

Thirty-Second International Symposium on Combustion

McGill University, Montreal Canada
August 3-8, 2008

Program

THE COMBUSTION INSTITUTE
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MONDAY, 4 August 2008
8:30 WELCOME
9:00 HOTTEL LECTURE
Multiscale combustion and turbulence. *Norbert Peters*

BREAK							
10:00							
Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Gas Turbine Combustion	Turbulent Non-premixed Jet flame	Laminar Flame Speeds	Detonations	New Technology Concepts	Fire Suppression	Particulates
10:40	1A01: Emissions optimization of a biodiesel fired gas turbine. <i>Vincent McDonell Christopher Bolszo,</i>	1B01: Length scaling of turbulent hydrogen non-premixed jet flames with coaxial air. <i>Munki Kim, Jeongseog Ho, Seunghan Kim</i>	1C01: Effects of Lewis number and ignition energy on the determination of laminar flame speed using propagating spherical flames. <i>Zheng Chen, Michael P. Burke, Yiguang Ju</i>	1D01: Spinning detonation and velocity deficit in small diameter tubes. <i>Shota Kitano, Masasi Fukao, Akio Susa, Nobuyuki Tsuboi, A. Koichi Hayashi, Mitsuo Koshi</i>	1E01: Flashing flow of superheated jet fuel. <i>Jeremiah Lee, Ravi Madabhushi, Catalin Fotache, Shiva Gopalakrishnan D. Schmidt</i>	1F01: Extinguishment of diffusion flames around a cylinder in a coaxial air stream with dilution or water mist. <i>Fumiaki Takahashi, Viswanath R. Katta</i>	1G01: Control of ash deposition in pulverized coal fired boiler. <i>H. Nagauuma, N. Ikeda, T. Kawai, T. Ito, Y. Igarashi, I. Naruse</i>
11:05	1A02: Vortex shedding and mixing layer effects on periodic flashback in a Lean Premixed Pre-vaporized gas turbine combustor. <i>Sulabh K. Dhanuka, Jacob E. Temme, James F. Driscoll, Hukam C. Mongia</i>	1B02: Spatial scales of extinction and dissipation in the near field of non-premixed turbulent jet flames. <i>Sebastian A. Kaiser, Jonathan H. Frank</i>	1C02: The effect of a DC electric field on the laminar burning velocity of premixed methane/air flames. <i>Joris D. van den Boom, Alexander A. Konnov, Alain M. Verhasselt, Viktor N. Kornilov, L.H. Philip de Goey, Henk Nijmeijer</i>	1D02: Detonation structure under chain-branching kinetics with small initiation rate. <i>Laurie Bédard-Tremblay, Josue Melguizo-Gavilanes, Luc Bauwens</i>	1E02: Non-intrusive gas-phase temperature measurements inside a porous burner. <i>Johannes Kiefer, Markus C. Weikl, Thomas Seeger, Franz von Issendorff, Frank Beyrau, Alfred Leipertz</i>	1F02: Effect of fuel type on the extinction of fuel and air stream diluted partially premixed flames. <i>Andrew Lock, Suresh K. Aggarwal, Ishwar K. Puri</i>	1G02: Behavior of lead compounds during municipal solid waste incineration. <i>Hong Yao, Ichiro Naruse</i>

11:30	1A03: Modeling study of gas-turbine combustor emission. <i>Alexander B. Lebedev, Alexander Secundov, Alexander Starik, Nataliya Titova, Alexander Schepin</i>	1B03: Multiple mapping conditioning of turbulent jet diffusion flames. <i>K. Vogialzaki, A. Kronenburg, M.J. Cleary, J.H. Kent</i>	1C03: Burning velocity and OH concentration in premixed combustion. <i>Kazuhiro Yamamoto, Masahiro Ozeki, Naoki Hayashi, Hiroshi Yamashita</i>	1D03: Detonability limits in thin annular channels. <i>Jenny Chao, Hoi Dick Ng, John H.S. Lee</i>	1E03: Thermo-dynamic and transport properties of metal/inert-gas mixtures used for arc welding. <i>Thomas Hoffmann, Georgiana Baldea, Uwe Riedel</i>	1F03: Experimental study on CH ₄ /air fire suppression effectiveness of water mist with metal chloride additives. <i>Jianghong Liu, Beihua Cong, Guangzuan Liao</i>	1G03: Formation temperature of ammonium bisulfate at simulated air preheater conditions. <i>Julianna Wei, Larry J. Muzio, Derek Dunn-Rankin, Jeff Stallings</i>
11:55	1A04: Laboratory investigations of a low-swirl injector with H ₂ and CH ₄ at gas turbine conditions. <i>Robert K. Cheng, David Littlejohn, Peter A Strakey, Todd Sidwell</i>	1B04: Coaxial turbulent jet flames: Scaling relations for measured stoichiometric mixing lengths. <i>Stephen A. Schumaker, James F. Driscoll</i>	1C04: Laminar burning velocities of three C ₃ H ₆ O isomers at atmospheric pressure. <i>Alexey A. Burluka, Alexandre A. Konnov, Hussein Osman, Matthew Harker, Malcolm Lawes, Christopher Sheppard</i>	1D04: Initiation and propagation of detonation waves in combustible high speed flows. <i>Kazuhiro Ishii, Hidefumi Kataoka, Takayoshi Kojima</i>	1E04: Numerical modeling of H ₂ -O ₂ flames involving electronically-excited species O ₂ (a ¹ Δ _g), O(¹ D) and OH(² Σ ⁺). <i>Ali Bourig, Dominique Thévenin, Jean-Pierre Martin, Gabor Janiga, Katharina Zähinger</i>	1F04: Improved understanding of thermal agent fire suppression mechanisms from detailed kinetic modeling with idealized surrogate agents. <i>William M. Pitts</i>	1G04: Relationships between composition and pulmonary toxicity of prototype particles from coal combustion and pyrolysis. <i>Seung-Hyun Cho, Jong-Ik Yoo, Audrey T. Turley, C. Andrew Miller, William P. Linak, Jost O.L. Wendt, Frank E. Huggins, M. Ian Gilmour</i>
12:20	1A05: Turbulent Combustion in a curving, contracting channel with a cavity stabilized flame. <i>Srivatsava Puranam, Jonathan Arici, Nicola Sarzi Amadé, Derek Dunn-Rankin, William A. Sirignano</i>	1B05: The effect of co-flow stream velocity on turbulent non-premixed jet flame stability. <i>Teresa Leung, Ida Wierzba</i>	1C05: Experiment and modeling study of laminar flame speed and non-premixed counterflow ignition of <i>n</i> -heptane. <i>Andrew J. Smallbone, Wei Liu, Chung K. Law, Xiaoqing Q. You, Hai Wang</i>	1D05: Numerical investigation on propagation mechanism of spinning detonation in a circular tube. <i>Yuta Sugiyama, Akiko Matsuo</i>	1E05: On the assumption of using <i>n</i> -heptane as a “surrogate fuel” for the description of the cool flame oxidation of diesel oil. <i>Dionysios I. Kolaitis, Maria A. Founti</i>	1F05: Inhibition of atmospheric-pressure H ₂ /O ₂ /N ₂ flames by trimethylphosphate over range of equivalence ratio. <i>Oleg Pavlovich Korobeinichev, Irina V. Rybitskaya, Andrey G. Shmakov, Anatoly A. Chernov, Tatyana A. Bolshova, Vladimir M. Shvartsberg</i>	1G05: Mineral interactions and their impacts on the reduction of PM ₁₀ emissions during co-combustion of coal with sewage sludge. <i>Qunying Wang, Lian Zhang, Atsushi Sato, Yoshihiko Ninomiya, Toru Yamashita, Zhongbing Dong</i>
12:45	LUNCH						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Topical Review	Turbulent Flames—DNS & LES	Premixed Laminar Flames	Elementary Reactions	Microcombustors	Radiation Effects	Furnaces
14:15	<p>1A06/07: Advanced compression-ignition engines—understanding the in-cylinder processes.</p> <p><i>John E. Dec</i></p>	<p>1B06: An analysis of lower-dimensional approximations to the scalar dissipation rate using direct numerical simulations of plane jet flames. <i>Evatt R. Hawkes, Ramanan Sankaran, Jacqueline H. Chen, Sebastian A. Kaiser, Jonathan H. Frank</i></p>	<p>1C06: Structure of a stoichiometric propanal flame at low pressure. <i>T. Kasper, U Struchmeier, P. Oßwald, K. Kohse-Höinghaus</i></p>	<p>1D06: A shock tube and theory study of the dissociation of acetone and subsequent recombination of methyl radicals. <i>S. Sexena, J.H. Kiefer, S.J. Klippenstein</i></p>	<p>1E06: Operational regimes of rich methane and propane/oxygen flames in mesoscale non-adiabatic ducts. <i>Christopher J. Evans, Dimitrios C. Kyritsis</i></p>	<p>1F06: Validation experiments to determine radiation partitioning of heat flux to an object in a fully turbulent fire. <i>Thomas Blanchat, Tim O'Hern, Sean Kearney, Allen Ricks, Dann Jernigan</i></p>	<p>1G06: Impact of the air staging on the performance of a pulverized coal fired furnace. <i>A. Ribeyrete, M. Costa</i></p>
14:40	<p>IC Engine Chairs:</p>	<p>1B07: An LES/sparse-Lagrangian multiple mapping conditioning model for turbulent diffusion flames. <i>Matthew J. Cleary, Alex Y. Klimenko, Johannes Janicka, Michael Pfitzner</i></p>	<p>1C07: Species identification in a laminar premixed low-pressure flame of morpholine as a model substance for oxygenated nitrogen-containing fuels. <i>Arnas Lucassen, Patrick Oßwald, Ulf Struckmeier, Katharina Kohse-Höinghaus, Tina Kasper, Nils Hansen, Terrill A. Cool, Phillip R. Westmoreland</i></p>	<p>1D07: <i>Ab initio</i> chemical kinetics for the reactions of HNCN with O(³P) and O₂. <i>Shucheng Xu, M.C. Lin</i></p>	<p>1E07: Lower limit of weak flame in a heated channel. <i>Yosuke Tsuboi, Takeshi Yokomori, Kaoru Maruta</i></p>	<p>1F07: The effect of different incident distances on auto-ignition of woods under a uniform incident heat flux. <i>Yupeng Zhou, Lizhong Yang, Zhihua Deng</i></p>	<p>1G07: Toward comprehensive computational fluid dynamics modeling of pyrolysis furnaces with next generation low NO_x burners using finite-rate chemistry. <i>Qing Tang, Martin Denison, Bradley Adam, David Brown</i></p>

15:05	1A08: Large Eddy Simulation of self excited azimuthal modes in annular combustors. <i>Gabriel Staffelbach, Laurent Y.M. Gicquel, Guillaume Boudier, Thierry J. Poinso</i>	1B08: LES of premixed and non-premixed combustion in a stagnation point reverse flow combustor. <i>Satish Undapalli, Suresh Menon</i>	1C08: A new type of steady and stable, laminar, premixed flame in ultra-lean, hydrogen-air combustion. <i>Joseph Grear</i>	1D08: On the mechanism of decomposition of the benzyl radical. <i>Carlo Cavallotti, Marco Derudi, Renato Rota</i>	1E08: Suppression of combustion instabilities of premixed hydrogen/air flames in micro-channels using heterogeneous reactions. <i>Gianmarco Pizza, John Mantzaras, Christos E. Frouzakis, Ananias G. Tomboulides, Konstantinos Boulouchos</i>	1F08: Characterization of thermal radiation spectra in 2m pool fires. <i>Jill Suo-Anttila, Thomas Blanchat, Allen Ricks, Alexander Brown</i>	1G08: NO _x control through reburning using biomass in a laboratory furnace: Effect of particle size. <i>C. Casaca, M. Costa</i>
15:30	1A09: Characterizing energy growth during combustion instabilities: Singular values or Eigen values? <i>Sharat Nagaraja, Kushal Kedia, Raman Sujith</i>	1B09: LES-CMC simulations of a lifted methane flame. <i>Salvador Navarro-Martinez, Andreas Kronenburg</i>	1C09: Premixed laminar C ₃ H ₈ - and C ₃ H ₆ -air stagnation flames: Experiments and simulations with detailed kinetic models. <i>Laurent J. Benezech, Jeffrey M. Bergthorson, Paul E. Dimotakis</i>	1D09: Multichannel decomposition and isomerization of octyl radicals. <i>Wing Tsang, W.S. McGivern, S.A. Manion</i>	1E09: Experimental study of micro-scale premixed flame in quartz channels. <i>Yong Fan, Yuji Suzuki, Nobuhide Kasagi</i>	1F09: Heat fluxes on opposite building wall by flames emerging from an enclosure. <i>Yee-Ping Lee, Michael Delichatsios, Yoshifumi Ohmiya, Kaoru Wakatsuki, Akito Yanagisawa, Daisuke Goto</i>	1G09: Investigation on the in-flame NO reburning in turbine exhaust gas oxidant. <i>Mario Ditaranto, Jørgen Hals, Tor Bjørge</i>
15:55	BREAK						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Soot Formation	Turbulent Flames—Tabulated Chemistry	Microcombustors	Small Hydrocarbons	Supersonic Combustion	Flame Chemistry / Diagnostic Studies	Stationary
16:25	1A10: Soot formation in unsteady counter-flow diffusion flames. <i>Alberto Cuoci, Alessio Frassoldati, Tiziano Faravelli, Eliseo Ranzi</i>	1B10: Numerical simulation of a turbulent flame using tabulated chemistry based on self-similar properties of turbulent premixed flames. <i>Benoit Fiorina, Olivier Gicquel, Denis Veynante</i>	1C10: Intermediate Reynolds/Peclet flat plate boundary layer flows over catalytic surfaces for “micro”-combustion applications. <i>Suzanne A. Smyth, Kenneth T. Christensen, Dimitrios C. Kyritsis</i>	1D10: Modeling high pressure ethane oxidation and pyrolysis. <i>Chitralkumar V. Naik, Anthony M. Dean</i>	1E10: Large-eddy simulation of equilibrium plasma-assisted combustion in supersonic flow. <i>Kenji Miki, Joey Schulz, Suresh Menon</i>	1F10: Effects of reduced gravity on water-mist suppression of flames, <i>Douglas Schwer, Kazhikathra Kailasanath</i>	1G10: Soot studies of laminar diffusion flames with recirculation zones. <i>William Roquemore, Vish Katta, Scott Stouffer, Vince Belovich, Robert Pawlik, Mike Arstingstall, Garth Justinger, James Gord, Amy Lynch, Joe Zelina, Sukesh Roy</i>
16:50	1A11: An assessment of gas-phase thermo-chemistry and soot models for laminar atmospheric-pressure ethylene-air flames. <i>Ranjan S. Mehta, Daniel C. Haworth, Michael F. Modest</i>	1B11: Optimal artificial neural networks and tabulation methods for chemistry representation in LES of a bluff-body swirl-stabilized flame. <i>Matthias Ihme, Christoph Schmitt Heinz Pitsch</i>	1C11: Comparison of ignition strategies for catalytic micro-burners. <i>Niket S. Kaisare, Georgios D. Stefanidis, Dionisios G. Vlachos</i>	1D11: Experimental and kinetic modeling study of C ₂ H ₄ oxidation at high pressure. <i>Jorge Gimenez Lopez, Christian L. Rasmussen, Maria U. Alzueta, Paul Marshall, Peter Glarborg</i>	1E11: Planar laser-induced fluorescence imaging of OH in a supersonic combustor fueled with ethylene and methane. <i>Michael David Ryan, Mark Gruber, Campbell Carter, Tarun Mathur</i>	1F11: Cyclopentadiene combustion in a plug flow reactor near 1150K. <i>Robert George Butler, Irvin Glassman</i>	1G11: Mathematical modeling of Collie coal pyrolysis considering the effect of steam produced <i>in situ</i> from coal inherent moisture and pyrolytic water. <i>Kongwei Yip, Hongwei Wu, Dong-ke Zhang</i>
17:15	1A12: Impact of soot on flame flicker. <i>Viswanath Katta, William M. Roquemore, Arvind Menon, Seong-Young Lee, Robert J. Santoro, Thomas A. Litzinger</i>	1B12: Tabulation of NO _x chemistry for Large-Eddy Simulation of non-premixed turbulent flames. <i>Guillaume Godel, Pascale Domingo, Luc Vervisch</i>	1C12: Operation strategies for controlling homogeneous combustion in catalytic microburners. <i>Georgios D. Stefanidis, Dionisios G. Vlachos</i>	1D12: A chemical kinetic study of <i>n</i> -butanol oxidation at elevated pressure in a jet stirred reactor. <i>Philippe Dagaut, Subram M. Sarathy, Murray Thomson</i>	1E12: On the influence of finite rate chemistry in LES of supersonic combustion. <i>Magnus Berglund, Christer Fureby, Vladimir Sabel'nikov J. Tegnér</i>	1F12: TDLAS based <i>in situ</i> measurement of absolute acetylene concentrations in laminar 2D diffusion flames. <i>Steven Wagner, Brian T. Fisher, James W. Fleming, Volker Ebert</i>	1G12: Kinetics of the chemical looping oxidation of CO by a co-precipitated mixture of CuO and Al ₂ O ₃ . <i>Shin Yong Chuang, John S. Dennis, Allan N. Hayhurst, Stuart A. Scott</i>

