

9th U.S. National Combustion Meeting, Cincinnati, Ohio

Sunday 17 May 2015

Section Board Meetings: Afternoon

17:00 – 19:00 Registration Open - 4th Floor Foyer

17:00 – 19:00 Welcome Reception and Exhibits - Rookwood

Monday 18 May 2015

07:00 – 08:00 Continental Breakfast - Rookwood

07:00 – 16:00 Registration Open - 4th Floor Foyer

07:00 – 19:00 Combustion Artwork is displayed in Salon I

07:00 – 19:00 Sponsors are displayed in Rookwood

Work in Progress Posters (Display Setup 14:00 – 16:30, Poster Session 17:00 – 19:00) - Salon I

Pavillion Ballroom

07:50 Welcome: Ajay Agrawal, University of Alabama, Chair-Central States Section of the Combustion Institute

07:55 Opening Remarks: Michael Benjamin, GE Aviation, Local Host

08:00 – 09:00 Plenary Lecture – “Government Role in Advanced Combustion Engine Research and Development”

Mr. Gurpreet Singh, US Department of Energy

Session Chair: Christopher Shaddix

09:00 – 09:10 BREAK

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Environmental Aspects <i>Chair :</i> J. Lighty	Droplet Combustion I <i>Chair:</i> F. Tanvir	Engine Kinetics <i>Chair:</i> K. Srinivasan	Fire Suppression <i>Chair:</i> M. Chaos	Soot in Laminar Flames I <i>Chair:</i> J. Camacho	Kinetic Mechanisms I <i>Chair:</i> R. Sivaramakrishnan	Ignition Kinetics I <i>Chair:</i> B. Akih-Kumgeh	Turbulent Flame Modeling I <i>Chair:</i> D. Blunk
09:10	1A01: Porous media stabilized combustion of butanol/Jet A blends <i>M. Imran, A. Balakrishnan, R.N. Parthasarathy, S.R. Gollahalli</i>	1B01: Experimental observations of cool-flame supported binary-droplet arrays combustion in microgravity <i>D.L. Dietrich, V. Nayagam, F.A. Williams</i>	1C01: Compact kinetic models for typical and alternative aviation turbine fuels and their surrogates <i>S.H. Won, J.S. Santner, F.M. Haas, F.L. Dryer, S. Dooley</i>	1D01: Suppression measurements from a buoyant, turbulent line flame under oxidizer-dilution quenching conditions <i>J. White, E. Link, A. Marshall, P.B. Sunderland, A.C. Trouvé</i>	1E01: Sooting tendencies of diesel surrogate mixtures <i>C.S. McEnally, D.D. Das, J.D. Rockaway, L.D. Pfefferle</i>	1F01: A linearized error propagation model based on Jacobian analysis for skeletal mechanism reduction <i>Y. Liu, Y. Wu, Y. Gao, T. Lu</i>	1G01: Methane ignition in a shock tube with high levels of CO ₂ dilution <i>J.W. Hargis, M.T. Gill, E.L. Petersen</i>	1H01: Modeling of wall heat transfer and flame/wall interaction a flamelet model with heat-loss effects <i>H. Wu, M. Ihme</i>
09:30	1A02: An experimental study of the stability limits and emissions of a surface-stabilized combustion burner using biogas and natural gas <i>A. Colorado, D. Avila, V. McDonell</i>	1B02: Asymptotic analysis of heptane droplet combustion supported by cool-flame chemistry <i>K. Seshadri, N. Peters, F.A. Williams, V. Nayagam</i>	1C02: A hybrid mechanism for <i>n</i> -dodecane combustion with optimized low-temperature chemistry <i>T. Yao, Y. Pei, B.-J. Zhong, S. Som, T. Lu</i>	1D02: Flame extinction model for fire suppression simulations <i>V. Sankaran, H. Jiang, M. Colket, S. Zhang, M. Corn</i>	1E02: Two-dimensional temperature and soot volume fraction measurements in oxygenated hydrocarbon doped flames <i>D.D. Das, C.S. McEnally, J.F. Gau, L.D. Pfefferle</i>	1F02: Optimization and uncertainty minimization of the foundational fuel chemistry model <i>Y. Tao, E. Dames, G.P. Smith, H. Wang</i>	1G02: Shock tube ignition measurements and modeling of cyclopentane <i>M.B. Sajid, M. Al Rashidi, M. Mehl, W.J. Pitz, S.M. Sarathy, A. Farooq</i>	1H02: Large eddy simulation of the effects of radiation on turbulent premixed flame structure <i>A.C. Nunno, M.E. Mueller</i>

09:50	1A03: Multi physics simulation for the determination of the impact of fuel composition on the fate and of transport gaseous and particulate emissions from vehicles <i>P.R. Sanyal, S. Hoque</i>	1B03: Combustion characteristics of Primary Reference Fuel (PRF) blends droplets: Single stage high temperature combustion to multistage cool flame behavior <i>T.I. Farouk, F.L. Dryer</i>	1C03: A reduced chemical kinetic mechanism for <i>n</i> -heptane/methane/ethane/propane mixtures for use in multi-dimensional CFD simulations of natural gas/diesel dual fuel engines <i>A. Hockett, G. Hampson, A.J. Marchese</i>	1D03: Resolving dispersed sprinkler sprays <i>E. Link, T. Myers, A. Marshall</i>	1E03: Modeling soot in flames with complex fuels <i>V.R. Katta, W.M. Roquemore</i>	1F03: The role of model structural uncertainties in uncertainty quantification and experimental design <i>M.P. Burke</i>	1G03: The effect of chain branching on ignition delay of C ₅ and C ₇ backbone fuels: <i>n</i> -Pentane, <i>iso</i> -octane, 2-methylheptane and <i>iso</i> -dodecane <i>G. Flora, J. Cain, M. Kahandawala, M.J. DeWitt, E. Corporan, S. Sidhu</i>	1H03: Radiation characteristics of turbulent diffusion flames burning alternative aviation fuels <i>E.D. Zeuthen, D.L. Blunck</i>
10:10	1A04: Soot source identification by laser derivitization (SSLID) <i>C. K. Gaddam, R.L. Vander Wal</i>	1B04: Ozone assisted “cool flame” combustion of sub-millimeter <i>n</i> -heptane droplets at atmospheric and higher pressure <i>F.E. Alam, F.L. Dryer, T. Farouk</i>	1C04: Development of a reduced mechanism for multiple gasoline surrogates and application in CFD of stratified-charge GCI <i>B. Wolk, Y. Chen, M. Mehl, J.-Y. Chen</i>		1E04: Optical band gap determination through extinction measurements analysis of soot in non-smoking ethylene/air non-premixed flame <i>E.M. Adkins, J.H. Miller</i>	1F04: Quantifying uncertainty within transportation-relevant fuel models: A case study for gasoline <i>A. Fridlyand, S.S. Goldsborough, R.H. West, M.J. McNenly, M. Mehl, W.J. Pitz</i>	1G04: High-temperature auto-ignition studies of 2,5-dimethylfuran, 2-ethyl furan, and <i>iso</i> -octane <i>M.A. Eldeeb, B. Akih-Kumgeh</i>	1H04: Evaluation of different schemes of the weighted-sum-of-grey-gases model for fire simulations <i>I. Sikić, J. Wen, S. Dembele</i>

10:30 – 10:50 Coffee Break
During your break visit the Combustion Artwork and vote

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Raman and LIF Diagnostics <i>Chair:</i> R. Lucht	Droplet Combustion II <i>Chair:</i> J. Lee	Engine Modeling I <i>Chair:</i> Z. Luo	Fire Research I <i>Chair:</i> A. Marshall	Soot in Laminar Flames II <i>Chair:</i> P. Sunderland	Reaction Kinetics I <i>Chair:</i> S. Krishnan	Ignition Kinetics II <i>Chair:</i> S. Goldsborough	Turbulent Flames I <i>Chair:</i> J. O'Connor
10:50	1A05: Species concentration and temperature measurements in laminar flames using combined dual-pump vibrational and pure-rotational coherent anti-Stokes Raman scattering <i>A. Satija, R.P. Lucht</i>	1B05: PDPA studies during oxy-combustion of ethanol heavily diluted in water <i>J.E. Madero, F. Yi, R.L. Axelbaum</i>	1C05: Large eddy simulation of an <i>n</i> -dodecane spray flame under diesel engine conditions <i>Y. Pei, P. Kundu, G.M. Goldin, S. Som</i>	1D05: Understanding the role of moisture in live fuels subject to pyrolysis and ignition through radiation heat transfer <i>B.L. Yashwanth, B. Shotorban, S. Mahalingam</i>	1E05: Multi-dimensional flow effects on soot formation in laminar premixed flames <i>Y. Xuan, G. Blanquart</i>	1F05: Oxidation of <i>n</i> -hexane in the vicinity of the auto-ignition temperature <i>D. Lemarié, R. Mével, J.E. Shepherd</i>	1G05: Autoignition study of tetralin in a rapid compression machines at elevated pressures and low-to-intermediate temperatures <i>G. Kukkadapu, B.W. Weber, C.-J. Sung</i>	1H05: Pair dispersion of turbulent premixed flame elements <i>S. Chaudhuri</i>

