wall imaging of CO_2 diluted $CH_4/O_2/Ar$ ignition inside a shock tube *O. Pryor, S. Barak, E. Ninnemann, S. Vasu*	2B04: Time-resolved analysis of thermal failure of prismatic lithium ion batteries *A.O. Said, X. Liu, Z. Wu, C. Lee, S.I. Stoliarov*	2C04: Shock tube investigations of methyl tert butyl ether and methyl tetrahydrofuran high-temperature kinetics *S. Jouzdani, A. Zhou, B. Akih-Kumgeh*	2D04: A Theoretical Analysis of the First-Stage Ignition Delay in Hydrocarbon Oxidation Chemistry *C.K. Law, W. Liang*	2E04: The Effects of Reactant Dilution on Lengths of Laminar Gas Jet Diffusion Flames *Z. Wang, P.B. Sunderland, R.L. Axelbaum*	2F04: Chemical Imaging in a Diesel-Ignited Dual-Fuel Optical Engine Using High-Speed Infrared Narrowband Imaging *M.-A. Gagnon, E. Mancaruso, L. Sequino, P. Tremblay, S. Savary, E. Guyot, V. Morton*	2G04: Reaction zone detection and characterization from Raman/Rayleigh line measurements in methane/air flames *S. Hartl, D. Geyer, A. Dreizler, R. S. Barlow, C. Hasse*	2H04: A direct numerical simulation study of the quenching of jet fuel flame kernels subject to intense isotropic turbulence *A. Krisman, T. Lu, J.H. Chen*	2J04: Effect of Distillate Fraction of Real Jet Fuel on Sooting Propensity – Part 2: Soot Formation in Nonpremixed Counterflow Flames *X. Xue, C.-J. Sung, H. Wang*	2K04: Study of the Low-Temperature Reactivity of Large *n*-Alkanes through Cool Diffusion Flame Extinction *C.B. Reuter, M. Lee, S.H. Won, Y. Ju*
10:30 – 10:50 BREAK										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics VI *Session Chair:*	Fire VI *Session Chair:*	Coal Pyrolysis and Gasification *Session Chair:*	Norbert Peters Memorial Session *Session Chair: C. Hasse*	Laminar Flames III *Session Chair:*	IC Engines I *Session Chair:*	Turbulent Flame Measurements II *Session Chair:*	DNS II *Session Chair:*	Soot in Laminar Flames III *Session Chair:*	Laminar Flame Propagation II *Session Chair:*
10:50	2A05: Shock-Tube Measurements by Laser Absorption of CO and H_2O Time-Histories from Nitromethane Pyrolysis *O. Mathieu, C. Mulvihill, E.L. Petersen*	2B05: Ignition Kinetics of Combustible Solids *R.E. Lyon, N. Safronava, S. Crowley*	2C05: Co-gasification of Powder River Basin coal and biochar in carbon dioxide *E. Beagle, Y. Wang, D. Bell, E. Belmont*	2D05: Recent Advances in Understanding Quasi-Steady Droplet Combustion Supported by Cool-Flame Chemistry *F.A. Williams, D.L. Dietrich, V. Nayagam*	2E05: Enhanced Flame Ion Production Through External Electric Fields *J. Tinajero, G. Bernard, L. Autef, D. Dunn-Rankin*	2F05: Numerical and Experimental Investigation of Cyclic Variability of a Large Bore Spark-Ignited Natural Gas Engine *A. Mashayekh, J. Brown, T. Jacobs, M. Patterson, J. Etcheverry*	2G05: Simultaneous PIV and Formaldehyde PLIF Measurements in the Broadened Preheat – Thin Reactions layer regime *T.M. Wabel, A.W. Skiba, J.F. Driscoll*	2H05: Effects of pressure fluctuations on the combustion process in turbulent premixed flames *G. Beardsell, G. Blanquart*	2J05: Comparisons of Computed and Measured Soot Distribution in Ethylene/Hydrogen/Nitrogen Laminar Diffusion Flames *M. Yen, V. Magi, J. Abraham*	2K05: Premixed Flame Oscillations in Open Obstructed Channels *A. Adebiyi, A. Cathreno, D. Valiev, V. Akkerman*
11:10	2A06: A Shock Tube Laser Schlieren Study of Phenyl Chloride Pyrolysis *J. Lockhart, P.T. Lynch, C.J. Annesley, A.M. Mebel, S.J. Klippenstein, R.S. Tranter*	2B06: Investigation of Merging Flames in Horizontal and Vertical Geometries *M. Rhamati, M.-S. Safdari, E. Amini ,T.H. Fletcher*	2C06: Miscanthus Gasification in a downdraft gasifier *T. Sharma, D. Yepes, R. Nascimento, Y. Shi, G. Zang, A. Ratner, E.S. Lora*	2D06: The role of cool-flame dynamics in high-pressure spray ignition *R.N. Dahms, G.A. Paczko, S.A. Skeen, L.M. Pickett*	2E06: Simulations of a micro-liter fuel ignition tester *S. Lapointe, I. Schoegl, C. Druzgalski, M. McNenly*	2F06: A comparison of combustion dynamics for multiple 7-point lean direct injection combustor configurations *K.M. Tacina, Y.R. Hicks*	2G06: Experimental study of the effects of free stream turbulence on lean blowoff and near blowoff dynamics of a bluff-body stabilized conical premixed propane flame	2H06: Assessing the importance of multicomponent transport properties using direct numerical simulations of premixed, turbulent flames *A.J. Fillo, J. Schlup, G.*	2J06: Multi-angle light scattering for investigating soot particle/aggregate parameters in a counterflow flame at elevated pressures *H.M.F Amin, W.L. Roberts*	2K06: Characteristics of Lifted Laminar Flames of Methane Diluted With Nitrogen and Helium in Oxygen-Enhanced Co-Flow *P. Sharma, B.Y. Gebreyesus, A. Ray*