ACCEPTED POSTER PRESENTATIONS

Reaction Kinetics

- 1P01: Pre-ignition of surrogate gasoline fuels in internal combustion engines.
Crina Heghes, Neal Morgan, Uwe Riedel, Juergen Warnatz, Raul Quiceno, R.F. Cracknell
- 1P02: The chemical origin of octane sensitivity in gasoline fuels containing nitro-alkanes.
Roger F. Cracknell, L.J. McAllister, M. Norton, J.C.G. Andrae
- 1P03: Theoretical study of the reactions of HO₂ in low temperature oxidation of benzene.
Mohammednoor Altarawneh, Bogdan Z. Dlugogorski, Eric M. Kennedy, John C. Mackie
- 1P04: Kinetic modeling of *n*-decane and *n*-dodecane pyrolysis and oxidation.
Nataliya Titova, Sergey Torokhov, Alexander Starik
- 1P05: Effects of oxygenates on premixed *n*-heptane flames.
Song Jinou, Yao Chunde, Liu Shiyu, Tian Zhenyu, W.J. Jing
- 1P06: A LOI-RCCE methodology for reducing chemical kinetics, with application to laminar premixed flames.
Stelios Rigopoulos, Terese Lovås
- 1P07: The pursuit after a model of kerosene combustion: An experimental and modeling study of ignition delay time of kerosene.
Ulla Steil, Marina Braun-Unkloff, Manfred Aigner, Erna Olchanski, Alexander Burcat
- 1P08: Computationally efficient modeling of *n*-heptane oxidation using constituents and species.
Kenneth G. Harstad, Josette Bellan
- 1P09: A global sensitivity study of cyclohexane oxidation under low temperature fuel rich conditions using HDMR methods.
Tilo Ziehn, Kevin J. Hughes, John F. Griffiths, Richard Porter, Alison Tomlin
- 1P11: An experimental and kinetic modeling study of premixed NH₃-doped CH₄/O₂/Ar flames at low pressure.
Zhenyu Tian, Yuyang Li, Tao Yuan, Lidong Zhang, Fei Qi
- 1P12: A comprehensive detailed kinetic mechanism for ethanol pyrolysis, oxidation and combustion.
G. Vourliotakis, George Skevis, M.A. Founti
- 1P13: On the determination of the effective activation energy of self-ignition from shock tube measurements of speed of the reflected shock wave in combustible aseous mixture.
Ivan A. Zaev, Igor A. Kirillov
- 1P15: Rate rules for H abstractions from linear and branched alkanes by H atoms and their applicability to related molecules.
Hans-Heinrich Carstensen, Anthony M. Dean
- 1P16: Oxidation of H₂/CO₂ mixtures and effect of hydrogen initial concentration on the combustion of CH₄ and CH₄/CO₂ mixtures: Experiments and modeling.
Tanh Le Cong, Philippe Dagaut
- 1P18: Autoignition of gasoline surrogate mixtures at intermediate temperatures and high pressures: Experimental and numerical approaches.
Leonel Rincon Cancino, Mustapha Fikri, Amir A.M. Oliveira, Christof Schulz
- 1P19: Hydrogen-nitrous oxide delay time experimental shock tube and kinetic modelling study.
Rémy Lucien Mével, Sandra Javoy, Fabien Lafosse, Nabih Chaumeix, Gabrielle Dupré, Claude-Etienne Paillard
- 1P20: The high pressure pyrolysis of saturated and unsaturated C₇ hydrocarbons.
S. Garner, R. Sivaramkrishnan, Ken Brezinsky
- 1P22: Kinetic modeling of non-hydrocarbon and hydrocarbon/nitric oxide interactions in a flow reactor above 1400 K.
Shaozeng Sun, Huali Cao, Zhiqiang Wang, Lin Qian, Yukun Qin
- 1P23: Inhibition of spontaneous decomposition of acetylene by propane-butane mixture and hydrogen.
Sergey Golovastov, Dmitry I. Baklanov, Victor V. Golub, Vladislav V. Volodin, Igor N. Laskin, Nikolay V. Semin

Soot, PAH and Other Large Molecules

- 1P24: Formation of aromatics in rich methane flames doped by unsaturated compounds.
Hadj Ali Gueniche, Joffrey Biet, Pierre Alexandre Glaude, René Fournet, Frederique Battin-Leclerc
- 1P25: Shock tube study of soot formation in rich heptane/oxygen mixtures with DME/acetone/butanal/3-pentanone additives.
Zekai Hong, David F. Davidson, Subith S. Vasu, Ronald K. Hanson
- 1P26: On the effect of carbon monoxide addition on soot formation in a laminar ethylene/air coflow diffusion flame.
Hongsheng Guo, Kevin A. Thomson, Gregory J. Smallwood
- 1P27: The mechanism of smoke formation from the combustion of pine wood.
Emma Mary Fitzpatrick, Jenny M. Jones, Mohamed Pourkashanian, Andrew B. Ross, Alan Williams, Keith D. Bartle
- 1P28: A statistical approach to develop a detailed soot growth model using PAH characteristics.
Matthew S. Celnik, Abhijeet Raj, Robert I.A. Patterson, Richard H. West, Markus Kraft
- 1P30: An experimental study of benzene pyrolysis with molecular-beam mass spectrometry and tunable synchrotron VUV photoionization.
Taichang Zhang, Xin Hong, Kuiwen Zhang, Fei Qi
- 1P31: Soot and polycyclic aromatic hydrocarbons direct simulation in DI diesel turbulent diffusion flame using a comprehensive chemical kinetic mechanism.
Y.N. Song, B.J. Zhong
- 1P32: The effects of dimethyl ether and ethanol addition on combustion intermediates in premixed benzene/oxygen/argon flames.
Bin Yang, Yuyang Li, Tao Yuan, Zhenyu Tian, Kuiwen Zhang, Fei Qi
- 1P33: Soot formation under shock tube conditions: Calculations with a simplified model and minimal numerics for a detailed kinetic model.
Jens Marquetand, Iliyana Naydenova, Markus Nullmeier, Uwe Riedel, Pavel A. Vlasov, Jürgen Warnatz
- 1P35: Fingerprinting soot (towards source identification): Physical structure and chemical composition.
Randy Vander Wal, Victoria M. Bryg, Michael D. Hays
- 1P36: Effect of ceria nanoparticles on soot inception and growth in toluene/oxygen/argon mixtures.
B. Rotavera, A. Kumar, S. Seal, E.L. Petersen

Heterogeneous Combustion and Material Synthesis

- 1P37: Spontaneous ignition and flame propagation in compacted mixture of Ti-Al system: Theory and experimental comparisons.
Atsushi Makino
- 1P38: Experimental and kinetic modeling study of biomass pyrolysis in an entrained flow reactor.
Capucine Dupont, Julien Cances, Li Chen, Jean-Michel Commandre, Alberto Cuoci, Sauro Pierucci, Eliseo Ranzi
- 1P39: Emissions generated during the co-combustion of coal and biomass fuel blends.
Marcia Bragato, Kulbhushan Joshi, Joel Carlson, Jorge Alberto, S. Tenorio, Yiannis A. Levendis
- 1P40: Co-combustion characteristics of coal with biomass and NO and N₂O formation and decomposition behaviors.
Ichiro Naruse, Asri Gani
- 1P41: Numerical evaluation of fuel NO formation in oxygen-blown pulverized coal combustion.
T. Yamamoto, S. Kajimura
- 1P42: Spontaneous ignition of ultra-fine magnesium powder without an original oxide coat at room temperature in O₂/N₂ mixture streams.
Saburo Yuasa, Kawashima Masaru, Takashi Sakurai
- 1P43: Experimental study on gaseous fuel reburning for a wide range of coal qualities.
Sheng Su, Jun Xiang, Lushi Sun, Song Hu, Yi Wang, Jianrong Qiu
- 1P44: Selective catalytic reduction of NO by NH₃ over sol-gel-derived CuO/γ-Al₂O₃ catalyst.
QingSen Zhao, Jun Xiang, JinMing Shi, Sheng Su, Song Hu, Lushi Sun

- 1P45: Ignition of boron particle agglomerates.
Samuel Goroshin, Andrew J. Higgins, Sophie Ringuette, Robert Stowe, Charles Dubois
- 1P46: Study on the pyrolysis mechanism and combustion properties of High Impact Polystyrene (HIPS)/Fe-montmorillonite (Fe-OMT) nanocomposites.
Yuan Hu, Shibin Nie, Qinghong Kong, Song Lei
- 1P47: Spatial and temporal trends in the release of atomic sodium from a single burning coal particle.
Philip J. van Eyk, Peter J. Ashman, Zeyad T. Alwahabi, Graham J. Nathan
- 1P48: Self-ignition of powdered materials.
Hisa Takeda
- 1P49: Size distributions of nanoparticles generated from droplets of metal nitrate aqueous solutions in combustion environments.
Francesco Carbone, Alberto Barone, Federico Beretta, Andrea D'Anna, Antonio D'Alessio
- 1P50: A detailed kinetic model for combustion synthesis of titania from $TiCl_4$.
Richard H. West, Raphael A. Shirley, Markus Kraft, Claude F. Goldsmith, William H. Green
- 1P51: Critical phenomena in catalytic filtration combustion.
Igor George Assovskiy, Roland Pein
- 1P52: Importance of lateral momentum equation to the modeling of sandwich propellant combustion.
Periyapatna A.Ramakrishna

Spray and Droplet Combustion

- 1P53: Analysis of air-blasted kerosene vapor concentration at realistic gas turbine combustor inlet conditions using laser infra-red absorption.
Fabrice Giuliani, Umesh Bhayaraju, Christoph Hassa
- 1P54: Liquid ligament disintegration mechanism driven by capillary waves.
Junji Shinjo, Shingo Matsuyama, Yasuhiro Mizobuchi, Satoru Ogawa, Akira Umemura
- 1P55: Development and validation of a droplet collision model.
Jennifer X. Wen, Baopeng Xu
- 1P56: Transcritical partially premixed strained flames.
Laetitia Pons, Nasser Darabiha, Sébastien Candel
- 1P57: An experimental study on effects of fuel vapor in ambient gases on spontaneous ignition of a fuel droplet.
Mitsuhiro Tsue, Toshiyuki Ukita, Shinji Nakaya, Osamu Imamura, Kiyotaka Yamashita, Michikata Kono
- 1P58: A study on combustion behavior of *n*-octane two droplets arrayed in electric field direction under microgravity.
Osamu Imamura, Kiyotaka Yamashita, Jun Osaka, Mitsuhiro Tsue, Michikata Kono
- 1P59: Study of transient drag of convecting and deforming liquid droplets.
Nayan Patel, Suresh Menon
- 1P60: A simulation on the formation of gasoline combustion chamber deposit using a stagnation-point spray premixed flame.
Jian-Han Lu, Wei-Dong Hsieh, Rong-Horng Chen, Ta-Hui Lin
- 1P61: Mechanism of sooting droplet combustion enhancement in uniform electric fields.
Kiyotaka Yamashita, Osamu Imamura, Jun Osaka, Shinji Nakaya, Mitsuhiro Tsue, Michikata Kono
- 1P62: Shvab-Zel'dovich and flamelet formulations for quasi-steady droplet combustion with soot formation and radiative heat transfer.
Fernando F. Fachini
- 1P63: Study of *n*-heptane spray evaporation and dispersion within premixed combustion in complex geometry configuration.
Mouldi Chrigui, Amsini Sadiki, Johannes Janicka

1P64: Effects of droplet size distribution of fuel spray on soot formation in counter-flow.