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
11:10	1A06: Simultaneous 100-kHz formaldehyde planar laser-induced fluorescence imaging and chemiluminescence imaging of transient ignition processes in a model scramjet pilot cavity <i>J.D. Miller, S.J. Peltier, M.N. Slipchenko, J.G. Mance, T.M. Ombrello, J.R. Gord, C.D. Carter</i>	1B06: Commissioning of high-speed imaging system for rainbow schlieren measurements of vaporizing liquid fuel sprays <i>E.M. Mirynowski, J.A. Bittle</i>	1C06: A thickened-flame model for large-eddy simulation of homogeneous-charge spark-ignition engine combustion <i>Y. Shekhawat, P. Schiffmann, D.C. Haworth, D.L. Reuss, V. Sick</i>	1D06: Experimental and numerical investigation of the effect of heating modes and moisture content on pyrolysis and ignition of live fuels <i>B.L. Yashwanth, J. Gallacher, B. Shotorban, S. Mahalingam, T.H. Fletcher, D.R. Weise</i>	1E06: Experimental investigation of the mechanism of soot oxidation-induced fragmentation <i>H. Ghiassi, I.C. Jaramillo, P. Toth, J.S. Lighty</i>	1F06: Thermochemistry and kinetic modeling for OH addition to propene and O ₂ association to the activated CH ₂ (OH)C•HCH ₃ adduct <i>S. Snitsiriwat, J.W. Bozzelli</i>	1G06: A rapid compression machine study of DME autoignition <i>B. Parajuli, G. Mittal, S. Gupta, S.-Y. Lee, K. Cung</i>	1H06: Effect of turbulence-transport-chemistry interaction on local displacement speeds of statistically planar turbulent premixed flames <i>H.A. Urankara, S. Chaudhuri, P.G. Arias, H.G. Im</i>
11:30	1A07: Two-photon CO PLIF of flames near a quenching plate <i>D. Escofet-Martin, Y.-C. Chien, D. Dunn.-Rankin</i>	1B07: Experimental and modeling comparison of sub-millimeter droplet burning of butanol isomers in standard atmospheric ambient without convection <i>Y.C. Liu, F.E. Alam, Y. Xu, F.L. Dryer, C.T. Avedisian, T. Farouk</i>	1C07: An evaluation of the assumptions of the flamelet model for diesel combustion modeling <i>M.M. Ameen, V. Magi, J. Abraham</i>	1D07: An investigation of wildfire dynamics via fixed inclinable burners <i>C.H. Miller, M.J. Gollner, M.A. Finney, D. Gorham</i>	1E07: Role of PAH-soot equilibrium on predicting soot particle size distributions in laminar premixed flames <i>A. Veshkini, N.A. Eaves, S.B. Dworkin, M.J. Thomson</i>	1F07: Direct measurements of branching ratios in high temperature abstraction reactions – OH and H + small alkanes <i>S.L. Peukert, R. Sivaramakrishnan, J.V. Michael</i>	1G07: Autoignition of methyl-propanoate and a comparison with its selected ester homologs <i>K. Kumar, J. Bunnell, B.W. Weber, C.-J. Sung</i>	1H07: Study of the thermal, kinetic, and transport effects of H ₂ O and CO ₂ dilution on turbulent premixed flames of methane/air <i>C.B. Reuter, S.H. Won, S. Nakane, Y. Ju</i>
11:50	1A08: High-speed 1D Raman/Rayleigh scattering imaging in turbulent non-premixed flames <i>K.N. Hoffmeister, F. Fuest, J.A. Sutton</i>	1B08: Effect of varying the initial droplet diameter over a wide range on combustion of <i>iso</i> -octane droplets <i>Y. Xu, M. Dong, M.C. Hicks, C.T. Avedisian</i>	1C08: Detached eddy simulation of turbulent swirl-stabilized flame <i>V. Goyal, V.R. Hasti, J.P. Gore, H.C. Mongia</i>	1D08: Effects of season on ignition of live wildland fuels using the FIST apparatus <i>S. McAllister, D. Weise</i>	1E08: Direct numerical simulations of soot breakthrough in laminar non-premixed flame/vortex interactions <i>V.R. Lecoustre, A. Trouvé</i>	1F08: Branching ratios of straight chain methyl esters+OH reactions <i>F. Khaled, A.E. Elwardany, E.-t. Es-sebbar, A. Farooq</i>	1G08: The effects of bond location on the ignition and reaction pathways of <i>trans</i> -hexene isomers <i>S.W. Wagnon, C.L. Barraza-Botet, M.S. Wooldridge</i>	1H08: The validity of the constant non-unity Lewis number assumption in chemically-reacting flows <i>N. Burali, G. Blanquart, Y. Xuan</i>
12:10	1A09: Dual-resolution Raman spectroscopy for measurements in DME-air flames <i>G. Magnotti, R.S. Barlow</i>	1B09: Experimental study of combustion of polymer added <i>n</i> -decane and <i>n</i> -dodecane droplets <i>M. Ghamari, A. Ratner</i>	1C09: Coupled transient combustion and combustor wall temperature with adaptive mesh refinement CFD and conjugate heat transfer <i>G. Kumar, S. Drennan</i>	1D09: Convective ignition of wood cylinders <i>S. McAllister, M. Finney</i>	1E09: Numerical investigations of temperature effects on soot precursors in ethylene premixed flames <i>V.R. Lecoustre, P.B. Sunderland, B.-H. Chao, R.L. Axelbaum</i>	1F09: Analysis of OH and HO ₂ time histories measured in low-temperature oxidation of hexene isomers <i>B. Rotavera, H. Huang, I.O. Antonov, L. Sheps, J. Zádor, C.A. Taatjes</i>	1G09: Ignition measurements of ethanol-air mixtures in a rapid compression facility <i>C.L. Barraza-Botet, S.W. Wagnon, M.S. Wooldridge</i>	1H09: An adaptive methodology for the efficient implementation of detailed chemistry in simulations of turbulent non-premixed combustion <i>Y. Liang, S.B. Pope, P. Pepiot</i>

12:30 – 13:30 Section Meetings Lunch

Please report to your Section meeting rooms:
 Eastern States Section: Pavillion
 Central States Section and International Members: Hall of Mirrors
 Western States Section: Continental

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Absorption Spectroscopy <i>Chair:</i> A. Caswell	Heterogeneous Combustion I <i>Chair:</i> W. Merchan-Merchan	Engine Ignition Systems <i>Chair:</i> J. Caton	Fire Research II <i>Chair:</i> T. Fletcher	Laminar Flames I <i>Chair:</i> K. Seshadri	Reaction Kinetics II <i>Chair:</i> R. Tranter	Hydrocarbon Fuel Kinetics <i>Chair:</i> S. Aggarwal	Ignition and Extinction <i>Chair:</i> S. Schumaker
13:40	1A10: Kinetics studies of O ₃ /O ₂ /CH ₃ OH/Ar mixtures in a photolysis flow reactor <i>X. Yang, J.K. Lefkowitz, B.E. Brumfield, Q. Chen, G. Wyscoki, Y. Ju</i>	1B10: Determination of reaction kinetics of combusting lithium particles in CO ₂ and CO ₂ -N ₂ mixtures <i>P. Fischer, M. Schiemann, V. Scherer, D. Taroota, G. Schmid</i>	1C10: Fundamental studies of laser ignition of natural gas/air mixtures at elevated temperatures and pressures <i>C. Dumitrache, A.J. Boissiere, M.E. Baumgardner, A. Maria, J. Roucis, A.J. Marchese, A.P. Yalin</i>	1D10: Salt-water modeling to probe sub-grid scale turbulent mixing of fire plumes <i>P. M.F. Maisto, T. Layton, M.J. Gollner, A.W. Marshall</i>	1E10: Laminar flame speeds of styrene-air mixtures <i>A. Comandini, G. Pengloan, N. Chaumeix</i>	1F10: Two-dimensional numerical simulation of the transition between slow reaction and ignition <i>J. Melguizo-Gavilanes, P.A. Boettcher, A. Gagliardi, V.L. Thomas, R. Mével</i>	1G10: Thermal decomposition of methyl butenoate: Influence of the carbon-carbon double bond <i>X. Li, X. You, C.K. Law</i>	1H10: Detection of local extinction and re-ignition in non-premixed ethylene-air flames using chemical explosive mode analysis <i>C. Li, D.O. Lignell, J.H. Chen, T. Lu</i>
14:00	1A11: Spectroscopic measurements of water vapor in AN, AP, and double base propellants undergoing cookoff <i>J. Shen, N. Glumac, H. Krier</i>	1B11: Combustion of a particle suspension in the intermediate kinetic/diffusion reaction regime <i>M. Soo, K. Kumashiro, S. Goroshin, D. Frost, J. Berghorson</i>	1C11: Laser ignition studies of methane and biogas <i>N.D. Peters, H.S. Morrow, B. Akih-Kumgeh</i>	1D11: Experiments and modeling of fire spread in shrubs in a wind tunnel <i>C. Shen, J.R. Gallacher, D.R. Prince, T.H. Fletcher, D.R. Weise</i>	1E11: The influence of <i>iso</i> -butanol addition on the chemistry of laminar premixed 1,3-butadiene flames <i>N. Hansen, M. Braun-Unkhoff, T. Kathrotia, K. Moshhammer, B. Yang</i>	1F11: High-level pressure-dependent kinetics for the H + O ₂ (+M) → HO ₂ (+M) reaction. A priori solution of the two-dimensional master equation. <i>M. Verdicchio, A.W. Jasper, K.M. Pelzer, Y. Georgievskii, S.J. Klippenstein</i>	1G11: Diesel fuel surrogate for spray and combustion investigations <i>M. Tang, L. Zhao, J. Naber, S.-Y. Lee</i>	1H11: Ignition of a reacting jet in vitiated crossflow <i>S.W. Grib, J.A. Wagner, M.W. Renfro, B.M. Cetegen</i>
14:20	1A12: Simultaneous flame temperature and carbon monoxide measurements using wavelength modulation spectroscopy <i>W. Wang, A. Sane, A. Satija, R. Lucht, J. Gore</i>	1B12: Freely-propagating flames in large-scale aluminum dust cloud <i>P. Julien, J. Vickery, S. Goroshin, D.L. Frost, J. Berghorson</i>	1C12: Discussion of ignition delay uncertainties from constant volume combustion vessel measurements <i>V. Ramesh, D.A. Rothamer, J.B. Ghandhi</i>	1D12: Infrared visualization on the thermal structure of a fixed-frame fire whirl <i>A. Salameh, N. Akafuah, K. Saito</i>	1E12: A comparative study of C ₃ and C ₄ aldehydes and ketones <i>P.S. Veloo, O. Park, Y.L. Wang, D.J. Lee, F.N. Egolfopoulos</i>	1F12: Connecting soot lamellae curvature with partial premixing <i>C.-H. Huang, R.L. Vander Wal</i>	1G12: Conventional and bio-derived jet fuel surrogate modeling in low temperature and lean combustion regimes <i>A. Oldani, D. Valco, C. Allen, K. Min, T. Edwards, T. Lee</i>	1H12: A further study on the role of turbulence in facilitating ignition <i>A. Saha, S. Yang, F. Wu, C.K. Law</i>

