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WSS/CI Western States Section/Combustion Institute

2015 FALL TECHNICAL MEETING
WESTERN STATES SECTIONS OF THE COMBUSTION INSTITUTE
Hosted by Brigham Young University, Provo, UT.
Monday, 5 October 2015

7:15 – 4:00 Registration: Brigham Young University Conference Center Reception Area
7:15 – 7:45 Continental Breakfast: Brigham Young University Conference Center

7:45 - 8:00 Welcome Address: David O. Lignell, Brigham Young University
Welcoming Remarks: Alan Parkinson, the BYU Dean of the Ira A. Fulton College of Engineering and Technology
Opening Remarks: Anthony J. Marchese WSSCI Chair and Professor at Colorado State University

8:00 – 9:00 Invited Presentation: Prof. Philip J. Smith, University of Utah
Title: Exascale Computing and Coal-Fired Power Generation (really?)
Session Chair: David O. Lignell, Brigham Young University

9:00 – 9:20	**BREAK - Brigham Young University Conference Center**		
	Turbulent Flames **Room 2260** **Session Chair: David L. Blunck**	**Fire** **Room 2265** **Session Chair: Thomas H. Fletcher**	**Kinetics** **Room 2267** **Session Chair: Gregory E. Bogin Jr.**
9:20 – 9:40	**1A01: Effects of flame configuration on chemistry tabulation 1** *Shyam Menon[1], Runhua Zhao[2], Jagannath Jayachandran[2], Fokion N. Egolfopoulos[2]* *[1]Oregon State University* *[2]University of Southern California*	**1B01: Laboratory experiments to study surface to crown fire transition in chaparral 188** *Jeanette Cobian-Iñiguez[1], Chirawat Sanpakit[1], Joey Chong[2], Gloria Burke[2], Gabriel Dupont[1,3], David R. Weise[2], Marko Princevac[1]* *[1]University of California* *[2]USDA Forest Service* *[3]École Nationale Supérieure d'ingénieurs de Caen*	**1C01: Preconditioning methods for acceleration of ignition solves with detailed chemistry 344** *Michael A. Hansen, James C. Sutherland* *University of Utah*
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	Turbulent Flames Room 2260 Session Chair: David L. Blunck	Fire Room 2265 Session Chair: Thomas H. Fletcher	Kinetics Room 2267 Session Chair: Gregory E. Bogin Jr.
10:00 – 10:20	**1A03: Effect of turbulent fluctuations on radiation emissions from a premixed flame 30** *Jonathan M. Bonebrake, Aaron J. Fillo, David L. Blunck* *Oregon State University*	**1B03: The effect of heating mode on the ignition and burning behavior of 10 live shrub fuels 206** *Jonathan R. Gallacher[1], Victoria B. Lansinger[1], Sydney Hansen[1], Samantha Smith[1], David R. Weise[2], Thomas H. Fletcher[1]* *[1]Brigham Young University* *[2]USDA Forest Service*	**1C03: Investigation of *n*-pentane pyrolysis at elevated pressures in a variable pressure flow reactor 401** *Mario H. Saldana, Gregory E. Bogin Jr.* *Colorado School of Mines*
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10:40 – 11:00	**BREAK – Brigham Young University Conference Center**		
	Turbulent Flames Room 2260 Session Chair: John Hewson	**Coal and Char Room 2265 Session Chair: James C. Sutherland**	**Carbon Capture Room 2267 Session Chair: Dave Frankman**
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11:20 – 11:40	**1A06: Flame length measurements and correlation for swirled pulverized fuel flames 69** *Steven Owen[1], David Ashworth[1], Kenneth Kaiser[2], Hwanho Kim[2], Dale R. Tree[1]* *[1]Brigham Young University* *[2]Delaware Research and Technology Center*	**1B06: The effect of model fidelity on prediction of char burnout for single-particle coal combustion 234** *Josh McConnell, James C. Sutherland* *University of Utah*	**1C06: Economic and energy comparisons of carbon capture 438** *Christopher D. Hoeger[1], Christopher S. Russell[2], Mark Jensen[2], Eric Mansfield[1], Larry L. Baxter[2]* *[1]Sustainable Energy Solutions* *[2]Brigham Young University*