							B.R. Chowdhury, B.M. Cetegen	*Blanquart, K.E. Niemeyer*		
11:30	2A07: A Shock Tube Laser Schlieren Study of 1-Pentene Pyrolysis *J.B. Randazzo, C.J. Annesley, R.S. Tranter*	2B07: Measurement of Gas Temperatures in Buoyant Turbulent Diffusion Flames under Air and Reduced-oxygen Environments *G. Agarwal, D. Zeng, Y. Wang*	2C07: Crack Formation During Material Thermal Degradation in Combustion *Y. Nguyen, T.J. Pence, I.S. Wichman*	2D07: Turbulent Premixed Flames - Hydrodynamic Theory *M. Matalon*	2E07: Observations of Double Reaction Zones in Inverse Gas Jet Diffusion Flames *Z. Wang, P.B. Sunderland, R.L. Axelbaum*	2F07: Analysis of a Differential Stroke Cycle for High Fuel Efficiency *Z.B. Harris, J.A. Bittle, A.K. Agrawal*	2G07: The structure of turbulent premixed flames subjected to extreme turbulence and the development of a new measured regime diagram *A.W. Skiba, T.M. Wabel, C.D. Carter, S.D. Hammack, J.E. Temme, J.F. Driscoll*	2H07: Direct Numerical Simulation of a Turbulent Autoigniting *n*-Dodecane Jet at Low-Temperature Diesel Conditions *G. Borghesi, J.H. Chen, A. Krisman, T. Lu*	2J07: Soot Formation of Conventional and Alternative Jet Fuels in Counterflow Nonpremixed Flames *X. Xue, X. Hui, P. Singh, C.-J. Sung*	2K07: Flame Propagation in Narrow Channels at Varying Lewis Numbers *S. Shen, X. Ma, J. Wongwiwat, J. Gross, P. Ronney*
11:50	2A08: Thermal Pyrolysis of n-Dodecane in the Presence of Vitiates *K. Dang, G. Simms, H. Chelliah*	2B08: Mass-Loss Measurements on Solid Materials after Pulsed Radiant Heating at High Heat Flux *J.D. Engerer, A.L. Brown, J.M. Christian*	2C08: A Comprehensive Model for Predicting Elemental Composition of Coal Pyrolysis Products *A.P. Richards, T. Shutt, T.H. Fletcher*	2D08: A Concentric Flow Slot Burner for Turbulent Flames of Partially Premixed and Inhomogeneous Mixtures of Gaseous Fuels *M. Mansour, A. Masri, H. Pitsch, S. Kruse, M. Zayed, M. Senousi, M. Juddoo*	2E08: Extinction analysis of a methane-oxygen counterflow flame at high pressure *A.J. Juanós, W.A. Sirignano*	2F08: Combustion Instabilities of Ultra-Lean Premixed H_2/Air Mixtures by Prechamber Hot Jet Ignition *S. Biswas, L. Qiao*	2G08: Combustion Characteristics of GCH_4/GO_2 Coaxial Jet Flames at Low-temperature Injection Conditions in a Model Combustor *S. Choi, T.Y. Kim, H.K. Kim, O.C. Kwon*	2H08: Direct numerical simulation of premixed autoignition in non-linear subsonic and sonic compressible turbulence *C.A. Z. Towery, A.Y. Poludnenko, P.E. Hamlington*	2J08: Scaling of coflow flames at constant Reynolds and Grashof numbers with application to sooting flames at elevated pressure *A. Abdelgadir, S.A. Steinmetz, A. Attili, F. Bisetti, W.L. Roberts*	2K08: Propagation Velocities for Neighboring Triple Flames *S.W. Grib, M.W. Renfro*
12:10	2A09: Ab Initio Investigation of the Nitrosation Reactions of Hydroxylamine in Aqueous Solutions *K. Zhang, S.T. Thynell*	2B09: Moisture content effects on energy and emissions released during the combustion of pyrophytic vegetation from various regional ecosystems *N.A. May, E. Ellicott, M.J. Gollner*	2C09: Synergistic Effects in Steam Gasification of Combined Biomass and Plastic Waste Mixtures *K.G. Burra, A.K. Gupta*	2D09: Rate-Ratio Asymptotic Analysis of the Influence of Addition of Carbon Monoxide on the Structure and Mechanisms of Extinction of Nonpremixed Methane Flames *K. Seshadria, X.-S. Bai*	2E09: Effects of natural convection on critical conditions for thermal explosions in spherical vessels *D. Moreno-Boza, I. Iglesias, A.L. Sánchez, A. Liñán, F.A. Williams*	2F09: Working fluid replacement in gaseous direct-injection internal combustion engines: A fundamental and applied experimental investigation *M. Sierra-Aznar, D.I. Pineda, B.S. Cage, X. Shi, J.P. Corvello, J.-Y. Chen, R.W. Dibble*	2G09: Investigation of the Pilot Stagnation Region in a High Power Liquid-Fueled Combustor *R. Zhang, A.C. Pratt, R.P. Lucht, C.D. Slabaugh*	2H09: Modeling differential diffusion of strain-sensitive gas-phase species in turbulent nonpremixed sooting flames *J.K. Lew, M.E. Mueller*	2J09: Influence of Co-Directional, Axisymmetric Air Injection on Soot Generation Within a Laminar Pool Fire *T.J. Borth, S.K. Lakkundi, K. Arsava, S.P. Kozhumal, A.S. Rangwala*	2K09: Numerical study of thermal gas expansion influence on premixed flame propagation in a shear flow *H. Zhong, R. Feng, D. Valiev*
12:30 – 13:30 Lunch will be provided										

12:30 – 13:30 Women in Combustion Luncheon Location to be determined
12:30 – 13:30 USSCI Board Meeting

NASA Panel: The Microgravity Wind Tunnel: Come give your input on the research ideas and design of a new International Space Station facility for combustion research in low speed forced flow (Olson, Urban, Stocker)
13:30 – 14:10 LOCATION