14:40		1B13: Regression rate enhancement in hybrid rockets with HTPB fuel grains by nano-aluminum additives <i>J.C. Thomas, J.D. Desain, B.B. Brady, E.L. Petersen</i>	1C13: Predicting ignition probability <i>B. Sforzo, J. Seitzman</i>	1D13: Measurement of radiative power distribution and radiant fraction of liquid pool fires <i>L. Zhou, D. Zeng, M. Chaos</i>	1E13: High pressure flames and kinetic studies of methyl acetate and methyl propanoate <i>X. Yang, Q. Wang, Y. Ju</i>	1F13: Development of reduced reaction models with lumped reactions for fuel cracking for high-temperature combustion of practical fuels <i>Y. Gao, R. Shan, S. Lyra, C. Li, H. Wang, J.H. Chen, T. Lu</i>	1G13: Combustion characteristics of C ₄ iso-alkane oligomers: Experimental characterization of iso-dodecane as a jet fuel surrogate component <i>S.H. Won, F.M. Haas, A. Tekawade, G. Kosiba, M.A. Oehlschlaeger, S. Dooley, F.L. Dryer</i>	1H13: Dynamics of extinction and reignition in DNS of a nonpremixed turbulent DME jet flame <i>A. Bhagatwala, E.R. Hawkes, J.H. Chen</i>
15:00 - 15:20 Coffee Break During your break make sure to visit our Sponsors in Rookwood								
Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Shock Tube and X-Ray Diagnostics <i>Chair:</i> P. Lynch	Heterogeneous Combustion II <i>Chair:</i> A. Marchese	IC Engines and Fuels <i>Chair:</i> Y. Hicks	Fire Research III <i>Chair:</i> A. Trouvé	Laminar Flames II <i>Chair:</i> M. Burke	Flow Reactor Kinetics <i>Chair:</i> M. Colket	Kinetic Modeling <i>Chair:</i> N. Labbe	Combustion Instability <i>Chair:</i> A. Ratner
15:20	1A14: Simultaneous measurements of acetylene and soot in a shock tube <i>U. KC, E.F. Nasir, I.F. Farouki, A. Farooq</i>	1B14: Multicomponent droplet evaporation using group contribution methods with application to fuel blends <i>P.B. Govindaraju, Q. Wang, M. Ihme</i>	1C14: The effects of injection pressure, nozzle inclusion angle, and swirl ratio on gasoline compression ignition at idle load conditions <i>J. Kodavasal, C. Kolodziej, S. Ciatti, S. Som</i>	1D14: Upward flame spread over discrete fuels <i>C.H. Miller, M.J. Gollner</i>	1E14: Stabilization of laminar nonpremixed DME/air coflow flames at elevated temperatures and pressures <i>S. Deng, P. Zhao, M.E. Mueller, C.K. Law</i>	1F14: Rate coefficients for H+NO ₂ → OH+NO from high pressure flow reactor experiments <i>F.M. Haas, F.L. Dryer</i>	1G14: A sparse stiff chemistry solver based on dynamic adaptive hybrid integration for efficient combustion simulations <i>C. Xu, Y. Gao, Z. Ren, T. Lu</i>	1H14: Combustion instability: Triggering, transients, and limit cycles <i>W.A. Sirignano</i>
15:40	1A15: X-ray fluorescence measurements of turbulent methane-oxygen shear coaxial flames <i>S.A. Schumaker, A.L. Kastengren, S. Danczyk, M. Lightfoot</i>	1B15: Evaporation of <i>n</i> -heptane droplet into nitrogen at subcritical conditions: Molecular dynamics simulations <i>G. Mo, L. Qiao</i>	1C15: Fuel-substitution method for investigating kinetics of low volatility fuels under engine-like operating conditions <i>D. Janecek, D. Rothamer, J. Ghandhi</i>	1D15: Effects of season and heating mode on ignition and burning behavior of ten species of live fuel measured in a flat-flame burner system <i>J.R. Gallacher, V. Lansinger, S. Hansen, D.R. Weise, T.H. Fletcher</i>	1E15: Autoignition of <i>n</i> -heptane at moderate pressure <i>G. Mairinger, R. Gehmlich, E. Pucher, K. Seshadri</i>	1F15: Studies of ozone assisted low temperature oxidation of dimethyl ether in a flow reactor <i>H. Zhao, X. Yang, Y. Ju</i>	1G15: Probabilistic inference of reaction rate parameters based on summary statistics <i>M. Khalil, H. Najm</i>	1H15: Scaling of combustion instability mode transitions associated with the appearance of the outer recirculation zone flame in swirling CH ₄ /H ₂ mixtures <i>S.J. Shanbhogue, Y.S. Sanusi, S. Taamallah, M.A. Habib, E.M.A. Mokheimer, A.F. Ghoniem</i>

16:00	1A16: Signal averaging and creating reproducible shock conditions with a diaphragmless shock tube <i>J.B. Randazzo, R.S. Tranter</i>	1B16: Study of the momentum coupling between liquid fuel and ambient gas during injection using a dense spray formulation <i>F. Doisneau, M. Arienti, J.C. Oefelein</i>	1C16: Investigation of correlation between cetane rating and octane rating <i>D. Janecek, D. Rothamer, J. Ghandhi</i>	1D16: Flame merging experiments in low speed, non-premixed natural gas flames <i>C. Shen, D.O. Lignell, T.H. Fletcher</i>	1E16: A numerical and experimental study of coflow laminar diffusion flames: Effects of gravity and inlet velocity <i>S. Cao, B.A.V. Bennett, B. Ma, D. Giassi, D.P. Stocker, F. Takahashi, M.B. Long, M.D. Smooke</i>	1F16: An experimental and kinetic modeling study of <i>n</i> -dodecane pyrolysis and oxidation in a flow reactor <i>S. Banerjee, R. Tangko, D.A. Sheen, H. Wang, C.T. Bowman</i>	1G16: Dual time integration methods for stiff, explosive combustion kinetics <i>M. Hansen, J. Sutherland</i>	1H16: Numerical simulations of chemically reacting Rayleigh-Taylor instability in H ₂ -O ₂ flames using detailed chemistry <i>N. Attal, P. Ramaprabhu</i>
16:20	1A17: Hard X-ray and VUV synchrotron experiments with a miniature shock tube <i>R.S. Tranter, P.T. Lynch, C.J. Annesley</i>	1B17: LES of a generic swirl-stabilized spray burner with detailed chemistry <i>G. Eckel, J. Grohmann, M. Rachner, P. Le Clercq, M. Aigner</i>	1C17: Influence of 2EHN on the low temperature reactivity of gasoline fuels <i>S.S. Goldsborough, C. Banyon, M.V. Johnson</i>	1D17: Predictive scenario for premixed methane-air flame spreading and explosion triggering in a mining passage <i>V. Akkerman, S.H.R. Chalagalla, S. Demir, A.S. Rangwala, V. Bychkov</i>	1E17: Effects of fuel dilution and pressure on coflow laminar methane-air diffusion flames: A computational and experimental investigation <i>S. Cao, B.A.V. Bennett, B. Ma, M.B. Long, M.D. Smooke</i>	1F17: Reactivity comparisons of conventional and alternative jet fuels in a variable pressure flow reactor <i>J.S. Heyne, F.L. Dryer, S.H. Won, F.M. Haas</i>	1G17: Fast joint PDF evaluation using calibrated multi-step kinetic models <i>C.M. Allen</i>	1H17: Analysis of flame acoustic coupling with Rayleigh criterion and Proper Orthogonal Decomposition method <i>J. Zhang, A. Ratner</i>

16:40 – 17:00 Break
During your break make sure to visit our Sponsors in Rookwood

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Diagnostic Applications <i>Chair:</i> J. Miller	Heterogeneous Combustion III <i>Chair:</i> E. Shafirovich	Engine Modeling II <i>Chair:</i> P. Miles	Fire Research IV <i>Chair:</i> D. Weise	Laminar Flames III <i>Chair:</i> K. Tacina	Suppression Kinetics and Catalysis <i>Chair:</i> E. Petersen	Microcombustion and New Concepts <i>Chair:</i> G. Blanquart	Turbulent Flames II <i>Chair:</i> S. Tambe
17:00	1A18: Theoretical analysis of polarization modes and direct measurements of permittivity of plasma assisted combustion using electrical capacitance tomography <i>Q. Chen, Y. Jia, X. Mao, Y. Zhang, Y. Ju</i>	1B18: Dust ignition of pure and encapsulated paraffin phase change materials <i>P.A. Boettcher, H. Hu, M. McCarthy, Y. Sun</i>	1C18: Application of dynamic mechanism reduction for detailed soot modeling in internal combustion engine simulations <i>Z. Luo, M. Raju, P.K. Senecal</i>	1D18: A computational investigation of the role of moisture in live fuels subject to pyrolysis and ignition through convective heat transfer <i>B.L. Yashwanth, B. Shotorban, S. Mahalingam</i>	1E18: Simulations of laminar flames propagating in stratified mixtures <i>J. Zhang, J. Abraham</i>	1F18: Effects of Halon 1211 (CF ₂ BrCl) on the laminar flame speed and ignition of CH ₄ , C ₂ H ₄ and C ₃ H ₈ : Experimental and chemical kinetics study <i>O. Mathieu, C.L. Keesee, C. Grégoire, E.L. Petersen</i>	1G18: Premixed flame propagation and extinction in micro-channels with cold, isothermal walls <i>B. Demirgok, C. Dion, V. Bychkov, D. Valiev, V. Akkerman</i>	1H18: Effect of obstacles on flames in a rectangular combustion chamber <i>A. Hariharan, I.S. Wichman, N. Mueller</i>

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
17:20	1A19: Ignition and formaldehyde formation in dimethyl ether spray combustion: Experiment and chemical modeling <i>K. Cung, A. Zhang, S.-Y. Lee</i>	1B19: Pulsating and spiral thermo-diffusive flame instabilities in aluminum dust clouds <i>P. Julien, J. Vickery, S. Goroshin, D.L. Frost, J. Berghorson</i>	1C19: A thermodynamic assessment of exhaust gas dilution for IC engines <i>J.A. Caton</i>	1D19: Large eddy simulation of extinctions limits in two-dimensional plane buoyant turbulent diffusion flames <i>S. Vilfayeau, J.P. White, A.C. Trouvé</i>	1E19: Flame chemistry of primary reference fuel 84 using photoionization mass spectrometry <i>H. Selim, S.Y. Mohamed, A. Lucassen, N. Hansen, S.M. Sarathy</i>	1F19: Enhancement of premixed methane-air flames by Halon 1301 replacements <i>J.L. Pagliaro, G.T. Linteris, P.B. Sunderland, P.T. Baker</i>	1G19: Ceramic reactor membranes for oxy-fuel combustion processes <i>R. Falkenstein-Smith, P. Zeng, J. Ahn</i>	1H19: Effect of flame spacing and flow velocity on the dynamics of three interacting v-flames <i>W. Culler, J. Samarasinghe, M. Meehan, J. Crane, J. O'Connor</i>
17:40	1A20: Interpreting diffusion flame structure by measuring C/O ratio using laser-induced breakdown spectroscopy <i>W. Wu, B.M. Kumfer, R.L. Axelbaum</i>	1B20: CFD simulations of capturing CO ₂ in a counter-current multiphase flow system <i>L. Yang, F. Liu, T. Li, K. Liu, K. Saito</i>	1C20: Radiative heat transfer under engine-relevant conditions <i>S.P. Roy, J. Cai, A. Sircar, A. Imren, S. Ferreyro-Fernandez, D.C. Haworth, M.F. Modest</i>	1D20: Towards modelling of dusty-gaseous fires in coal mines <i>S. Demir, H. Sezer, B. Demirgok, V. Akkerman, A.S. Rangwala</i>	1E20: Impinging coflow nonpremixed methane-air flames with unity Lewis number <i>V.M. Sauer, D. Dunn-Rankin</i>	1F20: Catalyzing aluminum particle reactivity using surface exothermic chemistry <i>R. Padhye, M.L. Pantoya</i>	1G20: Disruptive effect of 3D printed metallic porous insert on thermo-acoustic coupling in different length combustors <i>J. Kornegay, D. Depperschmidt, A.K. Agrawal</i>	1H20: A jet-stirred apparatus for turbulent combustion experiments <i>A.A. Davani, P.D. Ronney</i>
17:00 – 19:00 Work in Progress Posters and Combustion Artwork are displayed in Salon I Sponsors are in Rookwood								