	Turbulent Flames Room 2260 Session Chair: John Hewson	Coal and Char Room 2265 Session Chair: James C. Sutherland	Carbon Capture Room 2267 Session Chair: Dave Frankman
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12:20 – 1:25	**LUNCH- On Your Own**		
1:40 – 2:40	**Invited Presentation: Prof. Fokion Egolfopoulos, University of Southern California** **Title : Transport-chemistry interactions in simple and complex flows: reassessing assumptions, practices, and relevance to applications** **Session Chair: Guillaume Blanquart**		
	Engines/Diagnostics **Room 2260** **Session Chair: Dale R. Tree**	**Turbulent Soot/Coal** **Room 2265** **Session Chair: David O. Lignell**	
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	Engines/Diagnostics Room 2260 Session Chair: Dale R. Tree	Turbulent Soot/Coal Room 2265 Session Chair: David O. Lignell
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4:00 - 4:20	**BREAK - Brigham Young University Conference Center**	
	Laminar Flames **Room 2260** **Session Chair: Erica Belmont**	**Cookstoves/Oil Shale** **Room 2265** **Session Chair: Berna Hascakir**
4:20 - 4:40	**1A13: Numerical simulation of methane/air flames including ions and excited species 147** *C.-F. López-Cámara[1], G. Éplénier[2], J. Tinajero[3], D. Dunn-Rankin[3]* *[1]Universitat Rovira i Virgili* *[2]École Nationale Supérieure de Mécanique et d'Aérotechnique* *[3]University of California, Irvine*	**1B13: Ex-situ extraction of Green River oil shale by combustion 302** *Matthew Kozlowski, Taniya Kar, Berna Hascakir* *Texas A&M University*
4:40 - 5:00	**1A14: Global linear stability analysis of jet diffusion-flame flickering 162** *D. Moreno[1], W. Coenen[2], A. Sevilla[2], J. Carpio[3], A. Liñan[3], A.L. Sánchez[1]* *[1]University of California, San Diego* *[2]Universidad Carlos III de Madrid* *[3]Universidad Politcnica de Madrid*	**1B14: Measurement of syngas composition in a Top-Lit Up-Draft semi-gasifier cookstove under varying modes of operation 310** *Jessica Tryner, James Tillotson, Jeffrey Mohr, Anthony J. Marchese* *Colorado State University*
5:00 - 5:20	**1A15: Flame merging experiments in low speed, non-premixed natural gas flames 170** *Chen Shen, David O. Lignell, Thomas H. Fletcher* *Brigham Young University*	**1B15: Carbon monoxide emissions during transient combustion events in a Top-Lit Up-Draft semi-gasifier cookstove 320** *James Tillotson, Jessica Tryner, Jeffrey Mohr, Anthony J. Marchese* *Colorado State University*
5:20 – 5:40	**1A16: Mechanism of pulsations of a triple flame in mixing layer arising due to thermo-diffusive instability with Lewis number greater than unity 179** *David Bhatt, Satyanaryanan Chakravarthy* *Indian Institute of Technology Madras*	**1B16: Solid fuel cookstove emissions: Effect of intermittent use 332** *Jin Dang, Derek Dunn-Rankin, Rufus Edwards* *University of California Irvine*
6:00	**Reception – The Skyroom at the Wilkinson Student Center, Brigham Young University** **Upcoming Events** **21 – 22 March, 2016 WSSCI Spring Meeting Seattle, WA** **31 July – 5 August, 2016 36th International Symposium on Combustion COEX, Seoul, Korea**	

WSS/CI Western States Section/Combustion Institute

Tuesday, 6 October 2015

7:15 – 4:00 Registration: Brigham Young University Conference Center Reception Area
7:15 – 7:45 Continental Breakfast: Brigham Young University Conference Center

7:45 - 8:00 Opening Remarks and Announcements: David O. Lignell, Brigham Young University

8:00 – 9:00 Invited Presentation: Mark Finney, USDA Forest Service
Title: Experiments lead to new insights into wildfire spread
Session Chair: Thomas Fletcher, Brigham Young University

9:00 – 9:20	**BREAK – Brigham Young University Conference Center**	
	Solid Combustion/Flame Spread **Room 2260** **Session Chair: Brad Adams**	**Hetergeneous/Supersonic Microcombustion** **Room 2265** **Session Chair: Kyle Niemeyer**
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10:30 – 10:50	**BREAK - Brigham Young University Conference Center**	

	Fire Room 2260 Session Chair: Sara McAllister	Laminar Flames Room 2265 Session Chair: Derek Dunn-Rankin
10:50 – 11:10	**2A05: The ignition and burning of live fuels studied using natural variation in fuel characteristics 511** *Jonathan R. Gallacher[1], Victoria B. Lansinger[1], Samantha Smith[1], Ashley Doll[1], David R. Weise[2], Thomas H. Fletcher[1]* *[1]Brigham Young University* *[2]USDA Forest Service*	**2B05: Effect of lift-off height on structure of freely propagating toluene flames 621** *E.L. Belmont[1], T.M. Ombrello[2]* *[1]The University of Wyoming* *[2]Air Force Research Laboratory, Wright-Patterson Air Force Base*
11:10 – 11:30	**2A06: Attachment of flames on slopes 523** *Devin C. Kimball[1], Bret W. Butler[2], Thomas H. Fletcher[1]* *[1]Brigham Young University* *[2]USDA Forest Service*	**2B06: Fundamental aspects of structure of laminar premixed flames based on Rate-Ratio Asymptotic analysis 631** *Kalyanasundaram Seshadri, Vaishali Amin* *University of California at San Diego*
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11:50 - 12:10	**2A08: Flame spread in a Hagen-Poiseuille-Couette Narrow channel 540** *Ghaleb Hamdan, Fletcher J. Miller* *San Diego State University*	**2B08: Effects of thermal diffusion on lean hydrogen combustion using tabulated chemistry 650** *Jason Schlup, Guillaume Blanquart* *California Institute of Technology*
12:20	**ADJOURN** **BYU Combustion Lab Tours: Please meet in the Clyde Engineering Building inside the South West Doors (Please see Map)** **Upcoming Events:** **21 – 22 March, 2016 WSSCI Spring Meeting Seattle, WA** **31 July – 5 August, 2016 36th International Symposium on Combustion COEX, Seoul, Korea**	