14:10 – 14:15 TRANSITION TO AFTERNOON SESSIONS

Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics VII *Session Chair:*	Fire VII *Session Chair:*	Flame Spread I *Session Chair:*	Computational Analysis III *Session Chair:*	Micro-Combustion/ New Concepts III *Session Chair:*	IC Engines II *Session Chair:*	Turbulent Flames II *Session Chair:*	Laminar Flame Propagation III *Session Chair:*	Temperature Diagnostics I *Session Chair:*	Gas Turbine Combustion I *Session Chair:*
14:15	2A10: Evidence Supporting a Simplified Approach to Modeling High-Temperature Combustion Chemistry *R. Xu, H. Wang, D. F. Davidson, R. K. Hanson, C. T. Bowman, F. N. Egolfopoulos*	2B10: Investigating streak-like structures in boundary layer combustion via heated plates *C. Miller, M. Finney, S. McAllister, T. Grumstrup, E. Sluder, W. Tang, M. Gollner*	2C10: An Experimental Study of Upward Flame Spread over Wavy Thin Solids *J.S. T'ien, J. Jordan, Z. Wu, G. Nastac*	2D10: An iterative uncoupled quasi-steady-state method for dynamic chemical stiffness removal *C. Xu, T. Lu*	2E10: Catalytic Combustion Driven Thermal Transpiration Pump for Self-Sustaining Power Generation Devices *J. Wongwiwat, P.D. Ronney*	2F10: The Effect of Heavy Working Fluids on Hydrogen Combustion *M. Shahsavan, J.H. Mack*	2G10: Detailed transitional process of the flames in hot and diluted environments from lifted flames to MILD combustion *C. Liu, J. Zhang*	2H10: Effect of Surface Conditions on Fast Flame Acceleration in Obstructed Cylindrical Pipes *A. Adebiyi, D. Valiev, V. Akkerman*	2J10: A new method to compute the proper radiant heat transfer correction of bare-wire thermocouple measurements *C.R. Shaddix*	2K10: Investigation of initial droplet distribution and importance of secondary breakup model on lean blowout predictions of a model gas turbine combustor *J. Labahn, P.C. Ma, L. Esclapez, M. Ihme*
14:35	2A11: HyChem Model: Application to Petroleum-Derived Jet Fuels *R. Xu, D. Chen, K. Wang, Y. Tao, J.K. Shao, T. Parise, Y. Zhu, S. Wang, R. Zhao, D.J. Lee, F.N. Egolfopoulos, D.F. Davidson, R. K. Hanson, C. T. Bowman, H. Wang*	2B11: Enhanced Ignition Potential of Oxidizing Iron Sparks *J.L. Urban, D.C. Murphy, C. Fernandez-Pello*	2C11: Downward and Upward Spread of Smoldering Peat Fire *X. Huang, G. Rein*	2D11: Investigating stiffness detection metrics for chemical kinetics *A. Alferman, K.E. Niemeyer*	2E11: A Swiss Roll Style Combustion Reactor for Non-Catalytic Reforming *R. Zelinsky, J. Crawmer, B. Richard, C.-H. Chen, H. Pearlman*	2F11: Simulated Investigations of Low Heat Rejection Concepts Applied to Low Temperature Combustion *T. Li, J. Caton, T. Jacobs*	2G11: Stability and Liftoff of Non-premixed Large Hydrocarbon Combustion in MILD Conditions *E. Walters, P. Medwell, D.L. Blunck*	2H11: Methane-air triple flames in strained mixing layers *P. Rajamanickam, W. Coenen, A. L. Sànchez, F.A. Williams*	2J11: Demosaicing algorithms for the improvement of spatial resolution and accuracy in color ratio pyrometry *D. Giassi, M.B. Long*	2K11: Experimental investigation of boundary layer flashback in stratified swirl flames *R. Ranjan, N.T. Clemens*
14:55	2A12: Sensitivity to Experimental Uncertainty in Surrogate Descriptions of Aviation Fuels	2B12: Quantifying gas-phase ignition processes during the autoignition of	2C12: Experimental study of vertical upward flame spread and dripping behavior over polystyrene	2D12: Assessment of Stiffness Reduction in Chemical Reacting Systems	2E12: Thermal Transpiration Based Pumping and Power Generation *T.S. Welles, R.J. Milcarek, A.*	2F12: Effects of Confinement on Lean Direct Injection Combustion using an Air-Blast Atomizer	2G12: Turbulent Flame Speed Behavior in Lean Methane/Air Mixtures with Applications to	2H12: Analysis of Nonequidiffusive Premixed Flames in Obstructed Channels *A. Adebiyi, G.*	2J12: A Quantitative Schlieren System for Microgravity Flame Diagnostics	2K12: Chemical Functional Group Descriptor for Jet Fuel Surrogate *S.H. Won, F.M. Haas, S. Dooley, F.L. Dryer*

