

Wednesday 2nd December, Hawken Engineering Building, Bldg 50, The University of Queensland

1700 - 1900 **Registration and Welcoming Reception**

1900 - 2000 **Combustion Institute ANZ section General Meeting, Hawken Engineering Building, Rm. 5201**

Thursday 3rd December, St. Leo's College, College Rd., The University of Queensland

0800 0900 **Registration**

0840 0900 **Welcome addresses (The Boardroom)**

0900 - 1000 **Bilger Lecture (The Boardroom): Large-Eddy Simulation for Combustion Systems: Modeling Approaches For Partially Premixed Flows, E. Knudsen, H. Pitsch (Chair: Alex Klimenko)**

1000 - 1030

Morning tea

	Turbulent combustion (The Boardroom)	Chemical kinetics (The Leonian room)	Heterogeneous flows & Acoustics (The Dining room)
<p style="text-align: center;">Chair: Robert Dibble</p> <p>Investigation of the MILD combustion regime via Principal Component Analysis, <i>A. Parente, J.C. Sutherland, B.B. Dally, L. Tognotti, P.J. Smith</i></p> <p>LCV Fuels Emissions of Turbulent Nonpremixed Jet Flames Under MILD Combustion Conditions, <i>A.F. Colorado, P. R. Medwell, B. B. Dally</i></p> <p>Application of Hybrid Binomial Langevin-Multiple Mapping Conditioning Method to Reacting Jet Flow, <i>Andrew P. Wandel, R. Peter Lindstedt</i></p> <p>High-Speed LIF-OH Imaging in the Stabilization Region of Lifted Flames, <i>W. O'Loughlin, M. Juddoo, A.R. Masri</i></p> <p>An Analysis of the Flame Surface Density Transport Equation Using Direct Numerical Simulation of a Methane-Air Jet Flame, <i>E.R. Hawkes, R. Sankaran, O. Collin, J.H. Chen</i></p> <p>Investigation of the Mixing Patterns inside a MILD Combustion Furnace based on CFD Modelling, <i>G. G. Szegö, B. B. Dally, F. C. Christo</i></p>	<p style="text-align: center;">Chair: Eric Kennedy</p> <p>Investigation of Carbon Combustion at Low Temperature, <i>D.L. Battye, P.J. Ashman</i></p> <p>Dissociative Adsorption of Molecular Oxygen on the Cu(001) Surface: A Density Functional Theory Study, <i>I.A. Suleiman, M.W. Radny, M.J. Gladys, P.V. Smith, J.C. Mackie, E.M. Kennedy, B.Z. Dlugogorski</i></p> <p>Low Temperature Oxidation Reaction of Linseed Oil and its Active Components, <i>Juitta, Bogdan Z. Dlugogorski, Eric M. Kennedy, John C. Mackie</i></p> <p>Formation of Toxic Species in Thermal Decomposition of Captain, <i>K. Chen, D. Wojtalowicz, J.C. Mackie, E.M. Kennedy, B.Z. Dlugogorski</i></p> <p>Rate Constants for Hydrogen Abstraction Reactions by the Hydroperoxyl Radical from Methanol, Ethanol, Acetaldehyde, Toluene and Phenol, <i>M. Altarawneh, B.Z. Dlugogorski, E. M. Kennedy, J.C. Mackie</i></p>	<p style="text-align: center;">Chair: Cristian Birzer</p> <p>Use of MDIH for the measurement of diesel droplet evaporation rates, <i>D. Nguyen D. Honnery, J. Soria</i></p> <p>Calculations of Flame Structure Ignited on Catalytic Surface, <i>J. Badra, and A.R. Masri</i></p> <p>Effect of Carrier Air Velocity on Spatial Structure of Acetone and Ethanol Spray Flames, <i>J.D. Gounder, A.R. Masri, and R.W. Bilger</i></p> <p>Flame Propagation over a Porous Media Wetted with Flammable Liquid in a Channel of Finite Cross Section, <i>Jafar Zarganeh, Behdad Maghtaderi</i></p> <p>Characterisation of Diesel Sprays Impinging on a Flat Plate, <i>M. Safer, J. Kostas, D. Honnery, J. Soria</i></p> <p>A Numerical Study of Sound Generation by Premixed Flames, <i>M. Talei, M. J. Breat, E. R. Hawkes, F. Nicoud, B. Cuenot</i></p>	