Jun Hayashi, Fumiteru Akamarsu, Takehiko Seo, Chulju Ahn

1P65: A high pressure droplet vaporization model for spray combustion.

Madjid Birouk, M.M. Abou Al-Sood

1P66: Effect of droplet inertia on evaporation and spray combustion.

Venkat Raman, Heeseok Koo, Olivier Desjardins

Detonations, Explosions and Supersonic Combustion

1P67: Chemistry acceleration modeling of detonation based on the dynamical storage/deletion algorithm.

Gang Dong, Baochun Fan

1P68: Plasma assisted DDT mechanisms.

Aleksandr E. Rakiitin, Andrei Yu. Starikovskii

1P69: Numerical simulation of the transverse detonation in a layer of hydrogen-oxygen mixture with periodic conditions.

Dmitry M. Davidenko, Iskender Gökalp, Alexey N. Kudryavtsev

1P70: Effects of initial pressure and composition of mixture on spinning detonations.

Nobuyuki Tsuboi, A. Koichi Hayashi, Mitsuo Koshi

1P71: Unified two-step IPM model for methane-air detonations.

Ivan A. Zaev, Igor A. Kirillov

1P72: Role of instability in detonation re-initiation following large-scale gas-dynamic perturbations.

Matei I. Radulescu, John H.S. Lee, Brian Maxwell, Andrew J. Higgins

IC Engine and Gas Turbine Combustion

1P74: Knock in a hydrogen spark-ignition engine.

Nobuyuki Kawahara, Eiji Tomita, Masaki Yoshitomi

1P75: A numerical study on the optimum split-injection scheme configuration in a constant-volume chamber.

Odi Akhyarsi, Yuzuru Nada, Susumu Noda

1P76: Fluid dynamics and kinetic modeling of a low NO_x combustor for aero-engine turbofan.

Alessio Frassoldati, Alberto Cuoci, Tiziano Faravelli, Eliseo Ranzi, Salvatore Colantuoni, Pasquale Di Martino, Giuseppe Cinque

1P77: Combustion in natural gas dual fuelled compression ignition engines with DME and RME pilot ignition.

Ashand Mitra Namasivayam, Roy J. Crookes, Theodosios Korakianitis, John Olsen

1P78: Predicting knock in gas fueled spark ignition engines.

Ghazi A. Karim

1P79: Soot formation during knocking combustion in a spark-ignition engine.

Nobuyuki Kawahara, Eiji Tomita, Hiroaki Masatsuki

1P80: Asymptotic analysis three-dimensional turbulent combustion temperature field in direct-injection Diesel engine.

Yongfeng Liu, Youtong Zhang, Chenhua Gou

1P81: Multi-dimensional numerical study of stratification on HCCI for higher load extension.

Zhi Wang, Dongbo Yang, Jianxin Wang, Shijin Shuai

1P83: Numerical study of flame/vortex interactions in 2-D trapped vortex combustor.

D.P. Mishra, R. Sudharshan

TUESDAY, 5 August 2008

8:30 Plenary Lecture

From elementary reactions to evaluated chemical mechanisms for combustion models. *Michael J. Pilling*

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Real Fuels	Peroxy Radical Reactions (1)	Turbulent Non-Premixed Flames	Temperature Effects	Coal	Fire in the Environment	New Technology Concepts
9:40	2A01: Chemical structure of counterflow diffusion flames of methane doped with small amounts of either JP-8 or a jet-fuel surrogate. <i>Luca Tosatto, Barbara la Mantia, Hugo Bufferand, Patrick Duchaune, Alessandro Gomez</i>	2B01: Kinetic modeling of the benzyl + HO ₂ reaction. <i>Gabriel da Silva, Joseph W. Bozzelli</i>	2C01: Radiation-driven flame weakening effects in sooting turbulent diffusion flames. <i>Praveen Narayanan, Arnaud Trouvé</i>	2D01: Modeling temperature effects on soot formation. <i>Guillaume Blanquart, Michael E. Mueller, Heinz Pitsch</i>	2E01: Experimental and numerical investigations on the interactions of volatile flame and char combustion of a coal particle. <i>Juan Yu, Ming-chuan Zhang, Jian Zhang</i>	2F01: Global model for the combustion of gas mixtures released during forest fires. <i>Virginie Tihay, Albert Simeoni, Paul Antoine Santoni, Jean Pierre Garo, Jean Pierre Vantelon</i>	2G01: Secondary air injection in miniature liquid fuel film combustors. <i>Roberto Mattioli, Trinh Pham, Derek Dunn-Rankin</i>
10:05	2A02: A surrogate fuel for kerosene. <i>Sylvie Honnet, Kal Seshadri, Ulrich Niemann, Norbert Peters</i>	2B02: Theoretical rate coefficients for the reaction of methyl radical with hydroperoxyl radical and for methyl-hydroperoxide decomposition. <i>Ahren W. Jasper, Stephen J. Klippenstein, Lawrence B. Harding</i>	2C02: Modeling radiative effects of a turbulent non-premixed flame using conditional source-term estimation with trajectory generated low-dimensional manifolds. <i>Bei Jin, W. Kendal Bushe</i>	2D02: Validation experiments for spatially resolved one-dimensional emission spectroscopy temperature measurements by dual-pump CARS in a sooting flame. <i>Markus C. Weigl, Thomas Seeger, Monika Wendler, Roland Sommer, Frank Beyrau, Alfred Leipertz</i>	2E02: On the transient combustion and burnout time of carbon particles. <i>Atsushi Makino, Chung K. Law</i>	2F02: Carbon emissions from smouldering peat in shallow and strong reaction fronts. <i>Guillermo Rein, Simon Cohen, Albert Simeoni</i>	2G02: A novel meso-scale combustion system for operation with liquid fuels. <i>Vijaykant Sadasivuni, Ajay K. Agrawal</i>
10:30	BREAK						

	Spherical/Tubular Flames	Peroxy Radical Reactions (2)	Catalytic Microcombustors	HCCI (1)	Coal Chairs:	Flame Spread	Explosions
11:05	2A03: Experimental investigation of very rich laminar spherical flames under microgravity conditions. <i>Sven Jerzembeck, Moshe Matalon, Norbert Peters</i>	2B03: The reaction of hydroxyethyl radicals with O ₂ : A theoretical analysis and experimental product study. <i>Judit Zádor, Ravi X. Fernandes, Yuri Georgievskii, Giovanni Meloni, Craig A. Taatjes, James A. Miller</i>	2C03: Single channel and heat recirculation catalytic micro-burners: An experimental and computational fluid dynamics study. <i>Justin Alexander Federici, Eric D. Wetzel, Bruce R. Geil, Dion G. Vlachos</i>	2D03: A new skeletal PRF kinetic model for HCCI combustion. <i>Tadashi Tsurushima</i>	2E03: Ignition of single coal particle in a hot furnace under normal- and micro-gravity condition. <i>Mingming Zhu, Hai Zhang, Gentu Tang, Qing Liu, Junfu Lu, Guangxi Yue, Shuangfeng Wang, Shixin Wan</i>	2F03: Numerical examination of two-dimensional smolder structure in polyurethane foam. <i>Amanda B. Dodd, Christopher Lautenberger, Carlos Fernandez-Pello</i>	2G03: Runaway reaction in solid explosive containing a single crack due to gas-dynamic choking. <i>Scott I. Jackson, Larry G. Hill</i>
11:30	2A04: Extinction and cellular instability of premixed tubular flames. <i>Yu Wang, Shengteng Hu, Robert W. Pitz</i>	2B04: Measurements of the rate of H + O ₂ + M → HO ₂ + M (M = N ₂ , Ar, H ₂ O) from ignition of syngas at practical conditions. <i>John D. Mertens, Danielle M. Kalitan, Alexander B. Barrett, Eric L. Petersen</i>	2C04: Experimental investigation of gaseous reactive flows around catalytically coated micro-wires. <i>Kowtilya Bijjula, Kenneth T. Christensen, Dimitrios C. Kyritsis</i>	2D04: Impact of acetaldehyde and NO addition on the 1-octene oxidation under simulated HCCI conditions. <i>Aurélie Pipere, Philippe Dagaut, Xavier Montagne</i>	2E04: Particle imaging of ignition and devolatilization of pulverized coal during oxy-fuel combustion. <i>Christopher R. Shaddix, Alejandro Molina</i>	2F04: Flame spread over a solid fuel and Lewis number effect in partially premixed atmospheres. <i>Kazuhiro Yamamoto, Yoshinori Ogata, Hiroshi Yamashita</i>	2G04: The study of geometric effects on the explosion front propagation in a horizontal channel with a layer of spherical beads. <i>Gabriel Ciccarelli, Stefan Hlouschko, Craig Johansen, James Karnesky, Joseph Shepherd,</i>
11:55	2A05: A structural study of premixed tubular flames <i>Shengteng Hu, Peiyong Wang, Robert W. Pitz</i>	2B05: Chain branching and termination in low temperature combustion of <i>n</i> alkanes: <i>n</i> pentan-2yl radical plus O ₂ , isomerization and addition of second O ₂ . <i>Rubik Asatryan, Joseph W. Bozzelli,</i>	2C05: High-temperature micro catalytic combustor with Pd/nano-porous alumina. <i>Takashi Kamijo, Yuji Suzuki, Nobuhide Kasagi, Takashi Okamasa</i>	2D05: Experimental and kinetic modeling study of the effect of fuel composition in HCCI engines. <i>Marco Mehl, Tiziano Faravelli, Eliseo Ranzi, David Miller, Nicholas Cernansky</i>	2E05: Mechanisms of the central mode particle formation during pulverized coal combustion. <i>Dunxi Yu, Minghou Xu, Hong Yao, Xiaowei Liu, K. Zhou, Lin Li, Chang Wen</i>	2F05: Surface flash mechanisms. <i>Kazunori Kuwana, Ritsu Dobashi, I. Imahori</i>	2G05: Structure and properties of detonation waves of heterogeneous explosives from the point of view of the hot-spots mechanism. <i>S.S. Rybanin, Yu.M. Mikhailov</i>

12:20	2A06: Effects of stretch and pressure on the characteristics of premixed swirling tubular methane-air flames. <i>Yuyin Zhang, Satoru Ishizuka, Huayang Zhu, Robert J. Kee</i>	2B06: Temperature and pressure effects on formation and decomposition of phenylvinylperoxy radicals in the $C_6H_5C_2H_2 + O_2$ reaction. <i>J. Park, M.C. Lin</i>	2C06: Upstream reaction front propagation in catalytic platinum and palladium microtubes <i>Michael C. Johnston, Fletcher J. Miller, Daniel L. Dietrich, Peter M. Struk, James S. Tien, Benjamin P. Mellish</i>	2D06: Simultaneous imaging of exhaust gas residuals and temperature during HCCI combustion. <i>David A. Rothamer, Jordan A. Snyder, Ronald K. Hanson, Richard R. Steeper, Russell P. Fitzgerald</i>		2F06: Flame spread over electric wire in sub-atmospheric pressure. <i>Yuji Nakamura, Nobuko Yoshimura, Hiroyuki Ito, Keisuke Azumaya, Osamu Fujita</i>	2G06: Combustion effects in confined explosions. <i>Allen L. Kuhl, Heinz Reichenbach</i>
12:45	LUNCH						
Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Topical Review Chairs: M. Frenklach A. Voili	Modeling Chairs: J.-Y. Chen H. Najm	Turbulent Flames Z. Ren K.Y. Huh	HCCI (II) Chairs: D. Reuss N.P. Cernansky	Oxygenates and Biodiesel Chairs: V. McDonell S. Klippenstein	Coal/Char Chairs: E. Anthony C.R. Shaddix	Shocks/Scramjets/ Explosions Chairs: S.I. Jackson I.S. Jeung
14:15	2A07/08: Combustion-formed nanoparticles. <i>Andrea D'Anna</i>	2B07: A hypothetical burning-velocity formula for very lean hydrogen-air mixtures. <i>Forman Williams, Joseph F. Grcar</i>	2C07: CMC simulations of lifted turbulent jet flame supported by a vitiated coflow. <i>Saurabh S. Patwardhan, Santanu De, K.N. Lakshmisha, B.N. Raghunandan</i>	2D07: Analysis of cyclic variability in spark-assisted HCCI combustion using a double Wiebe function. <i>William J. Glewen, Robert Wagner, Kevin D. Edwards, Charles S. Daw</i>	2E07: An experimental and computational study of methyl ester decomposition pathways using shock tubes. <i>Aamir Farooq, David F. Davidson, Ronald K. Hanson, Lam Huynh, Angela Violi</i>	2F07: The order with respect to oxygen and the activation energy for the burning of an anthracitic char in O_2 in a fluidised bed, as measured using a rapid analyser for CO and CO_2 . <i>Paul S. Fennell, John S. Dennis, Allan N. Hayhurst</i>	2G07: High-pressure ethylene oxidation behind reflected shock waves. <i>Oleg G. Penyazkov, Kirill L. Sevrouk, Venkat Tanjirala, Narendra Joshi</i>