	P.B. Govindaraju, M. Ihme	wood *S. McAllister*	foams at different altitudes *X. Huang, G. Chen, W. Liu, J. Sun, M.J. Gollner*	Using Principal Component Analysis *E. Armstrong, M.A. Hansen, J.C. Sutherland*	*Baskaran, J. Ahn, P.D. Ronney*	*J. Allen, J. Kornegay, A.K. Agrawal*	Engines *Z. Wang, J. Abraham*	*Idowu, D. Valiev, V. Akkerman*	*S. Karn, F. Takahashi*	
15:15	2A13: Reduced HyChem Models for Jet Fuel Combustion *Y. Gao, T. Lu*	2B13: Semi-empirical Model for Fire Spread in Chamise and Big Sagebrush Shrubs with Spatially-Defined Fuel Elements and Flames *C. Shen, D.R. Prince, J. Gallacher, M.E. Fletcher, T.H. Fletcher*	2C13: Flame Spread and Dripping Behaviors in Horizontal and Vertical Wires *Y. Kobayashi, X. Huang, Y. Konno, S. Nakaya, M. Tsue, N. Hashimoto, O. Fujita, C. Fernandez-Pello*	2D13: SIMD-vectorized Chemical Source Term Evaluation *N. Curtis, C.-J. Sung*	2E13: Composite oxygen transport membrane reactors for oxy-fuel combustion processes *R. Falkenstein-Smith, M. Rushby, J. Ahn*	2F13: Single fuel RCCI combustion using reformed fuel *F. D.F. Chuahy, S.L. Kokjohn*	2G13: Simulation of the Evolution of Premixed Flame Kernels in a Turbulent Channel Flow *R. Ranjan, A. Panchal, B. Muralidharan, S. Menon*	2H13: Model development for laminar flame speed of stratified methane/air mixtures *X. Shi, J.-Y. Chen*	2J13: Visualization of Probe-Perturbed 2D Temperature Fields of Laminar Premixed Flames *N. Hansen, R.S. Tranter, K. Moshammer, J.B. Randazzo, J.P.A. Lockhart, T. Tao, A.L. Kastengren*	2K13: Experimental Study of the Effects of Hydrogen Addition on the Self-excited Thermoacoustic Instability *J. Zhang, A. Ratner*
15:35	2A14: Fuel Structure Effects on Surrogate Alternative Jet Fuel Combustion *G. Flora, J.P. Cain, M.S. P. Kahandawala, S.S. Sidhu*	2B14: Analysis of pyrolysis products from live shrub fuels *M.-S. Safdari, M. Rahmati, E. Amini, T.H. Fletcher*	2C14: Downward Flame Spread at Various Gravitational Levels in Vertical Narrow Channels *M. Saitta, F.J. Miller, S. Olson, I. Wichman*	2D14: Using Global Pathway to Understand Chemical Kinetics *X. Gao, W. Sun*	2E14: A Novel In-situ Combustion Concept for Hazardous Waste Clean Up *S. Arava, A.J. Walawalkar, K.S. Arsava, H. Sezer, A.S. Rangwala*	2F14: Intermediate Combustion Modes between Conventional Diesel Combustion and Reactivity-Controlled Compression Ignition *J. Martin, A. Boehman, R. Topkar, S. Chopra, U. Subramaniam, H. Chen*	2G14: Soot volume-fraction fields and kinematics of turbulent non-premixed jet flames burning jet fuel and its surrogates *O. Park, N.T. Clemens*	2H14: Impact of Thermal Expansion and Lewis Number on Premixed Flame Propagation in Channels with Adiabatic and Isothermal, Nonslip Walls *S.R. Shetty, S. Demir, D. Valiev, V. Akkerman*	2J14: Characterization of Different Microflame Burner Designs Seeded with TaN Particles through Emission Spectroscopy *Z. Diao, M. Winter, T. Hirasawa, K. Saito*	2K14: Experimental Characterization of Fuel-Dependent Resonance in a Representative Swirl Combustor *J.R. Monfort, S.D. Stouffer, T.H. Hendershott, E. Corporan, A. Caswell*
15:55 – 16:15 BREAK										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics VIII *Session Chair:*	Fire VIII *Session Chair:*	Flame Spread II *Session Chair:*	Computational Analysis IV *Session Chair:*	Micro-Combustion/ New Concepts IV *Session Chair:*	IC Engines III *Session Chair:*	Turbulent Flames III *Session Chair:*	Environmental Aspects I *Session Chair:*	Temperature Diagnostics II *Session Chair:*	Gas Turbine Combustion II *Session Chair:*
16:15	2A15: Combustion Kinetics of Conventional and Alternative Jet Fuels using a	2B15: Flame Scaling in Laboratory Fires Spreading with Wind and Slope	2C15: Experimental and theoretical study on downward flame spread over two parallel PMMA	2D15: Time Scale Analysis for Rate-Controlled Constrained-Equilibrium Constraint	2E15: An Innovative Volatile Organic Compound Incinerator *J. Crawmer, C.-H. Chen, B. Richard,*	2F15: Homogenous Charge Compression Ignition (HCCI) Operation with	2G15: Numerical Study of Auto-Ignition in a Liquid n-heptane Jet *S. Yellapantula, M. Bode, A.A.*	2H15: Grouped Monte-Carlo simulation of multicomponent aerosol dynamics in combustion	2J15: Temperature Measurements in a Turbulent Spray Flame Using	2K15: Model of Combustion Instabilities Within a Coupled Dual-Chamber to Explain