TUESDAY, 19 May 2015

07:00 – 08:00 Continental Breakfast - Rookwood
 07:30 – 15:00 Registration Open - 4th Floor Foyer
 07:00 – 18:00 Work in Progress Posters and Combustion Artwork are displayed in Salon I
 07:00 – 18:00 Sponsors are displayed in Rookwood

Pavillion Ballroom

07:55 Announcements: Michael Benjamin, GE Aviation, Local Host

08:00 – 09:00 Plenary Lecture – “Deep Ocean Power Science: Hydrate Combustion”

Prof. Derek Dunn-Rankin, University of California, Irvine

Session Chair: Waruna Kulatilaka

09:00 – 09:10 BREAK

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Thermometry and Gas Sensing <i>Chair:</i> P. Ramaprabhu	Heterogeneous Combustion IV <i>Chair:</i> S. Son	Gas Turbines <i>Chair:</i> M. Benjamin	Microgravity and Battery Fire <i>Chair:</i> S. Olson	Counterflow Laminar Flames <i>Chair:</i> V. Katta	Soot Kinetics <i>Chair:</i> A. Chandy	Nitrogen Kinetics <i>Chair:</i> O. Mathieu	Turbulent Flames III <i>Chair:</i> S. Shanbhogue
09:10	2A01: Thin-filament-pyrometry temperature measurements in a Split Air-Stream Bluff-Body Experimental Rig (SABER) <i>L. Goss, B. Huelskamp, V. Belovich, A. Lynch, G. Wang</i>	2B01: Ignition delay times of composite solid propellants using novel nano-additive catalysts <i>A.R. Demko, C.A. Dillier, D.L. Reid, S. Seal, E.L. Petersen</i>	2C01: Transverse fuel jet injection in a vitiated oscillating crossflow <i>C.A. Fugger, R.P. Lucht, W.E. Anderson</i>	2D01: Microgravity flammability of PMMA rods in concurrent flow <i>S.L. Olson, P.V. Ferkul</i>	2E01: Towards direct simulations of counterflow flames with consistent numerical differential-algebraic boundary conditions <i>P.D. Kourdis, J. Bellan</i>	2F01: Capturing soot formation with the use of <i>iso</i> -octane as a surrogate for Fischer-Tropsch fuel <i>A. Makwana, Y. Wang, M. Linevsky, S. Iyer, R. Santoro, T. Litzinger, J. O'Connor</i>	2G01: Nitromethane combustion study: Ignition delay times and decomposition profiles behind reflected shock waves and detailed kinetics modeling <i>O. Mathieu, N. Chaumeix, B. Giri, S. Abid, J.D. Mertens, C.-E. Paillard, E.L. Petersen</i>	2H01: Experimental study on the effect of turbulence on blowoff dynamics of a bluff-body stabilized turbulent premixed flame <i>B.R. Chowdhury, B.M. Cetegen</i>
09:30	2A02: 3-Color and high speed camera pyrometer development for global and planar soot temperature distribution of fuel-rich flames <i>A. Cakmakci, M. Knadler, J.G. Lee</i>	2B02: Chemical gas generators based on mechanically alloyed reactive materials <i>S.E. Guerrero, M.A. Machado, D.A. Rodriguez, E.L. Dreizin, E. Shafirovich</i>	2C02: Effect of injector length on the wake of transverse reacting jets injected into a swirling, vitiated crossflow at high pressure <i>P.P. Panda, O. Busari, R.P. Lucht</i>	2D02: Concurrent flame growth, spread and extinction over composite fabric samples in low speed purely forced flow in microgravity <i>X. Zhao, J.S. T'ien, P.V. Ferkul, S.L. Olson</i>	2E02: Prompt NO _x formation from alcohol fueled one-dimensional flat flames <i>M.D. Bohon, W.L. Roberts</i>	2F02: Numerical tracers to investigate soot formation in multi-component fuel combustion <i>C. Laurent, C. Frewin, K. Narayanaswamy, P. Pepiot</i>	2G02: A comprehensive kinetic model for predicting NO _x during high hydrogen content fuel combustion at elevated pressure <i>S.F. Ahmed, J. Santner, F.L. Dryer, T.I. Farouk</i>	2H02: Effect of differential diffusion on flame stabilization in a syngas jet in turbulent cross-flow <i>Y. Minamoto, H. Kolla, R.W. Grout, A. Gruber, J.H. Chen</i>

09:50	2A03: An approach to thermocouple measurements that reduces uncertainties associated with radiative corrections <i>S. Krishnan, B.M. Kumfer, P. Johnson, R.L. Axelbaum</i>	2B03: Determining the effects of graphene on the burning rate and strength of AP/HTPB-based solid rocket propellants <i>C.A.M. Dillier, A.R. Demko, J.C. Thomas, T. Sammet, K. Grossman, S. Seal, E.L. Petersen</i>	2C03: Analytical and experimental analysis of flashback propensity at elevated pressures and temperatures <i>A. Kalantari, E. Sullivan-Lewis, V. McDonell</i>	2D03: Flame spread over PMMA in simulated microgravity conditions <i>A. Hariharan, I.S. Wichman</i>	2E03: Non-premixed counterflow ignition of <i>n</i> -butanol at atmospheric and elevated pressures <i>K. Brady, X. Hui, C.-J. Sung</i>	2F03: Kinetics of carbon-addition-hydrogen-migration reaction on soot surface <i>H.-B. Zhang, X. You, C.K. Law</i>	2G03: An extended mechanism for the hypergolic combustion of monomethyl-hydrazine and nitric acid <i>C.D. Needham, N.J. Labbe, T.G. Voskuilen, T.L. Pourpoint, P.R. Westmoreland</i>	2H03: Experimental investigation of swirl flame boundary-layer flashback at elevated pressure <i>D. Ebi, R. Ranjan, N.T. Clemens</i>
10:10	2A04: Low cost gas composition analyzer for fuel flexible burners <i>D. Avila, V. McDonell</i>	2B04: Comparison of liquid monopropellant burning rates from pressure data and high-speed video <i>J. Stahl, G. Homan-Cruz, E.L. Petersen</i>	2C04: Effect of chamber pressure on fuel injector's pressure drop and flame characteristics of a swirl stabilized combustor <i>Y.G. Niguse, A.K. Agrawal</i>	2D04: Thermal runaway of lithium-ion batteries and hazards of abnormal thermal environments <i>J.C. Hewson, S.P. Domino</i>	2E04: Structure of incipiently sooting partially premixed counterflow ethylene flames <i>F. Cattaneo, F. Carbone, A. Gomez</i>	2F04: Kinetics of oxidation of graphene-edges <i>R. Singh, A.M. Mebel, M. Frenklach</i>	2G04: Computational study of NO _x formation at conditions relevant to gas turbine operating conditions <i>J. Santner, S.F. Ahmed, T. Farouk, F.L. Dryer</i>	2H04: Experimental characterization of a swirl stabilized, direct-coupled, plasma assisted turbulent jet flame <i>R. Rajasegar, C. Mitsingas, E. Mayhew, T. Lee</i>

10:30 – 10:50 Coffee Break
During your break make sure to visit our Sponsors Exhibits in Rookwood

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Soot Diagnostics <i>Chair:</i> J. Gord	Heterogeneous Combustion V <i>Chair:</i> U. Bhayaraju	Dual-Fuel Engines <i>Chair:</i> T. Jacobs	Fire Modeling <i>Chair:</i> Y. Wang	Laminar Flame Speeds <i>Chair:</i> Y. Ju	Reaction Kinetics III <i>Chair:</i> J. Randazzo	Rotating Detonation Engines <i>Chair:</i> A. Kastengren	Turbulent Flame Measurements I <i>Chair:</i> M. Renfro
10:50	2A05: Soot particle and ash analysis for combustion <i>B. Hascakir</i>	2B05: Mechanically activated SHS of magnesium silicide for high-temperature thermoelectric applications <i>A. Delgado, S. Cordova, D. Nemir, E. Shafirovich</i>	2C05: Using DOE method to identify settings for better efficiency and emissions in diesel/gasoline dual-fuel operation in a diesel engine <i>J. Sun, J. Li, J.A. Bittle, A.A. Griffin, T. Li, J.C. Hedrick, T.J. Jacobs</i>	2D05: Modeling dynamical and thermal behavior of firebrands in WFDS <i>C. Anand, B.L. Yashwanth, B. Shotorban, S. Mahalingam</i>	2E05: Structure and propagation of premixed flames in a closed combustion chamber – 2 sparks <i>A. Hariharan, I.S. Wichman, N. Mueller</i>	2F05: Chemical kinetics of acetaldehyde pyrolysis and oxidation <i>R. Mével, K. Chatelain, L. Catoire, W.H. Green, J.E. Shepherd</i>	2G05: The exhaust flow field of a rotating detonation-wave engine <i>K. Kailasanath, D. Schwer</i>	2H05: Coupled luminosity-heat release rate analysis for split injection diesel flames <i>A.A. Moiz, S.-Y. Lee</i>
11:10	2A06: Mixture fraction imaging in the soot-inception region of turbulent non-premixed jet flames <i>O. Park, R.A. Burns, N.T. Clemens</i>	2B06: Mechanically activated SHS of molybdenum borosilicides for ultrahigh-temperature structural applications <i>A.A. Esparza, M.S. Alam, E. Shafirovich</i>	2C06: Effect of natural gas conditions on combustion characteristics and overall performance of a novel bimodal internal combustion engine <i>S. Menon, H. Ganti, K. Niemeyer, C. Hagen</i>	2D06: Computational investigation of interactions of shrub fires under the influence of wind <i>S. Padhi, B. Shotorban, S. Mahalingam</i>	2E06: Laminar flame speeds and kinetic modeling of H ₂ /O ₂ /diluent mixtures at sub-atmospheric and elevated pressures <i>S. Yang, X. Yang, F. Wu, J. Santner, Y. Ju, C.K. Law</i>	2F06: A shock tube study of the CO+OH reaction in the low-pressure limit <i>E.F. Nasir, A. Farooq</i>	2G06: Imaging of OH* chemiluminescence in an optically accessible rotating detonation engine <i>B.A. Rankin, D.R. Richardson, A.W. Caswell, A. Naples</i>	2H06: Vorticity-strain rate interaction in turbulent partially-premixed jet flames <i>B. Coriton, J.H. Frank</i>