14:40	Soot	2B08: Modeling of the dynamic response of a burner-stabilized flame. <i>Hurrem Murat Altay, Sungbae Park, Datong Wu, Daehyun Wee, Anuradha Annaswamy, Ahmed F. Ghoniem</i>	2C08: Analysis of conditional moment closure applied to an autoignitive lifted hydrogen jet flame. <i>Edward Simon Richardson, Chun S. Yoo, Jacqueline H. Chen</i>	2D08: A novel in-cylinder fuel reformation approach to control HCCI engine combustion on-set. <i>Gnanaprakash Gnanam, Dale Haggith, Andrzej Sobiesiak, Graham Reader</i>	2E08: A study of the low temperature autoignition of methyl esters. <i>Kamal HadjAli, Moïse Crochet, Guillaume Vanhove, Marc Ribaucour, Rodolphe Minetti</i>	2F08: A new technique for the measurement of the product CO/CO ₂ ratio at the surface of char particles burning in a fluidized bed. <i>Fabrizio Scala</i>	2G08: Unstable combustion induced by oblique shock waves at non-attaching condition of oblique detonation wave. <i>Jeong-Yeol Choi, Edward J.-R. Shin, In-Seuck Jeung</i>
15:05	2A09: Measurement of nano-particles of organic carbon in non-sooting flame conditions. <i>Lee Anne Sgro, Alberto C. Barone; Mario Commodo; Antonio D'Alessio.; Andrea De Filippo; Gianluca Lanzuolo; Patrizia Minutolo</i>	2B09: Bifurcations of stretched premixed flame stabilized by a hot wall. <i>Hisashi Nakamura, Aiwu Fan, Hideaki Minamizono, Kaoru Maruta, Hideaki Kobayashi, Takashi Nioka</i>	2C09: <i>Apriori</i> analysis of conditional moment closure modeling of a temporal ethylene jet flame with soot formation using direct numerical simulation. <i>David O. Lignell, John C. Hewson, Jacqueline H. Chen</i>	2D09: Influence of EGR compound on the oxidation of a HCCI Diesel surrogate. <i>Jörg Michel Anderlohr, Aurélie Piprel, Antonio Pires da Cruz, Roda Bounaceur, Frédérique Battin-Leclerc, Philippe Dagaut, Xavier Montagne</i>	2E09: Exploring the oxidative decompositions of methyl esters: Methyl butanoate and methyl pentanoate as model compounds for biodiesel. <i>Carrigan Hayes, Donald R. Burgess Jr.</i>	2F09: The progressive formation of submicron particulate matter in a quasi one-dimensional pulverized coal combustor. <i>Jiankun Zhuo, Shuiqing Li, Qiang Yao, Qiang Song</i>	2G09: Combustion characteristics of a dual-mode scramjet combustor with cavity flameholder. <i>Daniel James Micka, James F. Driscoll</i>
15:30	2A10: Modeling and measurements of size distributions in premixed ethylene and benzene flames. <i>Carlos A. Echavarría, Adel F. Sarofim, JoAnn S. Lighty, Andrea D'Anna</i>	2B10: Studies on non-premixed flame streaks in a mesoscale channel. <i>Bo Xu, Yiguang Ju</i>	2C10: The effects of the Lewis number of the fuel on the displacement speed of edge flames in igniting turbulent mixing layers. <i>Henrik Hesse, Nilanjan Chakraborty, E. Mastorakos</i>	2D10: The effects of intake pressure, fuel concentration, and bias voltage on the detection of ions in a homogeneous charge compression ignition (HCCI) engine. <i>G. Bogin, Jr., J.-Y. Chen, R.W. Dibble</i>	2E10: An experimental investigation of structural effects on the auto-ignition properties of two C ₅ esters. <i>Stephen M. Walton, Margaret Wooldridge, Charles K. Westbrook</i>	2F10: Transformation of organic and inorganic sulphur in a lignite during pyrolysis: Influence of inherent and added inorganic matter. <i>Setyawati Yani, Dong-ke Zhang</i>	2G10: Peel-off case failure in thermal explosions observed by the deflagration cylinder test. <i>Larry G. Hill, John S. Morris, Scott I. Jackson</i>
15:55	BREAK						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Soot Studies	Transport Effects	Mild/Oxy-fuel Combustion	Engines—other topics	NO	Metal Oxides	Ignition
16:25	2A11: Embedded-ring migration on graphene zigzag edge. <i>Russell Whitesides, Dominik Domin, Romelia Salomón-Ferrer, William A. Lester Jr., Michael Frenklach</i>	2B11: The impact of detailed multi-component transport and thermal diffusion effects on soot formation in ethylene/air flames. <i>Seth B. Dworkin, Mitchell D. Smooke, Vincent Giovangigli</i>	2C11: Studies on low-intensity oxy-fuel burner. <i>P.J. Paul, N. Krishnamurthy, W. Blasick</i>	2D11: Development of a detailed surface mechanism for the selective catalytic reduction of NO _x with ethanol on silver alumina catalyst. <i>Yuk Fai Tham, Jyh-Yuan Chen, Robert W. Dibble</i>	2E11: Nitrous oxide conversion in laminar premixed flames of CH ₄ + O ₂ + Ar. <i>Alexander Konnov, Igor Dyakov</i>	2F11: Nanofluid combustion: Burning rate enhancement of nitromethane using metal oxide particles. <i>Justin Sabourin, Richard Yetter</i>	2G11: Predicting spontaneous ignition of under-expanded hydrogen jets: The issue of numerical accuracy. <i>Baopeng Xu, Jennifer X. Wen, Siaka Dembele, Vincent H. Tam</i>
16:50	2A12: Experimental study of carbon particle charging at shock wave pyrolysis of C ₃ O ₂ . <i>Alexander Emelianov, Alexander Eremin, Helga Jander</i>	2B12: Sensitivity of propagation and extinction of large hydrocarbon flames to fuel diffusion. <i>Adam T. Holley, Xiaoqing You, Enoch Dames, Hai Wang, Fokion N. Egolfopoulos</i>	2C12: Mild combustion in hot diluted diffusion ignition (HDDI) regime. <i>Mara de Joannon, Pino Sabia, Giancarlo Sorrentino, Antonio Cavaliere</i>	2D12: Soot and chemiluminescence in Diesel combustion of bio-derived, oxygenated and reference fuels. <i>R.J.H. Klein-Douwel, A.J. Donkerbroek, A.P. van Vliet, M.D. Boot, L.M.T. Somers, R.S.G. Baert, N.J. Dam, J.J. ter Meulen</i>	2E12: Formation and destruction of nitric oxide in methane flames doped with NO at atmospheric pressure. <i>Denis A. Knyazkov, Andrey G. Shmakov, Igor V. Dyakov, Oleg P. Korobeinichev, Jaques De Ruyck, Alexander A. Konnov</i>	2F12: Synthesis of nano-phase TiO ₂ crystalline films over premixed stagnation flames. <i>Erik D. Tolmachoff, Aamir D. Abid, Denis J. Phares, Charles S. Cambell, Hai Wang</i>	2G12: A numerical analysis of the auto-ignition of a high pressure hydrogen jet provided by a thin tube. <i>Eisuke Yamada, Satoru Watanabe, A. Koichi Hayashi, Nobuyuki I. Tsuboi</i>
17:15	2A13: Conversion of wood pyrolysates to PCDD/F. <i>Nigel Tame, Bogdan Dlugogorski, Eric Kennedy</i>	2B13: The Soret effect in naturally propagating, premixed, lean, hydrogen-air flames. <i>Joseph Grcar, John Bell, Marcus Day</i>	2C13: NO _x -emissions from flameless coal combustion in air, Ar/O ₂ and CO ₂ /O ₂ . <i>Hannes Stadler, Dragisa Ristic, Malte Förster, Anja Schuster, Reinhold Kneer, Günter Scheffknecht</i>	2D13: Time resolved flowfield, flame structure and acoustic characterization of a staged multi-injection burner. <i>Séverine Estelle Barbosa, Philippe Scoufflaire, Sébastien Ducruix</i>	2E13: The role of methylene in prompt NO formation. <i>Bradley A. Williams, James Fleming</i>	2F13: Interactions of NiO particles with polycyclic aromatic hydrocarbons and acetylene generated from the pyrolysis of a model fuel. <i>Nimesh B. Poddar, Shiju Thomas, Franz S. Ehrenhauser, Mary Julia Wornat</i>	2G13: Shock-induced chain-branched ignition. <i>Philip A. Blythe, Ashwani K. Kapila, Mark Short</i>

ACCEPTED POSTER PRESENTATIONS

Diagnostics

- 2P01: Electrical probe diagnosis of laminar flame quenching distance.
Maxime Karrer, Marc Bellenoue, Sergej Labuda, Maxime Makarov, Baldeo Ruttun, Julien Sotton
- 2P02: Uncertainty evaluation for OH-PLIF measurements in high pressure combustion.
Aravind Vaidyanathan, Jonas Gustavsson, Corin Segal
- 2P03: In flame detection of nanoparticles by time-resolved fluorescence analysis.
Annalisa Bruno, Corrado de Lisio, Patrizia Minutolo, Frederick Ossler, Antonio D'Alessio
- 2P04: Quantitative LIF measurements of formaldehyde in a heavy-duty Diesel engine.
A.J. Donkerbroek, A.P. van Vliet, R..J.H. Klein-Douwel, N.J. Dam, L.M.T. Somers, J.J. ter Meulen
- 2P05: Phase-defined density fluctuation maps of a resonant air-methane premixed flame using laser vibrometry.
Fabrice Giuliani, Andreas Lang, Thomas Leitgeb, Jakob Woisetschläger
- 2P06: Computed tomography of chemiluminescence (CTC) and its application to the measurement of near-Stoichiometric scalar dissipation rate.
Jeremy Floyd, Philipp Geipel, Andreas M. Kempf
- 2P07: Investigation on the soot formation in the oxygenated fuels by laser induced incandescence and two-color method.
Xu He, Xiao Ma, Fujia Wu, Jianxin Wang, Shijin Shuai
- 2P08: Quantitative imaging and burning rates of solid composite propellants containing nanoscale particles.
Matthew A. Stephens, Eric L. Petersen, David L. Reid, Matt Janish, Sudipta Seal
- 2P09: CH* chemiluminescence modeling for combustion diagnostics.
Venkata Nori, Jerry M. Seitzman

Laminar Flames

- 2P10: Study on combustion characteristics of dimethyl ether-air-N₂/CO₂ premixed mixtures.
Zuohua. Huang, Zhaoyang Chen, Gen Chen, Qian Wang, Haiyan Miao, Xibin Wang, Deming Jiang
- 2P11: Laminar combustion and flame characteristics of liquefied petroleum gas-hydrogen-air mixtures.
Xibin Wang, Ning Yang, Wansheng Chen, Dahai Wang, Zuohua Huang, Deming Jiang
- 2P12: Nonlinear premixed flame response to equivalence ratio perturbations.
Shreekrishna, Santosh Hemchandra, Tim C. Lieuwen
- 2P13: External pulsed combustion by acoustic forcing.
Asier Berzosa, Diego Lastra, Rami Sabbah, Francisco Ruiz
- 2P14: A numerical study on the effect of hydrogen/reformate gas addition on flame temperature and NO formation in strained methane/air diffusion flames.
Hongsheng Guo, William S. Neill
- 2P15: Laminar burning velocities of primary-reference-fuel-ethanol-air-mixtures.
S. Jerzembeck, O. Röhl, C. Glawe, N. Peters
- 2P17: Preferential diffusion effects in stretched premixed methane-hydrogen-air flames.
Jeroen van A. Oijen, L. Philip H. de Goey
- 2P18: Stabilization mechanisms of inverted flames established in a rotating flow.
Katsuo Asato, Takeshi Miyasaka, Yoshihiro Kamiya

- 2P19: Propagation and extinction of premixed *n*-dodecane/air flames.
Chunsheng Ji, Xiaoqing You, Adam T. Holley, Yang L. Wang, Fokion N. Egolfopoulos, Hai Wang
- 2P20: Extinction of wet and dry premixed ethanol/air and butanol/air flames
Peter Veloo, Gary F. Schwab, Yang L. Wang, Adam T. Holley, Fokion N. Egolfopoulos, Theodore T. Tsotsis, Hai Zhang
- 2P21: Pressure and preheat dependence of laminar flame speeds of H₂/CO/CO₂/O₂/He mixtures.
Jayaprakash Natarajan, Yash Kochar, Tim Lieuwen, Jerry Seitzman
- 2P22: Analysis of entropy generation in hydrogen-enriched methane-air propagating triple flames.
Alejandro M. Briones, Achintya Mukhopadhyay, Suresh K. Aggarwal
- 2P23: Effect of DC electric fields on the extinction of counterflow diffusion flames.
Min Kuk Kim, Ik Hyung Park, Sang Hee Won, Suk-Ho Chung
- 2P24: Dynamics of an annular swirling non-premixed jet flame.
Xi Jiang, Kai H. Luo
- 2P25: Low-frequency oscillation of a non-premixed flame on a bluff-body burner.
Kuo-Long Pan, Chih-Chieh Li, Wen-Chi Juan, Jing-Tang Yang
- 2P26: Numerical simulation of instabilities in lean premixed hydrogen combustion.
R.J.M. Bastiaans, R.W. Vreman, Heinz Pitsch
- 2P27: Diffusion flame dynamics at elevated pressures.
Jason Bassi, Hamid G. Darabkhani, Hua W. Huang, Yang Zhang
- 2P28: Extinction and interruption of diffusion flame interacting with a large scale vortex.
Masaharu Komiyama, Ryoji Kawabe, Toshimi Takagi
- 2P29: Laminar flame speeds of methane and ethane fuel mixtures in air at intermediate pressures.
Jaap de Vries, Ben Corbin, Eric L. Petersen, Henry Curran, Gilles Bourque
- 2P30: Effect of dilution by CO₂ on laminar burning velocity and flame stability of dry syngas flames.
C. Prathap, M.R. Ravi, Anjan Ray
- 2P31: Numerical study of ultra-rich preheated methane-air premixed flames and a sensitivity analysis of SAFT.
Yoshihiro Furuya, Makihito Nishioka
- 2P32: Global extinction of diffusion flames with and without an edge flame in an axisymmetric impinging jet using laser-induced breakdown.
Hiroyuki Torikai, Akio Kitajima, Masao Takeuchi