	Hybrid Chemistry (HyChem) Approach *K. Wang, R. Xu, T. Parise, J. K. Shao, D. J. Lee, A. Movaghar, D. F. Davidson, R. K. Hanson, H. Wang, C. T. Bowman, F. N. Egolfopoulos*	*M.A. Finney, J.D. Forthofer, T. Grumstrup*	slabs in different pressure environments *K. Zhao, L. Yang, W. Tang, M. Gollner*	Selection *F. Hadi, V. Yousefian, M.R. H. Sheikhi, H. Metghalchi*	*R. Zelinsky, H. Pearlman*	Navy Jet Fuel in a Waukesha Diesel CFR Engine *K. Bowes, M. Walker, L. Hamilton, D.L. Prak, J. Cowart*	*Mukundan, H. Pitsch*	processes *Z. Xiao, A. Adeosun, J. Zhuo, Q. Yao, R.L. Axelbaum*	Coherent Anti-Stokes Raman Scattering Spectroscopy *A.D. Tuesta, B.T. Fisher, S.G. Tuttle*	Trends Measured in a Gas Turbine Model Combustor *Y.T. Chen, J.F. Driscoll*
16:35	2A16: Evaluation of a Hybrid Chemistry Approach for Combustion of Blended Petroleum and Bio-derived Jet Fuels *K. Wang, R. Xu, T. Parise, J.K. Shao, D. F. Davidson, R. K. Hanson, H. Wang, C. T. Bowman*	2B16: Qualitative Flow Visualization of Flame Attachment on Slopes *T.P. Grumstrup, S.S. McAllister, M.A. Finney*	2C16: Correlating the burning rate with spread rate for downward flame spread over PMMA *S. Bhattacharjee, L. Carmignani, B. Rhoades*	2D16: Combustion simulation of Propane/Air mixtures using Rate-Controlled Constrained-Equilibrium *G. Yu, H. Metghalchi, O. Askari*	2E16: Manipulating turbulent mixing behavior through particle injection *G. Di Cristina, S.P. Kozhumal, A. Rangwala, S.-k. Im*	2F16: Flow Structure Comparison for two 7-Point LDI Configurations *Y.R. Hicks, K.M. Tacina*	2G16: Auto-ignition Dynamics of Pulsed Turbulent Hydrocarbon Fuel Jets Issuing into High-Temperature Vitiated Coflows *R. Saksena, J.A. Sutton*	2H16: Measurements and Prediction of Sooting Tendencies of Pure Hydrocarbons *D.D. Das, P. St. John, C.S. McEnally, S. Kim, L.D. Pfefferle*	2J16: First-stage Ignition Delay: Application of a Fast In-situ Temperature Sensor *E.F. Nasir, A. Farooq*	2K16: Stability Analysis of Multiple Reacting Wakes *J. Sebastian, B. Emerson, T. Lieuwen*
16:55	2A17: Shock-Tube Studies of Sarin Surrogates *O. Mathieu, W.D. Kulatilaka, E.L. Petersen*	2B17: Experimental Study of Anaerobic Pyrolysis of Poly(vinyl chloride) *J.D. Swann, Y. Ding, S.I. Stoliarov*	2C17: Gap Height Influence on Thin Fuel Flame Spread in a Narrow Channel *S. Hossain, G. Sidebotham, S.L. Olson, F.J. Miller, I.S. Wichman*	2D17: Capturing Component Interactions in a Reduced Multi-Component Fuel Mechanism *L. Backer, P. Pepiot*	2E17: The visualization and combustion characteristics of artificial methane hydrate flames *Y.-C. Chien, D. Dunn-Rankin*	2F17: Heat Loss from a Turbo-charged Spark Ignition Off-Road Engine Operated on Gaseous Fuels *A. Yao, X. Shi, H. Li, F. Xiao, T. Li, P. Zeng*	2G17: The Effect of Ozonolysis Activated Autoignition on Jet Flame Dynamics *X. Gao, W. Sun, T. Ombrello, C. Carter*	2H17: Smouldering Combustion as an Emerging Technology for Contaminated Site Clean-up: Computational Simulations *M.A. B. Zanoni, J.L. Torero, J.I. Gerhard*	2J17: Femtosecond Chirped-Probe-Pulse Coherent Anti-Stokes Raman Scattering Thermometry in a Piloted Spray Burner *L.M. Thomas, A. Lowe, A. Satija, R.P. Lucht, A. Masri*	2K17: Modal Analysis of Direct Core Noise in a Model Combustor *J. O'Brien, F. Bake, M. Ihme*
17:15	2A18: Meta-models for Ignition Delay Times with Applications to Surrogate Fuel Mixture Generation *R.A. Whitesides, M.J. McNenly*	2B18: Sensitivity of Smoldering Combustion to Cellulose and Hemicellulose Content *D.A. Cowan, B.D. Smucker, D.L. Blunck*	2C18: Transient Flame Growth and Spread Processes over Thin Solids in Concurrent Low-Speed Flows in Microgravity – a Comparison between Large and Small Sample Sizes *C. Li, Y.-T. T. Liao*	2D18: An improved pre-partitioned adaptive chemistry methodology for particle PDF methods *A.S. Newale, Y. Liang, P. Pepiot, S.B. Pope*	2E18: A LINK BETWEEN O2 DEFICIENT METABOLISM IN ORGANS and GROUP COMBUSTION IN ENGINEERING *K. Annamalai, M. Miller*	2F18: Combustion Process of a Turbocharged SI Natural Gas Engine Operated on Stoichiometric Mixture *H. Li, T. Gatts, S. Liu, S. Wayne, N. Clark, D. Mather*	2G18: Karlovitz number effects on velocity and scalar statistics in turbulent premixed combustion *J.F. MacArt, T. Grenga, M.E. Mueller*	2H18: Sooting Tendencies of Renewable Biofuels for Gasoline Direct-Injection Engines *A.J. Vella, C.S. McEnally, D.D. Das, L.D. Pfefferle*	2J18: Acoustic-based laser induced breakdown thermometry *W. Wu, A. Adeosun, R.L. Axelbaum*	2K18: Solid-State Electrochemical NO Sensor Performance in the Exhaust of a Commercial 60kW Gas Turbine *R. Ehlig, E. Sullivan-Lewis, V. McDonell*

17:35	2A19: A reduced chemistry model for multiple gasoline-ethanol surrogates by a Jacobian-aided DRGEP approach *Y. Chen, M. Mehl, J.-Y. Chen*	2B19: Development of a Mobile Medium Scale Dispersed Dust Flame Effects Testing Apparatus *S.R. Rockwell, D. Petrow, C. Hanks, E. Curran*	2C19: Opposed Flow Flame Spread over Thick Degrading Combustible Materials *Y. Chu, I.S. Wichman*	2D19: UConnRCMPy: Python-based data analysis for rapid compression machines *B.W. Weber, C.-J. Sung*	2E19: Design of Complex Reactors using Additive Manufacturing *P. R. Radyjowski, S. R. Newcomb, J.L. Ellzey*	2F19: Investigation of Substitution Limits and Emissions of an In-Line Six Cylinder Diesel-Natural Gas Dual Fuel Engine *R.H. Mitchell, D.B. Olsen*	2G19: Effects of Karlovitz number on Flame Surface Wrinkling in Lean Methane/Air Flames *Z. Wang, J. Abraham*	2H19: Variation in the size distribution of particles emitted from a biomass gasifier cookstove with operating mode *J. Tryner, J. Volckens, A.J. Marchese*	2J19: Quantitative 2D Temperature Imaging in Turbulent Nonpremixed Jet Flames using Filtered Rayleigh Scattering *T.A. McManus, J.A. Sutton*	2K19: Gas Turbine nvPM Formation and Oxidation Semi-Empirical Model for Commercial Aviation *J. Abrahamson, R. Vander Wal*
	19:00 – 21:00 Banquet Location to be Determined									

WEDNESDAY, 26 April 2017

07:00 – 08:00 Continental Breakfast – LOCATION
XX:XX – XX:XX Combustion Artwork is displayed in LOCATION
XX:XX – XX:XX Sponsors are displayed in LOCATION

LOCATION
07:55 Announcements: Arnaud Trouvé, University of Maryland, Local Host

08:00 – 09:00 Plenary Lecture
Jonathan Frank, Sandia National Laboratories
Session Chair: NAME

09:00 – 09:10 TRANSITION TO MORNING SESSIONS

Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics IX *Session Chair:*	Fire IX *Session Chair:*	Droplets/Spray III *Session Chair:*	Heterogeneous Combustion III *Session Chair:*	Laminar Flames IV *Session Chair:*	IC Engine Chemistry II *Session Chair:*	Combustor Design *Session Chair:*	Environmental Aspects II *Session Chair:*	Turbulent Flame Chemistry I *Session Chair:*	Oxygenated Fuels II *Session Chair:*