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
11:30	2A07: Use of High Dynamic Range (HDR) imaging for quantitative combustion diagnostics <i>D. Giassi, B. Liu, M.B. Long</i>	2B07: Combustion of Martian regolith simulants with magnesium <i>A. Delgado, S. Cordova, E. Shafirovich</i>	2C07: Investigation of low temperature dual fuel diesel-propane combustion in a single cylinder research engine <i>K.A. Hodges, M.S. Raihan, A. Sohail, D. Dickerson, T. Bohach, S.R. Krishnan, K.K. Srinivasan</i>	2D07: Numerical simulation of spray-plume interactions <i>K.V. Meredith, X. Zhou, S. Ebrahimzadeh, B. Merci</i>	2E07: Laminar burning speed and mass burning rate measurement of H ₂ /CO/air mixtures at high temperatures and pressures using a new multi-shell model <i>O. Askari, A. Moghaddas, A. Alholm, B. Alhazmi, A. Aljanabi, H. Metghalchi</i>	2F07: Shock-tube time-history measurements of H ₂ O in the H ₂ /O ₂ system using IR laser absorption spectroscopy <i>C.R. Mulvihill, E.L. Petersen</i>	2G07: Investigation on RDE operation by geometric variation of the combustor annulus and nozzle exit area <i>R. Driscoll, V. Anand, A. St. George, E. Gutmark</i>	2H07: Quantitative narrowband infrared imaging of a turbulent lean premixed flame <i>D. Han, Y. Yang, R.K. Kapaku, J.P. Gore</i>
11:50	2A08: A novel approach to measuring soot concentration with spectroscopic methods <i>M. Winter, Z. Diao, T. Li</i>	2B08: Flame-assisted slurry spray pyrolysis for the synthesis of non-hollow nanostructured electrochemical materials <i>K.-Y. Shen, M. Lengyel, R.L. Axelbaum</i>	2C08: Strategies for reduced UHC and CO emissions from low temperature dual fuel natural gas combustion in a single cylinder research engine <i>A. Sohail, M.S. Raihan, K.A. Hodges, T.C. Bohach, K.K. Srinivasan, S.R. Krishnan</i>	2D08: CFD modeling of fire growth between vertical paper rolls <i>N. Ren, D. Zeng, K. Meredith, M. Chaos, Y. Wang</i>	2E08: An evaluation of assumptions underlying laminar flame speed extrapolation from expanding spherical flames <i>W. Liang, F. Wu, C.K. Law</i>	2F08: Time-dependent speciation of ethylene combustion under fuel rich conditions — A novel shock tube approach <i>G. Flora, J.P. Cain, M.S.P. Kahandawala, M. DeWitt, E. Corporan, S.S. Sidhu</i>	2G08: Characterization of initiator dynamics in an RDE <i>A. St. George, S. Randall, V. Anand, R. Driscoll, E. Gutmark</i>	2H08: Flowfield and flame structure in a laboratory scale single element combustor under unsteady operation <i>A. Dasari, L.W. White, M. Gamba</i>
12:10	2A09: Development of an improved data analysis approach for combined line-of-sight attenuation and two-angle elastic light scattering diagnostics of soot aggregates <i>T. Zhang, M.J. Thomson</i>	2B09: Ultrafine manganese oxide nanoparticles synthesized by flame stabilized on a rotating surface <i>J. Camacho, C. Liu, N. Montes, H. Wang</i>	2C09: A quasi-dimensional simulation of partially premixed dual fuel low temperature combustion <i>S.R. Krishnan, K.K. Srinivasan, H. Mahabadipour</i>	2D09: Large eddy simulation of upward flame spread on PMMA wall <i>J. Wen, K. Fukumoto</i>	2E09: Propagation velocity of a deflagration front in a preheated autoigniting mixture <i>R. Sankaran</i>	2F09: High temperature and high pressure chemical kinetics of methyl nonenoate isomers – experiments and modeling <i>A. Fridlyand, S.S. Goldsborough, K. Brezinsky</i>	2G09: Study of combustion instability in a rotating detonation engine <i>V. Anand, A. St. George, R. Driscoll, E. Gutmark</i>	2H09: A study of swirl flame dynamics using time-resolved chirped probe pulse femtosecond CARS <i>C.D. Slabaugh, C. Dennis, I. Boxx, W. Meier, R.P. Lucht</i>

12:30 – 13:40 Lunch in Hall of Mirrors
U.S. National Board Meeting in Rue Reolon

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Coal and Biomass I <i>Chair:</i> S. Karnani	Heterogeneous Combustion VI <i>Chair:</i> A. Choudhuri	Engine Diagnostics <i>Chair:</i> E. Eagle	Fire Research V <i>Chair:</i> D. Zeng	Unsteady Laminar Flames <i>Chair:</i> T. Liewen	Reaction Kinetics IV <i>Chair:</i> R. Mevel	Explosions and High-Speed Combustion I <i>Chair:</i> T. Lee	Turbulent Flame Modeling II <i>Chair:</i> D. Haworth
13:40	2A10: Mechanisms for the size partitioning of several volatile species in the particulates formed during pulverized coal combustion <i>Q. Huang, S. Li, G. Li, M. Yang, Q. Yao</i>	2B10: An analytical study of carbon gasification in CO ₂ /H ₂ O environments <i>T.X. Li, Z.C. Song, K. Liu, K. Saito</i>	2C10: Analysis of time-resolved diagnostics applied to a multiple nozzle combustor <i>B. Dolan, R.V. Gomez, E. Gutmark</i>	2D10: Boundary layer combustion under forced flow <i>A.V. Singh, M.J. Gollner</i>	2E10: Kelvin-Helmholtz instability interaction with sound waves in reacting viscous potential flows <i>S. Bilgili, O. Ugarte, V. Akkerman</i>	2F10: Thermochemical properties for cyclopentadienone-alcohols, hydroperoxides, vinylic, alkoxy and alkylperoxy radicals: Cyclopentadienone-yl + O ₂ kinetics <i>S. Yommee, J.W. Bozzelli</i>	2G10: Explosion combustion parameters of oxygen enriched hydrogen-air mixtures <i>R. Mével, J. Sabard, J. Lei, N. Chaumeix</i>	2H10: Is scaling of premixed turbulent combustion dynamics using strained flame models possible? <i>S.J. Shanbhogue, S. Taamallah, S.H. Hong, H. Watanabe, Z.A. LaBry, R. Speth, A.F. Ghoniem</i>
14:00	2A11: Role of catalyst in biomass gasification with CO ₂ <i>N. Kumar, E. Wachs, P. Basak, J.P. Gore</i>	2B11: Increase in droplet burning rate of ethanol with the addition of graphite nanoparticles: Influence of radiation absorption <i>S. Tanvir, L. Qiao</i>	2C11: Detailed ignition sequence studied with a fast infrared camera <i>F. Marcotte, A. deChamplain, J. Jean, A. Fossi, S. Ringuette</i>	2D11: Numerical modeling of upward flame spread over wavy thin solids and experimental comparisons <i>E.J. Stalcup, G. Nastac, J.S. T'ien</i>	2E11: IFTS for harmonic unsteady laminar combustion <i>M.R. Rhoby, K.C. Gross</i>	2F11: Low temperature oxidation of normal-alkanes <i>P.S. Veloo, S. Dooley, S. Jahangirian, S.H. Won, F.L. Dryer</i>	2G11: Impact induced and fine particle combustion reactions of enhanced aluminum based structural energetic casings <i>J. Guadarrama, M. Clemenson, H. Krier, N. Glumac</i>	2H11: Fuel effects in high Karlovitz premixed turbulent flames: Toluene vs <i>n</i> -heptane <i>S. Lapointe, G. Blanquart</i>
14:20	2A12: Effects of biomass moisture content on volatile flame during cofiring with coal <i>M. Pollard, Z. Yang, A. Gopan, A. Adeosun, J. Madero, B.M. Kumfer, R.L. Axelbaum</i>	2B12: Flame propagation and quenching in binary fuel mixtures <i>J. Palecka, S. Goroshin, M. Soo, P. Julien, J. Bergthorson, D.L. Frost</i>	2C12: Comparing vapor penetration measurements from IR thermography of C-H stretch with schlieren and LIF during fuel injection in a heavy-duty diesel engine <i>W.E. Eagle, L.-M. Malbec, M.P.B. Musculus</i>	2D12: An experimental and modeling approach to investigate the burning behavior of cartoned unexpanded plastic commodity <i>G. Agarwal, A. Gupta, M. Chaos, K. Meredith, Y. Wang</i>	2E12: Three-dimensional and swirl effects on harmonically forced, non-premixed flames <i>N. Magina, T. Liewen</i>	2F12: A chemical kinetic study of octane sensitivity <i>C.K. Westbrook, W.J. Pitz, M. Mehl</i>	2G12: Analysis of ethylene-oxygen combustion in micro-pipes <i>V. Akkerman, B. Demircok, V. Bychkov, D. Valiev, C.K. Law, M.-H. Wu</i>	2H12: One-dimensional turbulence simulation of soot and enthalpy evolution in ethylene jet diffusion flames <i>J.C. Hewson, D.O. Lignell, S.P. Kearney, D.R. Guddenbecher, V. Lansinger</i>

14:40	2A13: Control of radiative heat transfer in pressurized, high temperature combustion applications <i>Z. Yang, F. Xia, A. Adeosun, B.M. Kumfer, R.L. Axelbaum</i>	2B13: Flame speeds and stretch effects in flat aluminum-air flames <i>S. Whiteley, P. Julien, M. Soo, S. Goroshin, D.L. Frost, J. Berghorson</i>	2C13: Development and application of a multiplexed two-color sensor for mapping of EGR and back-flowing combustion residual in the intake manifold of a heavy duty diesel engine <i>G. Jatana, W. Partridge, L. Kocher, S.-M. Moon, S. Poppuri, K. Augustin, J. Helt, F. Tao, Y. Wu, R. Booth, S. Geckler, D. Koberlein</i>			2F13: The role of excited radicals formed from exothermic abstractions in combustion <i>N.J. Labbe, R. Sivaramakrishnan, C.F. Goldsmith, J.A. Miller, S.J. Klippenstein</i>	2G13: Theory of flame acceleration in open/vented obstructed pipes <i>J. Sadek, V. Akkerman, V. Bychkov</i>	2H13: An a-posteriori evaluation of principal component analysis-based models for turbulent combustion simulations <i>A. Biglari, J.C. Sutherland</i>
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15:00 – 15:20 Coffee Break
During your break visit the Combustion Artwork and vote before 17:30 today

15:20 – 16:40 Panel Title: A Voyage Through Combustion (Pavillion Ballroom)