Turbulent Flames

- 2P33: Study of stochastic mixing models for combustion in turbulent flows.
Elder M. Orbegoso, Luis Fernando Figueira da Silva
- 2P34: Conditional source-term estimation for large eddy simulation of premixed turbulent reacting flows.
Bei Jin, Ray Grout, W. Kendal Bushe
- 2P36: Prediction of turbulent flame speed using scalar dissipation rate.
Hemanth Kolla, J.W. Rogerson, N. Chakraborty, N. Swaminathan
- 2P37: Hybrid binomial Langevin-MMC modeling of a reacting mixing layer.
Andrew P. Wandel, R.P. Lindstedt
- 2P38: Approximate solutions of the filtered radiative transfer equation in the Large Eddy Simulation of turbulent reactive flows.
Pedro J. Coelho
- 2P39: Modeling of autoignition for methane-based fuel blends using Conditional Moment Closure.
Ahmad El Sayed, Adrian Milford, Cecile B. Devaud

- 2P40: Local flame structure and turbulent burning velocity by OH-HCHO PLIF technique.
Kazuhiro Yamamoto, Masahiro Ohnishi, Shinji Ishii, Naoki Hayashi, Hiroshi Yamashita
- 2P42: The non-linear thermo-acoustic response of a small swirl burner.
S.M. Reza Hosseini, Catherine Gardner, Chris Lawn
- 2P43: Experimental study and Large Eddy Simulation of laser ignition in a rocket like configuration.
Guilhem Lacaze, Bénédicte Cuenot, Thierry Poinsot, Michael Oswald
- 2P44: Direct numerical simulation of autoignition in a non-premixed turbulent co-flowing jet.
Stefan G. Kerkemeier, Christos E. Frouzakis, Ananias G. Tomboulides, Epaminondas Mastorakos, Konstantinos Boulouchos
- 2P45: Efficient NO calculations in reactive flows using PDF methods.
Benjamin T. Zoller, Michael Andreas Wild, Patrick Jenny
- 2P46: Modelling of premixed turbulent methane/hydrogen-air flames with an effective Lewis number approach.
Friedrich Dinkelacker, Bhuvaneswaran Manickam, Naresh K. Aluri, Siva P.R. Muppala, Jennifer X. Wen
- 2P48: Structure and stabilization of a low swirl turbulent lean premixed flame.
K.-J. Nogenmyr, P. Petersson, Xue-Song Bai, C. Fureby, R. Collin, A. Lantz, M. Linne, M. Aldén
- 2P49: A numerical study on the turbulent flame structure in a hydrogen jet lifted flame.
Yasuhiro Mizobuchi, Tadao Takeno, Shingo Matsuyama, Junji Shinjo, Satoru Ogawa
- 2P50: An analytical expression for the turbulent burning velocity based on the asymptotic zone conditional transport equation in turbulent premixed combustion.
Dongkyu Lee, Kang Huh
- 2P51: Turbulent premixed flame modeling using artificial neural network based chemical kinetics.
Baris A. Sen, Suresh Menon
- 2P52: Unsteady premixed flame propagation around obstacles: LES versus RANS and experiments.
Valeria Di Sarli, Almerinda Di Benedetto, Gennaro Russo
- 2P53: Large Eddy Simulation of a lifted methane-air flame using a sub-grid PDF approach.
William P. Jones, Salvador Navarro-Martinez
- 2P54: Analysis of flame surface density measurements in turbulent premixed combustion.
Fabien Halter, Christian Chauveau, Iskender Gokalp, Denis Veynante
- 2P55: Mixing characteristics and emissions of forced non-premixed jet flames in crossflow.
Kevin Marr, Mirko Gamba, Noel T. Clemens, Ofodike A. Ezekoye
- 2P56: Three-dimensional direct simulation of a non-premixed hydrogen/air flame using detailed models.
Gordon Fru, Loic Gouarin, Alain Laverdant, Dominique Thevenin, Christiane Zistl, Gabor Janiga
- 2P57: An analysis on local burning velocities of turbulent premixed flames using DNS databases.
Kazuya Tsuboi, Tatsuya Hasegawa
- 2P58: LES and PIV of isothermal and reacting premixed turbulent opposed jet flows.
Oliver T. Stein, Benjamin Boehm, Andreas Dreizler, Andreas M. Kempf

Fire Research

- 2P59: Experimental study on critical condition of backdraft induced by liquid fuel.
Yang Lizhong, Wang Yafei, Gong Jian
- 2P60: Determining conditions for the ignition of building materials in contact with glowing firebrands.
Samuel G. Manzello, Seul-Hyun Park, Thomas C. Cleary, Jiann Yang

- 2P61: Modeling small-scale methanol-pool fire generated fire whirls.
Keng H. Chuah, Kazunori Kuwana, Kozo Saito
- 2P62: Wildfire experiments: Regimes of fire spread.
Xavier Silvani, Frederic Morandini
- 2P63: Cryogenic extinction of liquid pool fires.
Yiannis Angelo Levendis, Ali Ergut, Michael A. Delichatsios
- 2P64: Carbon dioxide generation calorimetry—alternative equations for accurate measurements in closed systems.
Sylvain Brohez, Christian Delvosalle
- 2P65: Numerical prediction of two-dimensional laminar hydrogen flames in Tibet low pressure environment by detailed and simple chemistry.
Wei Yao, Michael Delichatsios, Jian Wang
- 2P66: Screening approaches for gas-phase activity of flame retardants.
Mark W. Beach, Volker Sick, Vladimir M. Shvartsberg, Steve E. Vozar, Slavko Z. Filipi, Andrey G. Shmakov, Oleg P. Korobeinichev, Ted A. Morgan, Terry I. Hu
- 2P67: Soot production mechanisms in a laminar boundary layer type diffusion flame in microgravity.
Guillaume Legros, Andres Fuentes, Sebastien Rouvreau, Pierre Joulain, Bernard Porterie, Jose Luis Torero
- 2P68: Modeling wood pyrolysis for in-depth temperature predictions.
Pedro Reszka, Jose Luis Torero
- 2P69: Modeling the pyrolysis and auto-ignition of wet wood by thermal radiation.
D.K. Shen, M.X. Fang, Z.Y. Luo, K.F. Cen

Stationary Combustion Systems and Environmental Impact

- 2P71: Experimental and direct numerical simulation of O_3/NO_x reaction jet for post combustion multi-pollution control.
Zhihua Wang, Zhijun Zhou, Junhu Zhou, Yanqun Zhu, Jianren Fan, Kefa Cen
- 2P72: Theoretical study of different speciation of mercury adsorption on CaO(001) surface.
Xin Guo, Pengfei Zhao, Chuguang Zheng
- 2P73: Co-firing of single, binary and ternary fuel blends: A critical comparison of synergies within trace element partitioning arrived at by thermodynamic equilibrium modeling and experimental measurements.
Anthe George, Miren Larrion, Denis Dugwell, Paul S. Fennell, Rafael Kandiyoti
- 2P74: Influence of HCl on CO and NO emissions in combustion.
Xiaolin Wei, Yang Wang, Dianfu Liu, Hongzhi Sheng
- 2P75: Filtration gas combustion in high porosity fibrous porous media.
Haolin L. Yang, Sergey Minaev, Evgeniy Geynce, Hisashi Nakamura, Kaoru Maruta
- 2P76: Combustion characteristics of high performance rich-lean flame burner by controlling boundary region between rich and lean flames.
Hirofumi Yasuda, Katsuo Asato, Takeshi Miyasaka, Daisuke Sakakibara, Seigo Kurachi, Satoshi Hagi, Yoshito Umeda
- 2P77: Removal of tar in biogas by partial combustion.
Noriaki Nakatsuka, Chulju Ahn, Jun Hayashi, Miki Taniguchi, Kenichi Sasauchi, Fumiteru Akamatsu
- 2P78: Combustion of wood pellets in a conical fluidized bed reactor.
Antonio Cammarota, Riccardo Chirone, Roberto Solimene, Massimo Urciuolo

New Technology Concepts, Reacting Flows and Fuel Technology

- 2P79: Hysteresis of methane inverse diffusion flames with co-flowing air and combustion products.
Michael B. Johnson, Fengshan Liu, Andrzej Sobiesiak
- 2P80: 5-Watt class microcombustor with a porous catalyst layer.
Shuhei Takahashi, Naohiko Yamada, Kazunori Wakai
- 2P81: Investigation on the characteristics of pulverized coal combustion in O₂/CO₂ mixtures by TG-FTIR analysis.
Qingzhao Li, Changsui Zhao, Weifang Wu, Yingjie Li
- 2P82: CO₂ capture using Ca-based sorbents modified with acetic acid solution during calcination/carbonation looping.
Yingjie Li, Changsui Zhao, Lunbo Duan, Cai Liang, Qingzhao Li, Wu Zhou
- 2P83: Development of a self-thermal insulation miniature combustor.
Liqiao Jiang, Daiqing Zhao, Xiaohan Wang, Weibin Yang, Qiong He, Yong Wang
- 2P84: Experimental study of Diluted Combustion Regime with a counter flow burner.
Yuying Liu, Jean-Michel Most, Philipp Bauer
- 2P85: Effect of wall thermal conductivity and thickness on the performance of heat-recirculating reactors.
Jeongmin Ahn, Paul D. Ronney
- 2P87: Co-generation of carbon nanostructures and hydrogen during non-thermal plasma processing of natural gas.
Ramona R. Vintila, David Fletcher, Tom Whidden, Janusz A. Kozinski
- 2P88: Hg, PM, trace elements, SO₂ and NO_x emissions and reduction in oxy-coal combustion process.
Jianrong Qiu, Hong Wang, Hao Liu, Zhiying Xu, Hui Wu, Cun Wen, Xuewen Dong, Jun Li

WEDNESDAY, 6 August 2008

8:30 Plenary Lecture

Science based policy for addressing energy and environmental problems. *Robert F. Sawyer*

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Microcombustors	Turbulent Flames—Modeling	Edge Flames	Diesel Engine Combustion (1)	Chlorine	Soot Modeling & Experiments	Fire
9:40	3A01: Experimental and numerical investigations of flame pattern formations in a radial microchannel. <i>Aiwu Fan, Sergey Minaev, Evgeniy Sereshchenko, Roman Fursenko, Sudarshan Kumar, Wei Liu, Kaoru Maruta</i>	3B01: Sensitivity calculations in PDF modeling of turbulent flames. <i>Zhuyin Ren, Stephen B. Pope</i>	3C01: Analysis of NO structure in a methane-air edge flame. <i>Habib Najm, Denise Ponganis, Jens Prager</i>	3D01: An extended flamelet model for multiple injections in DI Diesel engines. <i>Christian Felsch, Michael Gauding, Christian Hasse, Stefan Vogel, Norbert Peters</i>	3E01: Kinetic study of chlorine behavior in the waste incineration process. <i>Yi Cheng, Atsushi Sato, Yoshihiko Ninomiya, Zhongbing Dong</i>	3F01: Soot formation and temperature field structure in co-flow laminar methane-air diffusion flames at pressures from 10 to 60 atmospheres. <i>Hyun I. Joo, Omer Gülder</i>	3G01: Thermal and structural response of a two-story, two-bay composite steel frame under fire loading. <i>Yuli Dong, Kuldeep Prasad</i>
10:05	3A02: Extinction of laminar jet diffusion microflames. <i>Kazunori Kuwana, Nami Tagami, Satoru Mizuno, Tamio Ida</i>	3B02: Identification of low-dimensional manifolds in turbulent flames. <i>Alessandro Parente, James C. Sutherland, Leonardo Tognotti, Philip J. Smith</i>	3C02: Effects of thermal expansion on the stabilization of an edge-flame in a mixing-layer model. <i>Vadim Kurdyumov, Moshe Matalon</i>	3D02: Development of a time-scale interaction combustion model and its application to gasoline and Diesel engines. <i>Atsushi Teraji, Yoshihiro Imaoka, Tsuyoshi Tsuda, Toru Noda, Masaaki Kubo, Shuji Kimura</i>	3E02: Kinetic studies of chlorobenzene reactions with hydrogen atoms and phenyl radicals and the thermochemistry of 1-chloro-cyclohexadienyl radicals. <i>Yide Gao, Paul Marshall</i>	3F02: Computational and experimental investigation of the interaction of soot and NO _x in coflow diffusion flames. <i>Blair C. Connelly, Marshall B. Long, Mitchell D. Smooke, Robert J. Hall, Meredith B. Colket</i>	3G02: Global burning rate of square fire arrays: Experimental correlation and interpretation. <i>Naian Liu, Qiong Liu, Jesse S. Lozano, Linhe Zhang, Jiping Zhu, Zhihua Deng, Kohyu Satoh</i>
10:30	BREAK						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Topical Review	Turbulent Flames	Methane Combustion	Diesel Engine Combustion (2)	Elementary Reactions	Soot Chemistry Studies	Fire
11:05	3A03/04: Metal Particle Combustion and Nonotechnology. <i>Richard A. Yetter</i> Grant A. Risha Steven F. Son	3B03: A tabulated closure for turbulent non-premixed combustion based on the linear eddy model. <i>Vaidyanathan Sankaran,</i> <i>Tomasz G. Drozda,</i> <i>Joseph C. Oefelein</i>	3C03: Phenomenology of methane flame propagation into compositionally stratified, gradually richer mixtures. <i>Taekyu Kang,</i> <i>Dimitrios C. Kyritsis</i>	3D03: Fuel effects on combustion processes in an HSDI Diesel engine using advanced injection strategies. <i>Tiegang Fang,</i> <i>Chia-fon F. Lee</i>	3E03: Kinetics of the H + NCO reaction. <i>Stephen Klippenstein,</i> <i>Lawrence Harding</i>	3F03: Chemical speciation of premixed ethylbenzene flames at the soot onset limit at various (ϕ T) pairs. <i>Ali Ergut,</i> <i>Richard J. Therrien,</i> <i>Yiannis A. Levendis,</i> <i>Henning Richter,</i> <i>Jack B. Howard,</i> <i>Joel B. Carlson</i>	3G03: Determination of pyrolysis temperature for charring materials. <i>Won Chan Park,</i> <i>Arvind Atreya,</i> <i>Howard R. Baum</i>
11:30	Polymers	3B04: Radiation of noise in turbulent flames. <i>Matthias Ihme,</i> <i>Heinz Pitsch</i>	3C04: Extinctions of methane/air counterflow partially premixed flames. <i>Tomoya Wada,</i> <i>Masahiko Mizomoto,</i> <i>Takeshi Yokomori,</i> <i>Norbert Peters</i>	3D04: Diesel fuel jet lift-off stabilization in the presence of laser-induced plasma ignition. <i>Lyle Pickett,</i> <i>Sanghoon Kook,</i> <i>Helena Persson,</i> <i>Övind Andersson</i>	3E04: High temperature rate constants for OH + alkanes. <i>Raghu Sivaramakrishnan,</i> <i>Nandakumar Srinivasan,</i> <i>Meng-Chih Su,</i> <i>J.V. Michael</i>	3F04: Effect of fuel/air ratio and aromaticity on the molecular weight distribution of soot in premixed <i>n</i> -heptane flames. <i>Andrea D'Anna,</i> <i>Anna Ciajolo,</i> <i>Michela Alfè,</i> <i>Barbara Apicella,</i> <i>Antonio Tregrossi</i>	3G04: Combustion characteristics of <i>n</i> -heptane and wood crib fires at high altitude. <i>Zhen-hua, Li</i> <i>He Yaping</i> <i>Hui Zhang,</i> <i>Jian Wang</i>