09:10	3A01: Ignition delay time measurements in a high repetition rate shock tube shock *A.R. Laich, P.T. Lynch*	3B01: Effects of Fuel Composition and Size on Ember Generation Characteristics for Wildland Fire Applications *T.R. Hudson, M. Carter, D.L. Blunck*	3C01: Fundamental Droplet and Combustion Measurements of Neat, Emulsified, and Weathered Crude Oil Spray *S.G. Tuttle, T.N. Loegel, K.M. Hinnant, A.D. Tuesta, B.T. Fisher*	3D01: Biocidal effectiveness of combustion products of reactive materials: a phenomenological model *S. Wang, M. Schoenitz, S.A. Grinshpun, E.L. Dreizin*	3E01: Computational Study of Laser Ignition of Premixed Fuel Air mixtures in a Rapid Compression Machine *S. Bhoite, C. Dumitrache, A. Yalin, A.J. Marchese*	3F01: Evaluation of Ethanol Substitution in Diesel Engines: On-Engine Laboratory Demonstration *C. Van Roekel, D.B. Olsen*	3G01: Design and characterization of a two-stage Hencken burner for combustion of solid fuels *A. Adeosun, Q. Huang, T. Li, S. Li, R.L. Axelbaum*	3H01: Optical Properties of Flame-Synthesized Carbon Nanoparticles *A.V. Singh, C. Liu, K. Wan, H. Wang*	3J01: Influence of large aromatic species on soot formation in turbulent non-premixed jet flames *A. Jain, Y. Xuan*	3K01: High-Pressure Autoignition of Binary Blends of Methanol and Dimethyl Ether *H. Wang, B.W. Weber, R. Fang, C.-J. Sung*
09:30	3A02: Autoignition of Low and High Octane Gasolines *A. Farooq, T. Javed, Ehson F. Nasir, C. Lee, A. Ahmed, H. Curran, S.M. Sarathy*	3B02: Flow Visualization of Buoyant Instability in a Cross-Flow: An Implication for Flame Spread over Forest Fuel Beds. *N.K. Akafuah, N. Gustenyov, A. Salaimeh, K. Saito, M. Finney, S. McAllister*	3C02: Investigation of Combustion Characteristics of Straight Vegetable Oil for a Novel Twin-fluid Fuel Injector *L. Jiang, O.S. Akinyemi, V. Danh*	3D02: Aerosol Synthesis of Phase Pure Iodine/Iodic Biocide Microparticles, and their performance as oxidizers in thermite systems *T. Wu, X. Wang, M.R Zachariah*	3E02: Comparative Study of Hybrid Multi-Timescale and G-Scheme Methods for MARCS with Detailed Chemical Kinetics *W. Sun, L. Wang, T. Grenga, Y. Ju*	3F02: Analysis of acoustic pressure response in hydrocarbon-oxygen strained diffusion flames *A.D. Weiss, W. Coenen, C. Jiménez, A.L. Sánchez, F.A. Williams*	3G02: Scaling and burner design concepts of a staged-pressurized oxy-combustion boiler *A. Gopan, Z. Yang, A. Adeosun, B.M. Kumfer, R.L. Axelbaum*	3H02: Ionization Energy of Flame-Synthesized Carbon Nanoparticles *C. Liu, K. Wan, A.V. Singh, H. Wang*	3J02: Effects of turbulent unsteadiness on aromatic species in a turbulent planar jet flame *A. Jain, P. Patki, Y. Xuan*	3K02: Influence of Blending *n*-Butanol with *iso*-Octane and *n*-Heptane on Ignition Delay Times in a Fuel Ignition Tester *Q. Xu, R. Leathers, D. Savage, K. Kumar, C.-J. Sung*
09:50	3A03: Ignition Delay Measurements for Alternative Jet Fuels at Mid to Low Temperatures *G. Flora, M.S. P. Kahandawala, M. DeWitt, E. Corporan*	3B03: On the Effect of Fuel Moisture Content on the Smoldering Ignition of a Natural Fuel by Firebrands *J. Song, J.L. Urban, N. Liu, C. Fernandez-Pello*	3C03: Effect of Iso-Pentanol on the Ignition and Combustion of N-Heptane/ and 1-Heptene Sprays *S. Sharma, S.K. Aggarwal*	3D03: Investigating the Relationship between the Atomic Properties of Doped Perovskite and Fuel-Oxidizer Thermite Ignition *X. Wang, T. Wu, M.R. Zachariah*	3E03: A Method for Measurement of Spatially Resolved Radiation Intensity and Radiative Fraction of Laminar Flames of Gaseous and Solid Fuels *C. Hamel, F. Raffan-Montoya, S. Stoliarov*	3F03: A kinetic modeling study on octane rating and fuel sensitivity under HCCI conditions *T. Wu, M. Tao, H. Ge, D. DelVescovo, P. Zhao*	3G03: A Transient State-Space Heat Transfer Model of Natural Draft Biomass Fueled Rocket Stoves *G. Allawatt, D. Udensen, A. Pundle, B. Sullivan, P. Means, N. Figliola, J. Kramlich, J.D. Posner*	3H03: Analyzing the Robustness of YSI as a Measure of Sooting Tendency *M.J. Montgomery, C.S. McEnally, D.D. Das, L.D. Pfefferle*	3J03: Effect of Low-Temperature Reactivity on the Turbulent Combustion of n-Octane/iso-Octane Mixtures in a Reactor-Assisted Turbulent Slot Burner *C.B. Reuter, O.R. Yehia, S.H. Won, Y. Ju*	3K03: Assessing the impact of reaction rate variation on autoignition model performance: butanol *K.E. Niemeyer, M.A. Mayer, S.K. Sirumalla, R. West*
10:10	3A04: Autoignition Behavior of Jet Fuel Relevant Pure Hydrocarbon Components in a Rapid Compression Machine	3B04: Thermo-Mechanical Breakage Mechanism of Firebrands *A. Tohidi, S. Caton, M. Gollner, N. Bryner*	3C04: Experimental Study of Dimethyl Ether (DME) in a Swirl-Stabilized Spray Combustor *J.E. Madero, R.L. Axelbaum*	3D04: Effect of purity and surface functionalization on stability and oxidation kinetics of boron powders *X. Liu, J. Gonzales, M. Schoenitz, E.L. Dreizin*	3E04: Understanding Crystal Phase Equilibrium of TiO_2 in Flames *C. Liu, J. Camacho, H. Wang*	3F04: Application of response surface methodology to investigate the hot-jet ignition of methane-hydrogen	3G04: Autoignition of Liquid Hydrocarbon Droplets in Lean, High Pressure Natural Gas Mixtures in a Rapid	3H04: Nanostructure As A Paradigm For Describing Carbon Structure, Interpreting Its Reactivity And Quantifying Its	3J04: Impact of fuel chemistry and stretch rate on the global consumption speed of large hydrocarbon fuel/air flames *A.J. Fillo, J.M.*	3K04: An experimental and theoretical kinetic study of the reaction of OH radicals with 1,4-dioxane *F. Khaled, B.R. Giri, M. Szőri, J.R. Barker, A. Farooq*