Group 1: Paul Miles, Sandia National Laboratories, Derek Dunn-Rankin, University of California Irvine, and Joseph Zelina, GE Aviation

Group 2: Jacqueline O'Connor, Pennsylvania State University and William Northrop, University of Minnesota

Session Chairs/Moderators: Ajay K. Agrawal and Paul Ronney

16:40 – 17:00 Break
During your break visit the Combustion Artwork and vote to pick the winner before 17:30 Tuesday

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Coal and Biomass II <i>Chair:</i> R. Axelbaum	Soot Modeling and Characterization <i>Chair:</i> J. Heyne	IC Engines and Gas Turbines <i>Chair:</i> J. Bittle	Fire Research VI <i>Chair:</i> C. Finney	Laminar Flames IV <i>Chair:</i> K. Kumar	DME Combustion <i>Chair:</i> N. Hansen	Explosions and High-Speed Combustion II <i>Chair:</i> L. Qiao	Turbulent Flames IV <i>Chair:</i> H. Wang
17:00	2A14: Soot oxidation rates for O ₂ and OH <i>H. Guo, P.M. Anderson, P.B. Sunderland</i>	2B14: Molecular characterization of organic content of soot along the centerline of a coflow diffusion flame <i>J. Cain, A. Laskin, M.R. Kholghy, M.J. Thomson, H. Wang</i>	2C14: Fuel unsaturation effects on NO _x and PAH formation in spray flames <i>X. Fu, S. Aggarwal</i>	2D14: Forward pulsation behavior of wind-driven line fires <i>W. Tang, D. Gorham, M.J. Gollner, J. Forthofer, M. Finney</i>	2E14: Laminar flame speeds of nano-aluminum/methane hybrid mixtures <i>T. Sikes, M.S. Mannan, E.L. Petersen</i>	2F14: Advanced insights in low-temperature oxidation of dimethyl ether – a theoretical and experimental approach <i>K. Moshhammer, A.W. Jasper, D.M. Popolan-Vaida, A. Lucassen, P. Diévert, H. Selim, A.J. Eskola, C.A. Taatjes, S.M. Sarathy, Y. Ju, P. Dagaut, K. Kohse-Höinghaus, N. Hansen</i>	2G14: Ignition of explosively dispersed kerosene <i>C.H. Chan, C. Murzyn, H. Krier, N. Glumac</i>	2H14: Highly turbulent premixed flame structure – Integral length scale effects <i>T.M. Wabel, A.W. Skiba, J.E. Tenme, J.F. Driscoll</i>

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
17:20	2A15: Uncertainty analysis of TEM-derived soot morphology and comparison to BET surface area <i>P.M. Anderson, H. Guo, P.B. Sunderland</i>	2B15: A GPU-parallelized Perfectly Stirred Reactor (PSR) model for soot modeling <i>S. Adhikari, A. Sayre, A.J. Chanduy</i>	2C15: Cycle-to-cycle variations in a homogeneous-charge spark-ignition engine: An integrated experimental and simulation investigation <i>D.C. Haworth, A. Anand, T.-W. Kuo, D.L. Reuss, C.J. Rutland, V. Sick, P. Schiffmann, Y. Shekhawat, N.V. Dam, X. Yang</i>	2D15: Development of a computational Explosive Vent Analyzer (EVA) <i>O. Ugarte, V. Akkerman, A.S. Rangwala</i>	2E15: Ignition of <i>n</i> -hexane-air by moving hot particles: Effect of particle diameter <i>S.A. Coronel, J. Melguizo-Gavilanes, J.E. Shepherd</i>	2F15: Formation of the hydrogen peroxy radical and hydrogen peroxide in a jet-stirred reactor during the oxidation of dimethyl ether <i>N.L. Le Tan, M. Djehiche, P. Dagaut, C. Jain, G. Dayma</i>	2G15: Ignition of premixed CH ₄ /air and H ₂ /air mixtures by a hot jet generated by prechamber combustion <i>S. Biswas, L. Qiao</i>	2H15: Effects of Karlovitz number and flame density ratio on vorticity transformation in premixed flames <i>B. Bobbitt, G. Blanquart</i>
17:40	2A16: A design and numerical study of a staged, pressurized oxy-coal combustion furnace with near-zero recirculation <i>A. Adeosun, F. Xia, Z. Yang, A. Gopan, B.M. Kumfer, R.L. Axelbaum</i>	2B16: Gas-to-particle transition in a moderately sooting laminar C ₂ H ₄ /air premixed flame <i>F. Carbone, S. Moslih, M. Attoui, A. Gomez</i>	2C16: Premixed flame response to helical flow disturbances: Non-linear effects <i>V. Acharya, T. Lieuwen</i>	2D16: Comparison of wildland fire rate of spread models in chaparral fuel beds <i>D.R. Weise, E. Koo, X. Zhou, S. Mahalingam, F. Morandini, J.-H. Balbi</i>	2E16: The effect of ozone addition on laminar flame propagation <i>X. Gao, Y. Zhang, S. Adusumilli, J. Seitzman, W. Sun, T. Ombrello, C. Carter</i>	2F16: Towards a comprehensive DME/propane blended combustion kinetic model <i>E.E. Dames, B.W. Weber, A. Rosen, C.W. Gao, C.-J. Sung, W.H. Green</i>	2G16: Mid-infrared radiation imaging of ignition and combustion in supersonic flow <i>D.L. Blunck, T. Ombrello</i>	2H16: NO formation analysis of turbulent non-premixed co-axial methane/air diffusion flames <i>S. Poozesh, T. Li, K. Saito, N. Akafuah</i>
18:00	2A17: Effect of stoichiometric ratio and oxygen concentration on heat flux profiles in oxy-coal combustion <i>A. Gopan, Z. Yang, A. Adeosun, B.M. Kumfer, R.L. Axelbaum</i>		2C17: Effects of burning alternative fuel in a 5-cup combustor sector <i>K.M. Tacina, C.T. Chang, Z. He, J. Herbon</i>	2D17: Mechanics of surface layer morphology in flaming combustion <i>Y. Nguyen, T.J. Pence, I.S. Wichman</i>	2E17: Analysis of a tabulated chemistry model for lean premixed hydrogen-air flames <i>J. Schlup, G. Blanquart</i>	2F17: Structure and extinction of partially premixed DME flames <i>T. Knoblinger, R. Gehmlich, E. Pucher, K. Seshadri</i>	2G17: Flame acceleration and detonation initiation in obstructed pipes <i>O. Ugarte, B. Demirgok, V. Akkerman, V. Bychkov, D. Valiev</i>	2H17: A priori and a posteriori analyses of multi-species turbulent mixing layers under supercritical-pressure conditions <i>G. Borghesi, J. Bellan</i>

Before the Banquet visit the Combustion Artwork and vote before 17:30 today

19:00 – 21:00 Banquet in the Hall of Mirrors
Guest Speaker: Donald Pettit, NASA Astronaut

WEDNESDAY, 20 May 2015

07:00 – 08:00 Continental Breakfast- Rookwood
 07:00 – 12:00 Work in Progress Posters and Combustion Artwork are displayed in Salon I
 07:00 – 12:00 Exhibits are displayed in Rookwood

Pavillion Ballroom

07:50 Announcements: Michael Benjamin, GE Aviation, Local Host
 07:55 Combustion Art Competition Winners Announcement: Sandra L. Olson, NASA Glenn Research Center

08:00 – 09:00 Plenary Lecture – “Gas Turbine Combustion – From Science to Certification”

Dr. Joseph Zelina - GE Aviation

Session Chair: Michael Benjamin

09:00 – 09:10 BREAK

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Coal and Biomass III <i>Chair:</i> M. Ameen	Plasmas <i>Chair:</i> T. Ombrello	Flame Measurements <i>Chair:</i> R. Pitz	Laminar Flames V <i>Chair:</i> O. Askari	Cool Flames <i>Chair:</i> P. Ronney	Reaction Kinetics V <i>Chair:</i> B. Rotavera	Kinetic Mechanisms II <i>Chair:</i> A. Fridlyand	Turbulent Flame Modeling III <i>Chair:</i> M. Mueller
09:10	3A01: Large eddy simulation of an oxy-coal combustor <i>A.I. Josephson, B.J. Isaac, D.O. Lignell, T.H. Fletcher</i>	3B01: Numerical and experimental study of pulsed nanosecond plasma discharges for C ₂ H ₄ /O ₂ /Ar gas mixtures in a low temperature reactor <i>S. Yang, S. Nagaraja, W. Sun, V. Yang, J.K. Lefkowitz, Y. Ju</i>	3C01: Quantitative CH measurements in atmospheric-pressure, premixed flames of C ₁ -C ₄ alkanes <i>P. Versailles, G.M.G. Watson, A.C.A. Lipardi, J.M. Bergthorson</i>	3D01: Counterflow analysis for combustion at high pressure <i>A.J. Juanós, W.A. Sirignano</i>	3E01: On premixed cool flames in the counterflow <i>P. Zhao, W. Liang, S. Deng, C.K. Law</i>	3F01: Application of sparse sensitivity analysis to detailed chemical kinetics in high fidelity compression-ignition engine simulations <i>S. Som, Z. Wang, G.M. Magnotti, W. Liu, R. Sivaramakrishnan, M.J. Davis</i>	3G01: Cyclic ether oxidation mechanism for 2-oxiranyl and 2-oxetanyl radicals: A theoretical study <i>H. Wang, J.W. Bozzelli</i>	3H01: Studies of the flow and turbulence fields in a turbulent pulsed jet flame using LES/PDF <i>P. Zhang, H. Wang</i>
09:30	3A02: Bubbling fluidized bed biomass gasification: Modeling of char gasification and attrition kinetics <i>R.B. Bates, C. Altantzis, A.F. Ghoniem</i>	3B02: CO emission from an impinging non-premixed flame under the influence of an electric field <i>Y.C. Chien, D. Escofet-Martin, D. Dunn-Rankin</i>	3C02: Conjugation length comparison between high-resolution transmission electron microscopy and optical band gap analysis of soot in a non-premixed flame <i>M.L. Botero, E.M. Adkins, S.G. Calera, J.H. Miller, M. Kraft</i>	3D02: The effect of mixture fraction on edge flame propagation speed <i>P. Wang, H. Song, R. Boles, H. Prahaphap, J. Piotrowicz, P.D. Ronney</i>	3E02: Combustion characteristics in a non-premixed cool-flame regime of <i>n</i> -heptane in microgravity <i>F. Takahashi, V.R. Katta, M.C. Hicks</i>	3F02: Simplified ignition correlations development for HCCI engine design and control <i>A. Zhou, T. Dong, B. Akih-Kumgeh</i>	3G02: A high pressure mechanism (HP-Mech) for flame modeling of C ₀ -C ₂ hydrocarbons, alcohols and methyl esters <i>X. Yang, X. Shen, J. Sammer, Y. Ju</i>	3H02: Analysis of conditional diffusion models for the large eddy simulation / transported filtered density function approach of turbulent hydrogen flames at large pressure <i>Z.Y. Ma, R.S. Miller</i>