11:55	<p>3A05: Important roles of multiphase process in enhancement mechanism of micro plastic particle combustion. <i>Norio Ohiwa, Yojiro Ishino, Atsunori Yamamoto</i></p>	<p>3B05: Flame sheet dynamics of bluff-body stabilized flames during longitudinal acoustic forcing. <i>Santosh Shanbhogue, Dong-Hyuk Shin, Santosh Hemchandra, Dmitriy Plaks, Tim Lieuwen</i></p>	<p>3C05: Measurements and calculations of formaldehyde concentrations in a methane/N₂/air, non-premixed flame: Implications for heat release rate. <i>Seth B. Dworkin, Andrew M. Schaffer, Blair C. Connelly, Marshall B. Long, Mitchell D. Smooke, Maria A. Puccio, Brendan McAndrew, J. Houston Miller</i></p>	<p>3D05: Finite diffusion wall film evaporation model for engine simulations using continuous thermodynamics. <i>Dongyao Wang, Way Lee Cheng, Chia-fon F. Lee</i></p>	<p>3E05: Pressure and temperature dependence of the reaction of vinyl radical with alkenes II: Measured rates and predicted product distributions for vinyl + propene. <i>C. Franklin Goldsmith, Huzeifa Ismail, Paul R. Abel, William H. Green</i></p>	<p>3F05: Flame structure studies of rich ethylene-oxygen-argon mixtures doped with CO₂, or with NH₃, or with H₂O. <i>Cedric Renard, Veronique Dias, Pierre J. Van Tiggelen, Jacques Vandooren</i></p>	<p>3G05: Simultaneous water vapor concentration and temperature measurements in unsteady hydrogen flames. <i>David Blunck, Sumit Basu, Yuan Zheng, Jay Gore</i></p>
12:20	<p>3A06: Combustion model of tetra-ol glycidyl azide polymer. <i>Yutaka Wada, Yoshio Seike, Nobuyuki Tsuboi, Katsuya Hasegawa, Kiyokazu Kobayashi, Makihito Nishioka, Keiichi Hori</i></p>	<p>3B06: Direct numerical simulation of a realistic acoustic wave interacting with a premixed flame. <i>Hemdan Shalaby, Alain Laverdant, Dominique Thévenin</i></p>	<p>3C06: Stability of CH₄-N₂/air jet diffusion flame on various burner rim thicknesses. <i>Yasuhiro Otakeyama, Takeshi Yokomori, Masahiko Mizomoto</i></p>	<p>3D06: Effects of spray targeting on mixture development and emissions formation in late-injection low-temperature heavy-duty diesel combustion. <i>Caroline L. Genzale, Rolf D. Reitz, Mark P.B. Musculus</i></p>	<p>3E06: The reaction of allyl radicals with oxygen atoms-rate coefficient and product branching. <i>Karlheinz Hoyerermann, Frank Nacke, Jörg Nothdurft, Matthias Olzmann, Jens Wehmeyer, Thomas Zeuch</i></p>	<p>3F06: Modeling soot formation in a premixed flame using an aromatic-site soot model and an improved oxidation rate. <i>Matthew S. Celnik, Markus Sander, Abhijeet Raj, Richard H. West, Markus Kraft</i></p>	<p>3G06: Promotion of hydrogen-air ignition by iron-containing compounds. <i>Gregory Linteris, Valeri I. Babushok</i></p>
12:45	<p>3A07: Numerical investigation of pyrolysis of a PA6 nanocomposite in the cone calorimeter. <i>Jianping Zhang, Michael Delichatsios, Johan Hereid, Martin Hagen, Dimitrios Bakirtzis, Serge Bourbigot</i></p>	<p>3B07: Effect of temperature fluctuations on high frequency acoustic coupling. <i>Franck Richecoeur, Sebastien Ducruix, Philippe Scoufflaire, Sebastien Candel</i></p>	<p>3C07: A comprehensive study of two interactive parallel pre-mixed methane flames on lean combustion. <i>Ho-Chuan Lin, Bi-Chian Chen, Chun-Chin Ho, Yei-Chin Chao</i></p>	<p>3D07: POD-based analysis of cycle-to-cycle variations in an optically accessible diesel engine. <i>Katarzyna Bizon, Gaetano Continillo, Kirsten C. Leistner, Ezio Mancaruso, Bianca M. Vaglieco</i></p>	<p>3E07: Influence of the position of the double bond on the auto-ignition of linear alkenes at low temperature. <i>Roda Bounaceur, Valérie Warth, Baptiste Sirjean, Pierre-Alexandre Glaude, René Fournet, Frederique Battin-Leclerc</i></p>	<p>3F07: Sooting tendencies of nonvolatile aromatic hydrocarbons. <i>Charles McEnally, Lisa Pfeifferle</i></p>	<p>3G07: Piloted ignition delay of PMMA in space exploration atmospheres. <i>Sara McAllister, Carlos Fernandez-Pello, David Urban, Gary Ruff</i></p>

THURSDAY, 7 August 2008

8:30 Plenary Lecture
Flame dynamics. *Moshe Matalon*

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Rotating Burners	Turbulent Flames	Microcombustors	Dynamic Mechanism Reduction	Diamond Films	Soot Morphology	Droplet Combustion & Hydrothermal Reaction
9:40	4A01: Diffusion-flame extinction on a rotating porous-disk burner. <i>Javier Urzay, Nayagam Vedha, Forman A. Williams</i>	4B01: A mixing model providing joint statistics of scalar and scalar dissipation rate. <i>Daniel Werner Meyer, Patrick Jenny</i>	4C01: Heat loss reduction and hydrocarbon combustion in ultra-micro combustors for UMG. <i>Takashi Sakurai, Saburo Yuasa, Taku Honda, Shoko Shimotori</i>	4D01: On-demand generation of reduced mechanisms based on hierarchically extended intrinsic low-dimensional manifolds in generalized coordinates. <i>Karin König, Ulrich Maas</i>	4E01: Combustion synthesis of high quality diamond film suitable for application in electronic devices. <i>Yukihiko Okumura, Kouichi Kanayama, Kei-ichi Shogaki</i>	4F01: Size distribution and morphology of nascent soot in premixed ethylene flames with and without benzene doping. <i>Aamir D. Abid, Erik D. Tolmachoff, Denis J. Phares, Hai Wang, Yong Liu, Alexander Laskin</i>	4G01: A liquid film or droplet of miscible binary fuel burning on a heated surface at elevated pressures. <i>Daisuke Segawa, Toshikazu Kadota, Shinji Nakaya, Kazuma Takemura, Taketsugu Sasaki</i>
10:05	4A02: Numerical simulations of flame patterns supported by a spinning methane burner. <i>Kishwar N. Hossain, Thomas L. Jackson, John D. Buckmaster</i>	4B02: Effects of global flame curvature on surface density function transport in turbulent premixed flame kernels in the thin reaction zones regime. <i>Nilanjan Chakraborty, Markus Klein</i>	4C02: Demonstration of an external combustion micro-heat engine. <i>Jeong-Hyun Cho, Jungmin Lee, Chien Shung Lin, Lindsay N. Sanford, Cecilia D. Richards, Robert F. Richards, Jeongmin Ahn</i>	4D02: A dynamic adaptive chemistry scheme for reactive flow computations. <i>Long Liang, John G. Stevens, John T. Farrell</i>	4E02: Distribution map of growth rate of diamond film synthesized by use of flame CVD. <i>Masahito Shintomi, Atsushi Makino, Nobuyuki Araki</i>	4F02: Structure-property relationship in nanostructures of young and mature soot in premixed flames. <i>Michela Alfè, Barbara Apicella, Rosalba Barbella, Jean-Noel Rouzaud, Antonio Tregrossi, Anna Ciajolo</i>	4G02: Naphthalene combustion in supercritical water flames. <i>Amr Sobhy, Roderick I.L. Guthrie, Ian S. Butler, Janusz A. Kozinski</i>
10:30	BREAK						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Diagnostics	Turbulent Premixed & Partially Premixed Flames	Chemistry Studies	Reductions	Aluminum Combustion	Soot Modeling & Experiments	Droplet Combustion
11:05	4A03: Interference-free two-photon LIF imaging of atomic hydrogen in flames using picosecond excitation. <i>Waruna Kulatilaka, Jonathan H. Frank, Thomas B. Settersten</i>	4B03: Can we characterize turbulence in premixed flames? <i>Andrei Lipatnikov</i>	4C03: Skeletal mechanism generation with CSP and validation for premixed <i>n</i> -heptane flames. <i>Jens Prager, Habib N. Najm, Mauro Valorani, Dimitris A. Goussis</i>	4D03: Spectral uncertainty quantification, propagation and optimization of a detailed kinetic model for ethylene combustion. <i>David A. Sheen, Xiaoqing You, Hai Wang, Terese Løvås</i>	4E03: The effect of stoichiometry on the combustion behavior of a nanoscale Al/MoO ₃ thermite. <i>Gregory M. Duto, Richard Yetter, Grant Risha, Steven F. Son</i>	4F03: A joint volume-surface model of soot aggregation with the method of moments. <i>Michael E. Mueller, Guillaume Blanquart, Heinz Pitsch</i>	4G03: Microgravity experiments of single droplet combustion in oscillatory flow at elevated pressure. <i>Yasuhiro Ogami, Satoru Sakurai, Shoichi Hasegawa, Mehdi Jangi, Hisashi Nakamura, Kentaro Yoshinaga, Hideaki Kobayashi</i>
11:30	4A04: Diagnostic implications of the reactivity of fluorescence tracers. <i>Volker Sick, Charles K. Westbrook</i>	4B04: The compositional structure of highly turbulent piloted premixed flames issuing into a hot coflow. <i>Matthew J. Dunn, Assaad R. Masri, Robert W. Bilger, Robert S. Barlow, Guanghua H. Wang</i>	4C04: Autoignition of non-premixed <i>n</i> -heptane/air counterflow subjected to unsteady scalar dissipation rate. <i>Gaurav Bansal, Hong G. Im, Su-Ryong Lee</i>	4D04: Method of invariant grid for model reduction of hydrogen combustion. <i>Eliodoro Chiavazzo, Iliya Karlin, Christos Frouzakis, Konstantinos Boulouchos</i>	4E04: Dependence of flame propagation on pressure and pressurizing gas for an Al/CuO nanoscale thermite. <i>Michael Weismiller, Jonathan Y. Malchi, Richard A. Yetter, Timothy J. Foley</i>	4F04: Modeling of soot aggregate formation and size distribution in a laminar ethylene/air coflow diffusion flame with detailed PAH chemistry and an advanced sectional aerosol dynamics model. <i>Qingan Zhang, Hongsheng Guo, Fengshan Liu, Gregory J. Smallwood, Murray Thomson</i>	4G04: Nonane droplet combustion with and without buoyant convection: Flame structure, burning rate and extinction in air and helium. <i>Junho H. Bae, Thomas Avedisian</i>

11:55	<p>4A05: Planar laser-induced fluorescence of HCO for instantaneous flame front imaging in hydrocarbon flames. <i>Johannes Kiefer, Zhongshan Li, Thomas Seeger, Alfred Leipertz, Marcus Aldén</i></p>	<p>4B05: Effects of Lewis number on the reactive scalar gradient alignment with local strain rate in turbulent premixed flames. <i>N. Chakraborty, M. Klein, N. Swaminathan</i></p>	<p>4C05: Investigation of the rich premixed laminar acetylene/oxygen/argon flame: Comprehensive flame structure and special concerns of polyynes. <i>Yuyang Li, Lidong Zhang, Zhenyu Tian, Tao Yuan, Kuiwen Zhang, Bin Yang, Fei Qi,</i></p>	<p>4D05: The application of the QSSA via reaction lumping for the reduction of complex hydrocarbon oxidation mechanisms. <i>Kevin J. Hughes, Mike Fairweather, John F. Griffiths, Richard Porter, Alison Tomlin</i></p>	<p>4E05: Preignition characteristics of nano- and micrometer-scale aluminum particles in al-CO₂ oxidation systems. <i>Katrina Brandstad, David L. Frost, Janusz Kozinski,</i></p>	<p>4F05: Analysis of the impact of agglomeration and surface chemistry models on soot formation and oxidation. <i>J.S. Bhatt, Peter Lindstedt</i></p>	<p>4G05: Microgravity experiments on droplet motion during flame spreading along three-fuel-droplet array. <i>Hiroshi Nomura, Yusuke Suganuma, Akinori Setani, Masashi Takahashi, Masato Mikami, Hitoshi Hara</i></p>
12:20	<p>4A06: Atomic oxygen measurements in air and air/fuel nanosecond pulse discharges by two photon laser induced fluorescence. <i>Mrutnujaya Uddi, Naibo Jiang, Evgeny Mintusov, Igor V. Adamovich, Walter Lempert</i></p>	<p>4B06: Investigation of subgrid-scale mixing of mixture fraction and temperature in turbulent partially premixed flames. <i>Jian Cai, Danhong Wang, Chenning Tong, Robert S. Barlow, Adonis N. Karpetis</i></p>	<p>4C06: A detailed chemical kinetic reaction mechanism for oxidation of four small alkyl esters in laminar premixed flames. <i>Charles Westbrook, William Pitz, Philip Westmoreland, Frederick Dryer, Marcos Chaos, Patrick Osswald, Katharina Kohse-Hoinghaus, Terrill Cool, Jin Wang, Bin Yang, Nils Hansen, Tina Kasper</i></p>	<p>4D06: Problem adapted reduced models based on Reaction-Diffusion Manifolds (ReDiMs). <i>Vlatcheslav Bykov, Ulrich Maas</i></p>	<p>4E06: A correlation for burn time of aluminum particles in the transition regime. <i>Patrick T. Lynch, Herman Krier, Nick Glumac</i></p>	<p>4F06: Particle formation in opposed-flow diffusion flames of ethylene: An experimental and numerical study. <i>Andrea D'Anna, Mario Commodo, Mariano Sirignano, Patrizia Minutolo, Rocco Pagliara</i></p>	<p>4G06: Cool-flame characteristics of <i>n</i>-decane and <i>n</i>-decane/ethanol droplets in a hot air. <i>Osamu Moriue, Kei Shimada, Daijiro Eto, Hiroya Sahara, Fumihito Nakashima, Eiichi Murase</i></p>
12:45	<p>LUNCH</p>						