	K. Min, D. Valco, A. Oldani, T. Lee					mixtures in a constant-volume combustor *A. Tarraf, R. Ebrahimi, M.E. Feyz, R. Nalim*	Compression Machine *C. Gould, S. Bhoite, M. Baumgardner, J. Mohr, C. Dumitrache, A.J. Marchese*	Transformations *R.L. Vander Wal, J.P. Abrahamson, M. Singh, C.K. Gaddam, K. Yehliu, C.-H. Huang*	*Bonebrake, D.L. Blunck*	
10:30 – 10:50 BREAK										
Room	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM	ROOM
	Chemical Kinetics X *Session Chair:*	Fire X *Session Chair:*	Droplets/Spray IV *Session Chair:*	Heterogeneous Combustion IV *Session Chair:*	Laminar Flames V *Session Chair:*	IC Engine Chemistry III *Session Chair:*	Diagnostic IV *Session Chair:*	Supersonic Combustion *Session Chair:*	Turbulent Flame Chemistry II *Session Chair:*	Oxy-Coal Combustion *Session Chair:*
10:50	3A05: Ignition Delay Measurements of Straight Run Naphtha *M. Alabbad, G. Issayev, B. Giri, J. Badra, A. Voice, Y. Zhang, T. Tzanetakis, K. Djebbi, M. Abdulwahab, A. Ahmed, M. Sarathy, A. Farooq*	3B05: Statistical Description of Transport and Deposition of Firebrands in a Turbulent Atmospheric Boundary Layer *B. Shotorban, C. Anand, S. Mahalingam*	3C05: Effect of non-paraffinic component in low octane naphtha fuel combustion *S.K. Jain, S.K. Aggarwal*	3D05: Impact of clustering on heterogeneous reactions in a riser *H. Goyal, J. Capecelatro, O. Desjardins, P. Pepiot*	3E05: Lean Flammability Limit of Pure Hydrocarbon Fuels and Aviation Fuels *A. Li, G. Kilaz, L. Qiao*	3F05: Experimental and Numerical Study of Diesel vs. DME in a Constant Volume Combustion Vessel *L. Zhao, A. Abdul Moiz, X. Zhu, S.-Y. Lee*	3G05: Turbulence Measurements in a Diesel Fuel Spray using Rainbow Schlieren Deflectometry *C.T. Wanstall, A.K. Agrawal, J.A. Bittle*	3H05: Mid-Infrared Imaging of an Optically Accessible Non-Premixed Rotating Detonation Engine *B.A. Rankin, J.R. Codoni, K.Y. Cho, J.L. Hoke, F.R. Schauer*	3J05: Sensitivity to Chemical Kinetics Models in Time-Evolving Turbulent Non-Premixed Flames *S. Yang, R. Ranjan, V. Yang, W. Sun, S. Menon*	3K05: Ash deposition during advanced oxy-coal combustion using minimum recycled flue gas *Y. Wang, A. Fry, J.O.L. Wendt*
11:10	3A06: Effect of CO_2 Addition on Syngas Ignition Delay Times in a Shock Tube *S. Barak, O. Pryor, J. Lopez, E. Ninnemann, S. Vasu*	3B06: Progress in Modeling Wildland Fires using Computational Fluid Dynamics *K. McGrattan*	3C06: Experimental Spray Ignition and Soot Forming Characteristics of High Reactivity Gasoline and Diesel Fuel in a Heavy-Duty Single-Hole Injector *M. Tang, J. Zhang, T. Menucci, H. Schmidt, J. Naber, S.-Y. Lee, T. Tzanetakis*	3D06: Investigating the Effectiveness of Polymer-Encased Aluminum Clusters Subjected to High Heating Rates *J.B. DeLisio, D.H. Mayo, B.W. Eichhorn, M.R. Zachariah*	3E06: Lean flammability limits of renewable gas mixtures at elevated temperatures and pressures *D. Jaimes, V. McDonell*	3F06: Lube Oil Chemistry Influences on Autoignition as Measured in an Ignition Quality Tester *F.M. Haas, S.H. Won, F.L. Dryer, C. Pera*	3G06: A Closer Look at Determining Flame Speeds with Imaging Diagnostics *R. Bratton, M.L. Pantoya*	3H06: Modeling and Simulation of the Inlet Mixing Process in a Rotating Detonation Engine *K. Grogan, B. Rankin, M. Ihme*	3J06: Sensitivity of chemical pathways to reaction mechanisms for *n*-dodecane *D. Dasgupta, W. Sun, M. Day, T. Lieuwen*	3K06: A Comprehensive Model of Single Particle Pulverized Coal Combustion Extended to Oxy-coal Conditions *T. Holland, T.H. Fletcher*
11:30	3A07: Autoignition Temperature Measurements of Hydrogen Mixtures *K. Olchewsky, C. Fuller, M. Holton,*	3B07: Large eddy simulation of unstably stratified boundary layer flow	3C07: Simulations of Vaporizing Droplets in Turbulence *J. Palmore Jr., O. Desjardins*	3D07: Nanocomposite thermite powders with improved flowability prepared by mechanical	3E07: Parametric study of the impact of vitiation on fundamental reactor/fla	3F07: Durability Testing of Biomass Based Oxygenated Fuel Components in a Compression	3G07: Whole-flame image analysis using geometric and complexity measures *C.E.A. Finney, C.W. Kulp, C.S. Daw, T.A.*	3H07: Scramjet Cavity Ignition Using Nanosecond-Pulsed High-Frequency Discharges	3J07: A Graphical User Interface for Model Reduction of Complex Fuels Based on Principal	3K07: A kinetic evaluation on NO_2 formation in the post-flame region of pressurized oxy-combustion process