09:50	3A03: Effect of torrefaction on fast pyrolysis of centimeter-scale birch wood particles <i>Y. Chen, R. Daya, W. Cao, P. Olszewski, A. Atreya</i>	3B03: A kinetic study of low temperature methane oxidation in a nanosecond repetitively pulsed discharge <i>J.K. Lefkowitz, A. Rouso, P. Guo, Y. Ju</i>	3C03: Relating CH* chemiluminescence with charged species in a non-premixed methane flame <i>A.A. Roman, D. Dunn-Rankin, J. Tinajero</i>	3D03: Effects of axial stretch on the flame propagation enhancement of large hydrocarbons by addition of ozone <i>M. Pinchak, E. Gutmark, T. Ombrello, C. Carter</i>	3E03: Flammability limits and regime diagram of cool premixed flames sensitized by ozone <i>C.B. Reuter, S.H. Won, Y. Ju</i>	3F03: New insights into the low-temperature oxidation chemistry of 2-methylhexane <i>Z. Wang, L. Zhang, V.S.B. Shankar, K. Moshhammer, D.M.P.-Vaida, A. Lucassen, C. Hemken, D. Vuilleumier, N. Hansen, P. Dagaut, S.M. Sarathy</i>	3G03: Identification, correction, and comparison of detailed kinetic models <i>V.R. Lambert, R.H. West</i>	3H03: Large eddy simulation of turbulent partially premixed jet flames with inhomogeneous boundary conditions <i>B.A. Perry, M.E. Mueller, A.R. Masri, R.S. Barlow</i>
10:10	3A04: Integrating intra-particle processes in large scale simulation of biomass thermochemical conversion <i>H. Goyal, P. Pepiot</i>	3B04: Plasma flow reactor studies of H ₂ /O ₂ /Ar kinetics: Ex-situ and In-situ experimental studies <i>N. Tsolas, K. Togai, R.A. Yetter, Z. Yin, K. Fredrickson, W.R. Lempert, I.V. Adamovich</i>	3C04: Color-ratio pyrometry for temperature measurements in methane/air counterflow flames <i>A.L. Gambin, R.E. Padilla, D. Dunn-Rankin, T.K. Pham</i>	3D04: Influence of the internal flame structure on the flame acceleration scenario <i>S. Bilgili, H. Morella, V. Bychkov, V. Akkerman</i>		3F04: A comparative assessment of constraint potential and constraint forms of rate-controlled constrained-equilibrium method <i>F. Hadi, M. Janbozorgi, M.R.H. Sheikhi</i>	3G04: A further analysis of the explosion limits of hydrogen-oxygen mixtures <i>W. Liang, C.K. Law</i>	3H04: Computational study of turbulent premixed counterflow flames <i>R. Tirunagari, S.B. Pope</i>

10:30 – 10:50 Coffee Break
During your break make sure to visit our Sponsors in Rookwood

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
	Biomass Combustion <i>Chair:</i> M. Baumgardner	Stationary Combustion Systems <i>Chair:</i> C. Baukal	Kinetic Measurements <i>Chair:</i> D. Richardson	Novel Concepts <i>Chair:</i> M. Uddi	Laminar Flames VI <i>Chair:</i> W. Sun	Reaction Kinetics VI <i>Chair:</i> S. Wagnon	Turbulent Flame Measurements II <i>Chair:</i> J. Sutton	Turbulent Flame Modeling IV <i>Chair:</i> D. Lignell
10:50	3A05: Effect of particle size on thermochemical decomposition of biomass by TGA <i>G. Canestrini, N. Staiano, E. Belmont</i>	3B05: Experimental insight into the effect of sound intensity on smoldering combustion <i>P. Tiwari, V. Malhotra</i>	3C05: Species concentrations in miniature engines using synchrotron sourced PIMS <i>G. Wang, P.T. Lynch</i>	3D05: A “Swiss-Roll” fuel reformer: Experiments and modeling <i>C.-H. Chen, B. Richard, Y. Zheng, H. Pearlman, S. Trivedi, S. Koli, A. Lawson, P. Ronney</i>	3E05: Effect of planar flame speed variations on the flame acceleration mechanisms <i>S. Demir, H. Sezer, V. Akkerman</i>	3F05: Experimental and modeling studies of FACE gasolines: Effect of octane sensitivity on autoignition in a rapid compression machine <i>G. Kukkadapu, S.M. Sarathy, C.-J. Sung</i>	3G05: Near-field structure of piloted turbulent jet flames with inhomogeneous inlets <i>R.S. Barlow, S. Meares, G. Magnotti, A.R. Masri</i>	3H05: An investigation of the scalar dissipation rate behavior in a premixed hydrogen flame <i>M. Kuron, Z. Ren, H. Kolla, E. Hawkes, J.H. Chen, T. Lu</i>
11:10	3A06: Self-sustaining smoldering as an energy efficient alternative for managing biosolids <i>T.L. Rashwan, J.I. Gerhard, G. Grant</i>	3B06: Radiation enhancement to increase efficiency and reduce pollutants <i>W. Cao, Y. Chen, P. Olszewski, K. Aanjaneya, C.S. Ponnappalli, A. Atreya</i>	3C06: A nuclear magnetic resonance orientated combustion property regression <i>K. Dussan, S. Dooley, F.L. Dryer, S.H. Won</i>	3D06: Experimental and analytical study of a porous media burner with passive air entrainment <i>S.R. Addamane, M. Hajilou, C.P. Prevedel, E.L. Belmont</i>	3E06: Combustion in micro pipes: Effect of preheated walls <i>O. Ugarte, B. Demirgok, V. Akkerman, D. Valiev</i>	3F06: Improved chamber homogeneity in continuously sampled RCMs through novel geometry addition <i>G.T. Arroyo Jr., P.T. Lynch</i>	3G06: Experimental studies of a reacting jet in a vitiated crossflow <i>J.A. Wagner, S.W. Grib, M.W. Renfro, B.M. Cetegen</i>	3H06: <i>A priori</i> DNS study of the shadow position mixing model <i>X. Zhao, A. Bhagatwala, J.H. Chen, D.C. Haworth, S.B. Pope</i>

Room	Caprice 1&4	Caprice 2&3	Salons BC	Salons DE	Pavillion	Rosewood	Salon FG	Continental Room
11:30	3A07: Experimental investigation of plasma assisted combustion of low heating value biomass with a three phase AC plasma torch <i>S. Takali, F. Fabry, V. Rohani, F. Cauneau, L. Fulcheri</i>	3B07: Soot formation and its impact on flame radiation during turbulent, non-premixed oxygen-enriched combustion of methane <i>C.R. Shaddix, T.C. Williams</i>	3C07: Time-resolved measurements of product formation in neopentane oxidation: A probe to investigate chain-branching mechanism <i>A.J. Eskola, I.O. Antonov, L. Sheps, J.D. Savee, D.L. Osborn, C.A. Taatjes</i>	3D07: Control of clustered diffusion microflames for direct flame fuel cell <i>T. Hirasawa, S. Kato</i>	3E07: Multi-timescale and Correlated Dynamic Adaptive Chemistry and Transport (CO-DACT) modeling of ignition and flame propagation of jet fuel surrogate mixtures <i>W. Sun, Y. Ju</i>	3F07: An experimental and kinetic modeling study for autoignition of 1,2,4-trimethylbenzene <i>K. Kumar, M. Mehl, W.J. Pitz, C.-J. Sung</i>	3G07: Spatio-temporal statistics of temperature fluctuations in turbulent nonpremixed jet flames <i>T. McManus, J. Sutton</i>	3H07: Evaluation of scalar dissipation rate sub-models under diesel engine conditions <i>M.M. Ameen, J. Abraham</i>
11:50	3A08: Effect of torrefaction on biomass properties and co-combustion with coal <i>E. Beagle, A.B. Mohammed, E. Belmont</i>	3B08: Effect of mixing tube length on flame dynamics with porous inert media in a swirl stabilized combustor <i>J.C. Allen, B.T. Fisher, A.K. Agrawal</i>	3C08: Experimental and modeling study of the chemical structures of laminar premixed flames of acetaldehyde <i>T. Tao, W. Sun, B. Yang, N. Hansen, C. Hemken</i>	3D08: An experimental and numerical analysis of <i>n</i> -dodecane oxidation in a platinum-coated channel <i>E.D. Tolmachoff, A. Booth, I. Lee, W. Allmon, C.M. Waits</i>	3E08: Effect of Lewis number on flame acceleration in channels <i>S. Bilgili, B. Demirgok, D. Valiev, V. Bychkov, V. Akkerman</i>	3F08: An investigation of phase change effects during RCM experiments with large molecular weight fuels <i>C. Banyon, S.S. Goldsborough</i>	3G08: Investigation on the correspondence between turbulent premixed flames and flow fields in a backward-facing step combustor using OH-PLIF and PIV measurements <i>S. Hong, S.J. Shanbhogue, A.F. Ghoniem</i>	3H08: A second-order dynamic adaptive hybrid scheme for stiff chemistry integration <i>Y. Gao, C. Xu, Z. Ren, T. Lu</i>
12:10	3A09: The effects of secondary air delivery parameters on the performance on a top-lit up-draft semi-gasifier biomass cookstove <i>J. Tryner, J. Tillotson, M.E. Baumgardner, A.J. Marchese</i>	3B09: Effect of geometry on twin-fluid injector's combustion performance and energy efficiency <i>Z. Ayers, Y. Niguse, A.K. Agrawal</i>		3D09: Oxidation study for chemical-looping combustion using thin nickel foils <i>Z. Zhao, M. Uddi, T. Chen, A.F. Ghoniem</i>		3F09: An experimental and modeling study of the autoignition of <i>n</i> -butylcyclohexane over a wide pressure, temperature and equivalence ratio range <i>W.J. Pitz, C. Conroy, J. Bugler, H.J. Curran</i>		3H09: Towards DNS of statistically stationary turbulent premixed flames in lean methane/air mixtures <i>Z. Wang, C. Scalo, V. Magi, J. Abraham</i>

12:30 – 15:45 University of Cincinnati Combustion Research Laboratory Tours
Boxed lunches will be provided to people that signed up for the tours in the Pavillion Foyer at 12:00