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Topical Review	Thermo-acoustic-diffusion studies	Turbulent Premixed Flames	Ignition	Aluminum/Propellants	Soot Chemistry Studies	Spray & Droplet Combustion
14:15	4A07/08: Ballistic imaging of liquid break-up processes in dense spray. <i>Mark A. Linne</i>	4B07: Decoupling heat release from acoustic forcing in round jet diffusion flames. <i>Matthew P. Juniper, Larry K. Li, Joseph W. Nichols</i>	4C07: Flame surface density distribution in turbulent flame kernels during the early stages of growth. <i>Thomas Dunstan, Karl W. Jenkins</i>	4D07: Experimental study and modeling of shock tube ignition delay times for hydrogen-oxygen-argon mixtures at low temperatures. <i>Genny A. Pang, David F. Davidson, Ronald K. Hanson</i>	4E07: Aluminum combustion in a solid rocket motor environment. <i>Merrill Kenneth King</i>	4F07: Polycyclic aromatic hydrocarbons from the co-pyrolysis of catechol and 1,3-butadiene. <i>Shiju Thomas, Mary Julia Wornat</i>	4G07: Planar laser-induced fluorescence imaging of the spatial vapor distribution around a mono-disperse acetone droplet stream exposed to asym-metric radiant heating. <i>Kavin Ammigan, Herek L. Clack</i>
14:40	<hr/> Diagnostics	4B08: Mechanisms of sound production by partially premixed laminar flames. <i>Patrick Duchaine, Laurent Zimmer, Thierry Schuller</i>	4C08: Flame surface densities during spherical turbulent flame explosions. <i>Derek Bradley, Malcolm Lawes, Morkous S. Mansour</i>	4D08: Mechanism of ignition by nonequilibrium plasma. <i>Nikolay Aleksandrov, Svetlana Kindysheva, Ilya Kosarev, Svetlana Starikovskaia, Andrei Starikovski</i>	4E08: Regression fronts in random sphere packs: Application to composite solid propellant burning rate. <i>Stany Gallier, Jean-François Guéry</i>	4F08: Benzene formation in premixed fuel-rich 1,3-butadiene flames. <i>Nils Hansen, James A. Miller, Tina Kasper, Katharina Kohse-Höinghaus, Phillip R Westmoreland, Juan Wang, Terrill A. Cool</i>	4G08: Effects of the overall equivalence ratio of premixed spray on the group combustion of rich-premixed-spray jets with low-volatility fuel. <i>Masato Mikami, Keita Nakamoto, Naoya Kojima, Osamu Moriue</i>

15:05	<p>4A09: Simultaneous three component PIV/OH-PLIF measurements of a turbulent lifted, C₃H₈-argon jet diffusion flame at 1.5 kHz repetition rate.</p> <p><i>Isaac Boxx, Christof Kittler, Robert Gordon, Benjamin Böhm, Manfred Aigner, Andreas Dreizler, Wolfgang Meier</i></p>	<p>4B09: A two-way coupling for modeling thermoacoustic instabilities in a flat flame Rijke tube.</p> <p><i>Jonas Pablo Moeck, Michael Oevermann, Rupert Klein, C. Oliver Paschereit, H. Schmidt</i></p>	<p>4C09: Effects of the Karlovitz number on the evolution of the flame surface density in turbulent premixed flames.</p> <p><i>Insuk Han, Kang Y. Huh</i></p>	<p>4D09: <i>n</i>-Dodecane oxidation at high pressures: Measurements of ignition delay times and OH concentration time histories.</p> <p><i>Subith S. Vasu, David F. Davidson, Zekai Hong, Venkatesh Vasudevan, Ronald K. Hanson</i></p>	<p>4E09: Comparison of gas-phase mechanisms applied to RDX combustion model.</p> <p><i>William Anderson, Clint B. Conner</i></p>	<p>4F09: An experimental study of the rich premixed ethylbenzene flame at low pressure.</p> <p><i>Yuyang Li, Zhenyu Tian, Lidong Zhang, Tao Yuan, Kuiwen Zhang, Bin Yang, Fei Qi</i></p>	<p>4G09: Pulsated free jets with polydisperse spray injection: Experiments and numerical simulations.</p> <p><i>Lucie Freret, Corine Lacour, Stephane de Chaisemartin, Sebastien Ducruix, Daniel Durox, Frederique Laurent, Marc Massot</i></p>
15:30	<p>4A10: Application of Raman/Rayleigh/LIF diagnostics in turbulent stratified flames.</p> <p><i>Robert Barlow, Guanghua Wang, Pedro Anselmo-Filho, Mark Sweeney, Simone Hochgreb</i></p>	<p>4B10: Thermo-diffusive instabilities in axisymmetric, non-premixed jet flames.</p> <p><i>Paul Papas, Redha Rais</i></p>	<p>4C10: Direct Numerical Simulation analysis of the Flame Surface Density transport equation in the context of Large Eddy Simulation.</p> <p><i>Nilanjan Chakraborty, R.S. Cant</i></p>	<p>4D10: Experiments and modeling of ignition delay times, flame speed and intermediate species of EHN-doped stoichiometric <i>n</i>-heptane/air combustion.</p> <p><i>Michaela Hartmann, Kuo Tian, Christian Hofrath, Mustapha Fikri, Alexander Schubert, Robert Schießl, Ralf Starke, Burak Atakan, Christof Schulz, Ulrich Maas, Frank Kleine Jäger, Klaus Kühling</i></p>	<p>4E10: Modeling the combustion of JA2 and solid propellants of similar composition.</p> <p><i>Clint B. Conner, William Anderson</i></p>	<p>4F10: Effects of benzene and naphthalene addition on soot inception in a well stirred reactor/plug flow reactor.</p> <p><i>David Lenhart, Samuel Manzello</i></p>	
15:55	<p>BREAK</p>						

	New Technology Concepts	Transfer Functions Chairs:	Turbulent Stratified Flames	Ignition	N/C/ Interaction	Soot Studies	Counterflow Spray Combustion
16:25	4A11: A mesoscale fuel reformer to produce syngas in portable power systems. <i>Ingmar Schoegl, Janet Ellzey</i>	4B11: Experimental analysis of flame transfer functions nonlinearities. <i>Daniel Durox, Thierry Schuller, Nicolas Noiray, Sébastien Candel</i>	4C11: Experimental measurements of geometric properties of turbulent stratified flames. <i>Pedro Anselmo-Filho, Stewart Cant, Simone Hochgreb, Robert S. Barlow</i>	4D11: A shock tube study of the auto-ignition of toluene/air mixtures at high pressures. <i>His-Ping S. Shen, Jeremy Vanderover, M.A. Oehlschlaeger</i>	4E11: Heterogeneous fixation of N ₂ : Investigation of a novel mechanism for formation of NO. <i>Ying Zheng, Anker Degn Jensen, Peter Glarborg, Karina Sendt, Brian S. Haynes</i>	4F11: Modeling of aromatics and soot formation from large fuel molecules. <i>Caroline Marchal, Jean-Louis Delfau, Christian Vovelle, Gladys Moréac, Christine Mounaïm-Rousselle, Fabian Mauss</i>	4G11: Flame structure and stabilization of lean-premixed sprays in a counterflow with low-volatility fuel. <i>Masato Mikami, Yoshimi Mizuta, Yuki Tsuchida, Naoya Kojima</i>
16:50	4A12: Small-scale forward smouldering experiments for remediation of coal tar in inert media. <i>Paolo Pironi, Christine Switzer, Guillermo Rein, Jason I. Gerhard, Jose L. Torero, Andres Fuentes</i>	4B12: Thermo-acoustic behaviour of multiple flame burner decks: Transfer function (de) composition. <i>Viktor Kornilov, Manohar Manohar, Philip de Goey</i>	4C12: Differential diffusion effects during the ignition of a thermally stratified premixed hydrogen-air mixture subject to turbulence. <i>Fabrizio Bisetti, Jyh-Yuan Chen, Jacqueline H. Chen, Evatt R. Hawkes</i>	4D12: Application of an aerosol shock tube to the measurement of diesel ignition delay times. <i>Daniel R. Haylett, David Davidson, Ronald K. Hanson</i>	4E12: The reactions of NO with diesel soot, fullerene, carbon nanotubes and activated carbons doped with transition metals. <i>Christopher J. Tighe, John S. Dennis, Allan N. Hayhurst, Martyn V. Twigg</i>	4F12: Experimental comparison of soot formation in turbulent flames of diesel and surrogate diesel fuels. <i>Romain Lemaire, Alessandro Faccinetto, Eric Therssen, Michael Ziskind, Cristian Focsa, Pascale Desgroux</i>	4G12: Analysis of steady state polydisperse counterflow spray diffusion flames in the large Stokes number limit. <i>Ariel Dvorjetski, J. Barry Greenberg</i>

FRIDAY, 8 AUGUST 2008

**8:30 Plenary Lecture
Detonation in Gases. *Joseph E. Shepherd*
Chairs: John H.S. Lee**

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Turbulent Premixed & Partially Premixed Flames	Diagnostics Session Chairs	Flame Vortex Interactions	Iron	Ignition	New Technology Concepts	Spray Combustion
9:40	5A01: Temporal evolution of flame stretch due to turbulence and the hydrodynamic instability. <i>Adam M. Steinberg, James F. Driscoll, Steven L. Ceccio</i>	5B01: Application of reduced state spaces to laser-based measurements in combustion. <i>Robert A. Schiefl, Sebastian Kaiser, Marshall Long, Ulrich Maas</i>	5C01: Examination of laminar flamelet concept using vortex/flame interactions. <i>Viswanath R. Katta, William M. Roquemore, James R. Gord</i>	5D01: Flame synthesis of superparamagnetic Fe/Nb nanocomposites for biomedical applications. <i>J.A. Nuetzel, Chad J. Unrau, Ron Indeck, Richard L. Axelbaum</i>	5E01: Shock-tube study of the ignition of methane/ethane/hydrogen mixtures with hydrogen contents from 0 to 100% at different pressures. <i>Jürgen Herzler, Clemens Naumann</i>	5F01: Dynamic phase converter for passive control of combustion instabilities. <i>Nicolas Noiray, Daniel Durox, Thierry Schuller, Sébastien Candel</i>	5G01: Comparative bio-fuel characteristics under spray combustion conditions. <i>J. Barrie Moss, J.B.M. Pierce, A.K. Jasuja</i>
10:05	5A02: Experimental and numerical study of a conical turbulent partially premixed flame. <i>B. Li, E. Baudoin, R. Yu, Z.W. Sun, Z.S. Li, Xue-Song Bai, M. Aldén, M.S. Mansour</i>	5B02: A paradigm shift in the interaction of experiments and computations in combustion research. <i>Blair C. Connelly, Beth Anne V. Bennett, Mitchell D. Smooke, Marshall B. Long</i>	5C02: Effects of H ₂ O and NO on extinction and re-ignition of vortex-perturbed hydrogen counterflow flames. <i>Uen Do Lee, Chun Sang Yoo, Jacqueline H. Chen, Jonathan H. Frank</i>	5D02: Flame propagation and quenching in iron dust clouds. <i>Francois-David Tang, Samuel Goroshin, Andrew J. Higgins, John Lee</i>	5E02: Shock tube measurements of ignition delay times and OH time-histories in dimethyl ether oxidation. <i>Robert Cook, David F. Davidson, Ronald K. Hanson</i>	5F02: Laser-induced multi-point ignition with single-shot laser using conical cavities and prechamber with jet holes. <i>Seung Kwan Ryu, Sang Hee Won, Suk-Ho Chung</i>	5G02: Identification of droplet burning modes in lean, partially prevaporized swirl-stabilized spray flames. <i>Christian H. Beck, Rainer Koch, Hans-Jörg Bauer</i>
10:30	BREAK						