	P. Gokulakrishnan	for understanding the structure of wildland fire flames *S. Verma, A. Trouvé*		milling *Q. Nguyen, C. Huang, M. Schoenitz, K.T. Sullivan, E.L. Dreizin*	me characteristics *K.B. Brady, B.A. Rankin, A.W. Caswell*	Ignition Engine M.E. Baumgardner, A. Lakshminarayanan, D. Olsen, M.A. Ratcliff, R.L. McCormick, A.J. Marchese	*Fuller, T.J. Flynn, T. Osborne, N. Stewart*	*T. Ombrello, J.K. Lefkowitz, S.D. Hammack, C. Carter, K. Busby*	Component Analysis and Artificial Neural Networks *S. Alqahtani, T. Echekki*	*X. Wang, Z. Liu, A. Adeosun, Y. Sun, G. Yablonsky, H. Tan, R.L. Axelbaum*
11:50	3A08: Analytical Explosion Limits of $H_2/CO/O_2$ and $H_2/CH_4/O_2$ Mixtures *W. Liang, C.K. Law*	3B08: Understanding Ignition Susceptibility of Wildland-Urban Interface Fuels to Firebrand Attack *R.S. P. Hakes, M.J. Weston-Dawkes, S.E. Caton, E.T. Sluder, M.J. Gollner, J. Yang*	3C08: Using a GMDH-type Neural Network Algorithm for Modeling of Droplet Combustion *M. Ghamari, A. Ratner*	3D08: Enhanced combustion characteristics of electrospray assembled nanothermite composites *R.J. Jacob, E. Wainwright, M. Mueller, T.P. Weihs, M.R. Zachariah*	3E08: Hot Surface Ignition of Ethylene-Air mixtures: Selection of Reaction Models for CFD Simulations *R. Mével, J. Melguizo-Gavilanes, L.R. Boeck, J.E. Shepherd*	3F08: Surrogate Fuel Formulation for Light Naphtha Fuel *K. Al-Qurashi, I. Khesho, W. Roberts*	3G08: Towards seedless velocimetry in reacting flows using a wavelet-based optical flow technique *B.E. Schmidt, J.A. Sutton*	3H08: Hyperspectral Imaging Diagnostics of a Scramjet Combustor Cavity *M.R. Rhoby, A.M. Kerst, K.C. Gross, T.M. Ombrello*	3J08: Effects of Turbulent Advection on Thermochemical Trajectories in Premixed Flames *P.E. Hamlington, R. Darragh, A.Y. Poludnenko*	3K08: Predicting ash deposition from non-isothermal, turbulent parallel flows *Z. Yang, A. Gopan, R.L. Axelbaum*
12:10	3A09: Inverse Livengood-Wu integration method for analyzing ignition delay times in reactors with varying conditions *M. Tao, P. Zhao, P.T. Lynch*	3B09: Front Shape Comparison in Data-Driven Wildland Fire Spread Simulations *C. Zhang, M. Rochoux, A. Collin, W. Tang, M. Gollner, E. Ellicott, P. Moireau, A. Trouvé*	3C09: Effects of Aluminum Nanoparticle Additives on Liquid Fuel Droplet Combustion with and without Acoustic Excitation *H. Sim, M. Plascencia, A. Vargas, J. Bennewitz, O. Smith, A. Karagozian*	3D09: Magnesiothermic Combustion Synthesis of Zirconium Diboride *S. Cordova, L.I. Gutierrez Sierra, E. Shafirovich*	3E09: Computational Study of Premixed Flame Propagation in a Gaseous-Dusty Environment with Various Dust Distributions *S. Demir, H. Sezer, T. Bush, V. Akkerman*		3G09: Demonstration of a Dual-Pulse Laser Heating Technique for Ignition of Propane-Air Mixtures *C. Dumitrache, R. VanOsdol, C.M. Limbach, A. Yalin*	3H09: Heat transfer evaluation of a HVOF combustor under several operating parameters with interest in plasma production for future MHD channel analysis *E.D. Zeuthen, C.R. Woodside, H. Kim, E.D. Huckaby, D.L. Blunck*		
12:30	3A10: Ignition Delay Time Correlation of Fuel Blends based on Livengood-Wu Description *F. Khaled, J. Badra, A. Farooq*	3B10: A Study to Investigate Pyrolysis of Wood Particles of Various Shapes and Sizes *Y. Chen, K. Aanjaneya, A. Atreya*	3C10: Energetic Additives to Liquid Propellants Composed of Nitrocellulose-Bound Nanoparticle Assemblies or Molecular Aluminum Clusters for	3D10: Burn Rate Enhancement of a Solid Nitrocellulose Monopropellant using Functionalized Graphene Foam Microstructure *S. Jain, L. Qiao*	3E10: Characteristics and Parameterization of Spray Combustion in Laminar Counter-flow Jet Flames		3G10: Joint Soot Temperature-Volume Fraction Statistics of Buoyant Turbulent Diffusion Flames in Air and Reduced-oxygen Environment *D. Zeng, G. Agarwal, Y. Wang*	3H10: Simulating interactions of detonation, ionization chemistry, and magnetohydrodynamics *M.F. Zaiger, D.L. Blunck, K.E. Niemeyerg*		

			Enhanced Droplet Combustion *P.M. Guerieri, J.B. DeLisio, R.J. Jacob, S. DeCarlo, B. Eichhorn, M.R. Zachariah*		*U. Jain, C. Han, H. Wang*					