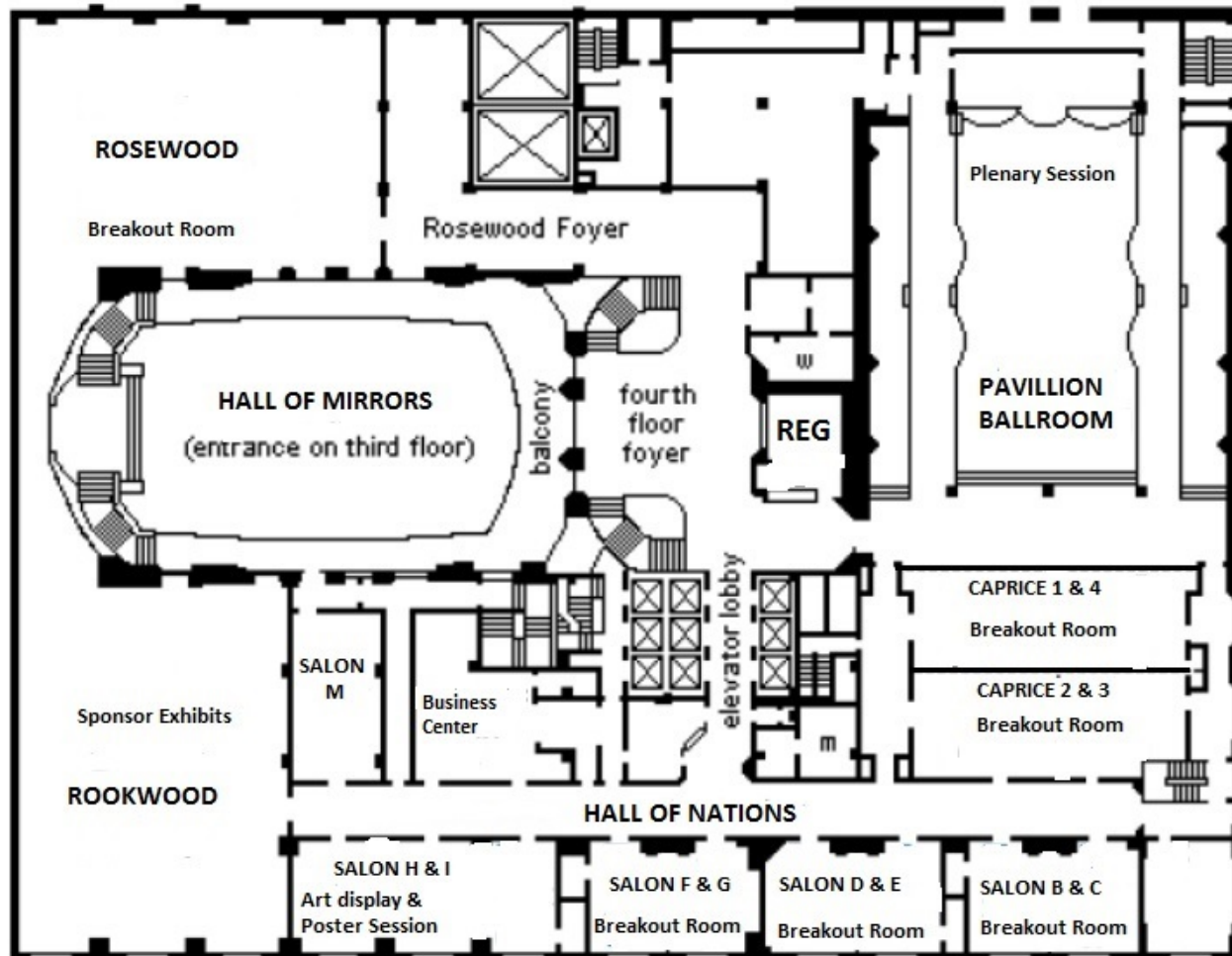
Busses will depart from the 5th Street entrance:
Group 1 departs at 12:30, returns to the hotel at 14:45
Group 2 departs at 13:30, returns to the hotel at 15:45

Monday Posters

- 1P01: Numerical Study on Quasi-Steady-State Spherical Carbon Particle Gasification With and Without Thermal Radiation
Sadegh Poozesh, Tianxiang Li, Kozo Saito
- 1P02: Bio-Char Characterization from Lab- and Pilot-Scale Gasifiers
Yunye Shi, Tejasvi Sharma, Guiyan Zang, Albert Ratner
- 1P03: Progress on Centerbodyless RDE Simulations
William Stoddard, Ephraim Gutmark
- 1P04: Minimum Hot Surface Ignition Temperature Diagnostics Including Hot Surface Ignition
Jesse F. Adams, Jay P. Gore
- 1P05: Signal to Noise Ratio Improvements in Rayleigh Measurements Using High Dynamic Range Imaging
Davide Giassi, Marshall Long
- 1P06: 2-D Multi-Angle Light Scattering in Laminar Coflow Diffusion Flames
Nathan Kempema, Marshall Long
- 1P07: Continuous Wave Cavity Enhanced Magneto Optic Rotation Spectroscopy for Small Combustion Radicals
Michael Stichter, Jeremy Robbins, Nicholas P. Cernansky, David Miller
- 1P08: Experimental and Numerical Characterization of Premixed Cellular Tubular Flames
Carl A. Hall, Waruna D. Kulatilaka, Naibo Jiang, Sukesh Roy, James R. Gord, Robert W. Pitz
- 1P09: Large-scale Spacecraft Fire Safety Tests
David Urban, Gary Ruff, Paul Ferkul, Sandra Olson, James S. T'ien, Carlos Fernandez-Pello, Jose Torero, Guillaume Legros, Christian Eigenbrod, Nikolai Smirnov, Osamu Fujita, Adam Cowlard, Balazs Toth, Olivier Minster, Grunde Jomaas
- 1P10: The Influence of the Shape of Carbon Based Susceptors on Microwave Heating of TNT
Evan Vargas, Michelle Pantoya, Mohammad Saed, Brandon Weeks
- 1P11: Comparison of the simulated light-duty drive-cycle fuel economy and engine exhaust properties for three different RCCI fuel combinations
Zhiming Gao, Scott Curran, C. Stuart Daw, David E. Smith, Robert Wagner, James E. Parks
- 1P12: Mid-Infrared Carbon Monoxide Laser Absorption Spectroscopy System for a High-Pressure Combustor Rig
James Anderson
- 1P13: Characterization of a Novel Fuel Injector Incorporating Gliding Arc Plasma to Enhance Combustion in Lean, Premixed Flames
Felipe Gomez del Campo
- 1P14: Experimental Study of Ignition by a Transient Hot Gas Jet with Shock Wave Interactions in a Constant-Volume Combustion Channel
Kyong-Yup Paik, Razi Nalim, Md Nazmuzzaman Khan, Ali Tarraf Kojok
- 1P15: A Computational Study of Methanol with Intake-Pressure Boost
Hyowon Lee, Ocktaeck Lim
- 1P16: Detailed kinetic modeling of *n*-heptane/biogas combustion in HCCI engines
Mattia Bissoli, Marco Mehl, David Vuilleumier, Darko Kozarac
- 1P17: Advanced Injection Characterization for Emissions Reduction in Diesel Engine Applications
Meghan Borz, Jacqueline O'Connor
- 1P18: The Effect of DBD Non-Thermal Plasma on Fuel Reforming and Co-Flow Laminar Diffusion Flame
Sunho Park, Mincheol Song, Eungang Kim, Wonnam Lee
- 1P19: Effect of Pressure on morphological parameters of soot in counterflow diffusion flame
Hafiz Muhammad Fahid Amin, Scott Steinmetz, Emre Cenger, William Roberts
- 1P20: Evaluation of yield sooting index in high pressure flames of alkane fuels
Scott Steinmetz, William Roberts
- 1P21: Lean Premixed Syngas/Air Combustion Behavior in Narrow Channels
Mohsen Ayoobi
- 1P22: Chemical Mode Decomposition of Lean Premixed H₂/Air Flames
Ingmar Schoegl, Mohsen Ayoobi
- 1P23: Chemical thermometry in miniature HRRST using TFE dissociation
Patrick Lynch, Wenjia Fan
- 1P24: Evaluated Kinetics of the Reactions of H atoms with Alkenes: Shock-Tube Experiments and the Determination of Relative and Absolute Rates
Jeffrey A. Manion, Iftikhar Awan

- 1P25: Flow Reactor Study of the Pyrolytic Decomposition of Aviation and Rocket Fuels
Sayak Banerjee, Hai Wang, Craig T. Bowman
- 1P26: Experimental Measurement of Chemical Species in Sub- and Above-atmospheric Pressure Flames of Bio-derived Fuels
Mohammadhadi Hajilou, Erica Belmont
- 1P27: Surrogate definition for transportation fuels for liquid phase applications
Krithika Narayanaswamy, Yuhao Xu, C. Thomas Avedisian, Perrine Pepiot
- 1P28: Shock tube measurements of CH₄ time-histories
Batikan Koroglu, Owen Pryor, Joseph Lopez, Leigh Nash, Subith Vasu
- 1P29: Mid-Infrared Carbon Monoxide Laser Absorption Spectroscopy System for a High-Pressure Combustor Rig
Eric L. Petersen, James Anderson, Gabriel Homan-Cruz
- 1P30: Turbulent Spray Combustion of Dodecane Fuel
Omid Samimi Abianeh
- 1P31: Unsteady effects on PAH during extinction and re-ignition in non-premixed flames
Priyanka Patki, Yuan Xuan
- 1P32: Numerical investigation of hot-jet ignition with shock effects in a constant-volume combustor
Md Nazmuzzaman Khan, Razi Nalim, Kyong-Yup Paik

HILTON CINCINNATI NETHERLAND PLAZA - FOURTH FLOOR



CONTINENTAL ROOM
Mezzanine Level
Breakout Room

9th U.S. National Combustion Meeting Author Listing

<i>Author</i>	<i>Paper #</i>	<i>Author</i>	<i>Paper #</i>	<i>Author</i>	<i>Paper #</i>	<i>Author</i>	<i>Paper #</i>
Aanjaneya, K.	3B06	Anand, C.	2D05	Bennett, B.A.V.	1E16, 1E17	Bychkov, V. ...	1D17, 1G18, 2G12,
Abid, S.	2G01	Anand, V.	2G07,	Bergthorson, J.M.	1B11, 1B12,	2G13, 2G17, 3D04, 3E08
Abraham, J.....	1C07, 1E18,	2G08, 2G09	1B19, 2B12, 2B13, 3C01	Cai, J.	1C20
.....	3H07, 3H09	Anderson, P.M.	2A14, 2A15	Bhagatwala, A.	1H13, 3H06	Cain, J.P.	1G03, 2B15, 2F08
Acharya, V.....	2C16	Anderson, W.E.	2C01	Biglari, A.	2H13	Cakmakci, A.	2A02
Adamovich, I.V.	3B04	Annesley, C.J.	1A17	Bilgili, S.	2E10, 3D04, 3E08	Calera, S.G.	3C02
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