	Turbulent Premixed Flames	Diagnostics Chairs:	Ignition & Extinction	Heterogeneous/ Homogeneous Combustion	Fuels—Kinetic Modeling	Swirl Flames Chairs:	Spray Combustion—DNS & Modeling
11:05	5A03: Dilution effects of superheated water vapor on turbulent premixed flames at high pressure and high temperature. <i>Hideaki Kobayashi, Soichiro Yata, Yasuhisa Ichikawa, Yasuhiro Ogami</i>	5B03: Laser desorption-ionization time of flight mass spectrometry for analyses of heavy hydrocarbons adsorbed on soot formed behind reflected shock waves. <i>Olivier Mathieu, Gilles Frache, N. Djebaili-Chaumeix, C.-E. Paillard, Gabriel Krier, Jean-François Muller, Françoise Douce, Pascal Manuelli</i>	5C03: Studies of ignition enhancement mechanisms of H ₂ -fuel blended air diffusion flames using non-equilibrium plasma. <i>Timothy Umbrello, Yiguang Ju</i>	5D03: Hetero-/homogeneous combustion of hydrogen/air mixtures over platinum at pressures up to 10 bar. <i>John Mantzaras, Rolf Bombach, Rolf Schaeren</i>	5E03: Experimental and kinetic modeling study of combustion of gasoline, its surrogates and components in laminar non-premixed flows. <i>Tom Bieleveld, Alessio Frassoldati, Alberto Cuoci, Tiziano Faravelli, Eliseo Ranzi, Ulrich Niemann, Kalyanasundaram Seshadri</i>	5F03: Large Eddy Simulation based analysis of the effects of cycle-to-cycle variations on air-fuel mixing in realistic DISI IC-engine. <i>Dmitry Goryntsev, Amsini Sadiki, Markus Klein, Johannes Janicka</i>	5G03: Investigation of two way coupling and vaporization interaction in a turbulent spray flame using a PDF method. <i>Nijso Beishuizen, Dirk Roekaerts</i>
11:30	5A04: CO ₂ addition and pressure effects on laminar and turbulent lean premixed CH ₄ air flames. <i>Cécile Cohé, Christian Chauveau, Iskender Gökalp, Dilek F. Kurtulus</i>	5B04: NCN quantitative measurement in a laminar low pressure flame. <i>Nathalie Lamoureux, Xavier Mercier, Colin Western, J. François Pauwels, Pascale Desgroux</i>	5C04: Propagation and extinction of premixed dimethyl-ether/air flames. <i>Yang Lee Wang, Adam Holley, Fokion N. Egolfopoulos, Theodore T. Tsotsis, Henry J. Curran</i>	5D04: Experimental and numerical investigation of the hetero-/homogeneous combustion of lean propane/air mixtures over platinum. <i>Symeon Karagiannidis, John Mantzaras, Rolf Bombach, Sabine Schenker, Konstantinos Boulouchos</i>	5E04: Detailed and simplified kinetic models of <i>n</i> -dodecane oxidation: The role of fuel cracking in aliphatic hydrocarbon combustion. <i>Xiaoqing You, Fokion N. Egolfopoulos, Hai Wang</i>	5F04: Statistics of relative and absolute velocities of turbulent non-premixed edge flames following spark ignition. <i>Christof Kittler, Benjamin Böhm, Samer F. Ahmed, Robert Gordon, Isaac Boxx, Wolfgang Meier, Andreas Dreizler, Epaminondas Mastorakos</i>	5G04: Direct numerical simulation of diluted combustion by evaporating droplets. <i>Jun Xia, Kai H. Luo</i>

11:55	5A05: Measurements of three-dimensional mean flame surface area ratio in turbulent premixed Bunsen flames. <i>Yung-Cheng Chen</i>	5B05: Two-wavelength mid-IR absorption diagnostic for simultaneous measurement of temperature and hydrocarbon fuel concentration. <i>Adam E. Klingbeil, Jason M. Porter, Jay B. Jeffries, Ronald K. Hanson</i>	5C06: Experimental and kinetic modeling study of extinction and ignition of methyl decanoate in laminar non-premixed flows. <i>Kalyanasundaram Seshadri, Tianfeng Lu, Olivier Herbinet, Stefan Humer, Ulrich Niemann, William J. Pitz, Chung K. Law</i>	5D05: Opposed flow oxy-flame synthesis of carbon and oxide nanostructures on molybdenum probes. <i>Wilson E. Merchan-Merchan, Alexei V. Saveliev, Vu H. Nguyen</i>	5E05: Experimental study of cyclohexane and methylcyclohexane oxidation at low to intermediate temperature in a motored engine. <i>Yi Yang, André Boehman</i>	5F05: Modeling ignition phenomena in spray-guided spark-ignited engines. <i>Rainer Dahms, Todd Fansler, Michael C. Drake, Tang-Wei Kuo, Andreas M. Lippert, Norbert Peters</i>	5G05: Direct numerical simulations of autoignition in turbulent two-phase flows. <i>Peter Schroll, Andrew P. Wandel, Robert S. Cant, E. Mastorakos</i>
12:20	5A06: Premixed turbulent flame front structure investigation by Rayleigh scattering in the thin reaction zone regime. <i>Frank T. Yuen, Ömer Gülder</i>	5B06: Photochemical interferences for laser-induced incandescence of flame-generated soot. <i>Fabien Goulay, Paul E. Schrader, László Nemes, Mark A. Dansson, Hope Michelsen</i>	5C06: Incorporating unsteady flow-effects beyond the extinction limit in Flamelet Generated Manifolds. <i>Stanley Delhaye, L.M.T. Somers, Jeroen van Oijen, Philip de Goey</i>	5D06: Experimental comparison of opposed and concurrent flame spread in a forced convective microgravity environment. <i>Sandra L. Olson, Fletcher J. Miller</i>	5E06: A kinetic modeling study on the oxidation of primary reference fuel-toluene mixtures including cross reactions between aromatics and aliphatics. <i>Yasuyuki Sakai, Akira Miyoshi, Mitsuo Koshi, William J. Pitz</i>	5F06: The distinctive characteristics of combustion duration in hydrogen internal combustion engine. <i>Fu-shui Liu, Lei Zhou, Bai-gang Sun, Da-wei Sun, Xin-hua Liu</i>	5G06: Direct numerical simulations of turbulent flame expansion in fine sprays. <i>Andrew P. Wandel, Nilanjan Chakraborty, E. Mastorakos</i>

Time	Leacock 132	FDA Auditorium	McConnell 204	Arts West 120	McConnell 13	Leacock 232	McConnell 11
	Flame Studies	Diagnostics-CARS	Turbulent Flames	Heterogeneous Studies	Laminar Premixed Flame Studies	Spark Ignition Engines	Spray Combustion—LES & Modeling
14:15	5A07: Experimental and numerical investigation of the structure of premixed ammonia/hydrogen/oxygen/argon flames. <i>Catherine Duynslaegher, Hervé Jeanmart, Jacques Vandooren</i>	5B07: Rotational CARS for simultaneous measurements of temperature and concentrations of N ₂ , O ₂ , CO, and CO ₂ demonstrated in a CO/air diffusion flame. <i>Fredrik Vestin, Per-Erik Bengtsson</i>	5C07: Direct evaluation of the subgrid-scale scalar flux in turbulent premixed flames with conditioned dual-plane stereo PIV. <i>Sebastian Pfadler, Johannes Kerl, Frank Beyrau, Alfred Leipertz, Amsini Sadiki, Jörg Scheuerlein, Friedrich Dinkelacker</i>	5D07: Temperature and carbon source effects on methane-air flame synthesis of CNTs. <i>Tianxiang Li, Kazumori Kuwana, Kozo Saito, Hongguo Zhang, Zhi Chen</i>	5E07: Fuel dependence of benzene pathways. <i>Hongzhi R. Zhang, Eric G. Eddings, Adel F. Sarofim, Charles K. Westbrook</i>	5F07: Experimental study of unsteady flame structures of an oscillating swirl flame in a gas turbine model combustor. <i>Michael Stöhr, Rajesh Sadanandan, Wolfgang Meier</i>	5G07: Quadrature Method of Moments for multi-component spray vaporization. <i>Claire Laurent, Philippe Villedieu</i>
14:40	5A08: Experiments in a novel quasi-1D diffusion flame with variable bulk flow. <i>Etienne Robert, Peter A. Monkewitz</i>	5B08: Herman-Wallis factor to improve thermometric accuracy of vibrational coherent anti-Stokes Raman spectra of H ₂ . <i>Michele Marrocco</i>	5C08: Time-resolved conditional flow field statistics in extinguishing turbulent opposed jet flames using simultaneous high-speed PIV/OH-PLIF. <i>B. Böhm, C. Heeger, I. Boxx, W. Meier, A. Dreizler</i>	5D08: The stoichiometry and kinetics of carbon combustion at low temperature—a surface complex approach. <i>David L. Batty, Peter J. Ashman</i>	5E08: Experimental and kinetic modeling study of sooting atmospheric-pressure cyclohexane flame. <i>Anna Ciajolo, Antonio Tregrossi, Maria Mallardo, Tiziano Faravelli, Eliseo Ranzi</i>	5F08: Using a strained flame model to collapse dynamic mode data in a swirl-stabilized syngas combustor. <i>Raymond Speth, Ahmed F. Ghoniem</i>	5G08: Large Eddy Simulation composition equations for single-phase and two-phase fully multicomponent flows. <i>Josette Bellan, Laurent C. Selle</i>

15:05	<p>5A09: On extinction mechanism of lean limit methane-air flame in a standard flammability tube. <i>Yuriy Shoshin, Jozef Jarosinski</i></p>	<p>5B09: Dual-pump coherent anti-Stokes Raman scattering thermometry in a sooting turbulent pool fire. <i>Sean P. Kearney, Kraig Frederickson, Thomas W. Grasser</i></p>	<p>5C09: Multi-scalar measurements in a premixed swirl burner using 1-D Raman/Rayleigh scattering. <i>Mark A. Gregor, Florian Seffrin, Frederik Fuest, Dirk Geyer, Andreas M. Dreizler</i></p>	<p>5D09: Simulation on soot deposition and combustion in diesel particulate filter. <i>Kazuhiro Yamamoto, Shinya Oohori, Hiroshi Yamashita, Shigeki Daido</i></p>	<p>5E09: Influence of ferrocene addition to a laminar premixed propene flame: Laser diagnostics, mass spectrometry and numerical simulations. <i>Kuo Tian, Zhongshan Li, Susanne Staude, Bo Li, Zhiwei Sun, Andreas Lantz, Marcus Aldén, Burak Atakan</i></p>	<p>5F09: Acoustic control of the inlet boundary condition of a turbulent swirled burner. <i>Nicolas Tran, Sebastien Ducruix, Thierry Schuller</i></p>	<p>5G09: Large-Eddy simulation of evaporating spray in a coaxial combustor. <i>Sourabh V. Apte, Krishnan Mahesh, Parviz Moin</i></p>
15:30	<p>5A10: Combustion modeling using principal component analysis. <i>James C. Sutherland, Alessandro Parente</i></p>	<p>5B10: Simultaneous phosphor and CARS thermometry at the wall-gas interface within a combustor. <i>Jan Brübach, Michael Hage, Johannes Janicka, Andreas M. Dreizler</i></p>	<p>5C10: Spatiotemporal measurements of flame stretch and propagation rates for lean and rich CH₄/air premixed flames interacting with a turbulent wake. <i>I.F. Huang, Shenqiang Shy, C.C. Chang, S.C. Li, Chia Ming Huang</i></p>	<p>5D10: An experimental and kinetic modeling study of the premixed nitromethane flame at low pressure. <i>Zhenyu Tian, Lidong Zhang, Yuyang Li, Tao Yuan, Fei Qi</i></p>	<p>5E10: Realizing the microgravity flame spread regime at 1g over a bed of nano-aluminum powder. <i>Jonathan Malchi, Justin Prosser, Richard Yetter, Steven Son</i></p>	<p>5F10: Characterization of acoustically forced swirl flame dynamics. <i>Sai Kumar Thumuluru, Tim Liewwen</i></p>	<p>5G10: Stochastic modeling of atomizing spray in a complex swirl injector using Large Eddy Simulation. <i>Sourabh V. Apte, Krishnan Mahesh, Michael Gorokhovski, Parviz Moin</i></p>
15:55	<p>BREAK</p>						

	Laser-Induced Phenomena	Diagnostics—Diode Laser	Turbulent Premixed Flames	Biomass	Pyrolysis	H₂/CH₄ Blends	Plasma-aided Combustion
16:25	5A11: Research on the relation of flame front curvature and oscillatory flame propagation by external laser irradiation method. <i>Osamu Fujita, Masakazu Tsuchimoto, Teruaki Honko, Yuji Nakamura, Hiroyuki Ito</i>	5B11: Diode laser-based detection of combustor instabilities with application to a scramjet engine. <i>Gregory Rieker, Jay B. Jeffries, Ronald K. Hanson, Tarun Mathur, Mark R. Gruber, Campbell D. Carter</i>	5C11: Dynamic behavior of a freely-propagating turbulent premixed flame under global stretch-rate oscillations. <i>Shigeru Tachibana, Junpei Yamashita, Laurent Zimmer, Kazuo Suzuki, A. Koichi Hayashi</i>	5D11: Characterization of high heating rate chars of biomass fuels. <i>Enrico Biagini, Marco Simone, Leonardo Tognotti</i>	5E11: Turbulent flow reactor pyrolysis of diethyl sulfide. <i>Xin Zheng, Elizabeth Fisher, Frederick C. Gouldin, Li X. Zhu, Joseph W. Bozzelli</i>	5F11: Study of cyclic variations of direct-injection combustion fueled with natural gas/hydrogen blends using a constant volume bomb. <i>Jinhua Wang, Z.H. Huang, Haiyan Miao, Xibin Wang, Deming Jiang</i>	5G11: Mechanism of plasma assisted oxidation and ignition of ethylene-air flows by a repetitively pulsed nanosecond discharge. <i>Evgeny Mintusov, Anna Serdyuchenko, Inchul Choi, Walter R. Lempert, Igor V. Adamovich</i>
16:50	5A12: Laser-induced breakdown and ignition at different pulse durations. <i>Takeshi Saito, Hirohide Furutani, Sanyo Takashi</i>		5C12: Hyper-acceleration effects on turbulent combustion in premixed step-stabilized flames. <i>Andrew Lapsa, Werner Dahm</i>	5D12: Effect of pyrolysis conditions on gasification reactivity of woody biomass-derived char. <i>Yukihiko Okumura, Toshiaki Hanaoka, Kinya Sakanishi</i>	5E12: Shock-tube and modeling study of isobutene pyrolysis and oxidation. <i>Kenji Yasunagai, Yuma Kuraguchu, Ryota Ikeuchi, Hiromitsu Masaoka, Osamu Takashi, Tohru Koike, Yoshiaki Hidaka</i>	5F12: Chemiluminescence monitoring in premixed flames of natural gas and its blends with hydrogen. <i>Javier Ballester, Ricardo Hernández, Ana Sanz, Andrzej Smolarz, Jorge Barroso, Antonio Pina</i>	5G12: Influence of the repetition rate of a repetitive nanosecond plasma used for the stabilization of a lean turbulent premixed burner. <i>Guillaume Pilla, Deanna A. Lacoste, Denis Veynante, Christophe O. Laux</i>
FAREWELL RECEPTION							