1230 - 1400

Lunch

<p align="center">Invited Lecture (The Boardroom): The Status of Clean Coal Technologies, K. Thambimuthu (Chair: Victor Rudolph)</p>			
<p align="center">Afternoon tea</p>			
<p>1400 - 1500</p>	<p align="center">Emissions of pollutants (The Boardroom)</p> <p align="center">Chair: Bassam Dally</p> <p>A Survey of Experimental HCCI Research at U.C. Berkeley, <i>S. Saxena, J.Y. Chen, R.W. Dibble</i></p> <p>Investigation of High Efficiency, Zero Emissions H₂-O₂-Ar Internal Combustion Engine, <i>V. H. Rapp, Nick Killingsworth, Salvador Aceves, J.Y. Chen, Robert Dibble</i></p> <p>The Role of Homogeneous Combustion Catalysts in Diesel Combustion in Compression Ignition Engines, <i>Mingming Zhu, Yu Ma, Dongke Zhang</i></p>	<p align="center">Chemical kinetics (The Leonian room)</p> <p align="center">Chair: John Mackie</p> <p>Computational Study of the Reaction SH + HO₂, <i>R. C. Zhou, K. Sendt, B. S. Haynes</i></p> <p>Pyrolysis and Decomposition Pathways of Alphaacetypermethrin under Non-Oxidative Conditions, <i>S.L. Summoogum, J.C. Mackie, E.M. Kennedy and B.Z. Dlugogorski</i></p> <p>Kinetic Modelling of the Combined Effect of Nitric Oxide and Higher Hydrocarbons in Methane Oxidation, <i>Y.L. Chan, J.H. Bromly, A.A. Konnov, D.K. Zhang</i></p>	<p align="center">Hypersonic combustion (The Dining room)</p> <p align="center">Chair: Christian Mundt</p> <p>Influence of radiation on wall heat flux in a rocket combustion chamber for H₂-O₂ and CH₄-O₂ systems, <i>Andreas Thellmann, Christian Mundt</i></p> <p>Hypersonic Vehicle Control Using External Burning, <i>C.J. Doolan, V. Wheatley</i></p> <p>1D Supersonic Combustor Modelling, <i>D. Kliche, Ch. Mundt</i></p> <p>Nitrous Oxide Decomposition for Supersonic Combustion Experiments in the USQ Ludwig Tube Facility, <i>D.R. Buttsworth</i></p>
<p>1500 - 1530</p> <p>1530 - 1700, 15 min + 5 min questions and change-over</p>			
<p>1900 - 2200</p>	<p align="center">Conference Banquet</p>		

Friday 4th December, St. Leo's College, College Rd., The University of Queensland

Invited Review (The Boardroom): From Detailed Kinetics to Simplified Kinetics – Hierarchical Models for Combustion Chemistry, <i>V. Bykov, U. Maas</i> (Chair: Brian Haynes)			
Morning tea			
0900 - 1000	1000 - 1030	1030 - 1230, 15 min + 5 min questions and change-over	1230 - 1400
<p align="center">Turbulent combustion (The Boardroom)</p> <p align="center">Chair: Andrew Wandel</p> <p>Temperature imaging of nonpremixed flames using non-linear regime two-line atomic fluorescence (NTLAF), <i>Q.N. Chan, P.R. Medwell, P.A.M. Kalt, Z.T. Alwahabi, B.B. Dally, G.J. Nathan</i></p> <p>The Spatial Structure of Turbulent Premixed Flames Issuing in a Hot Coflow, <i>M. Dunn, R.S. Barlow, A.R. Masri, R.W. Bilger</i></p> <p>PDF Calculations of Piloted Non-Premixed Flames with Various Levels of Oxygenation, <i>M. Juddoo, A.R. Masri, S.B. Pope</i></p> <p>Extinction and Re-ignition in Piloted Non-Premixed Flames as Observed with High-Speed LIF-OH Imaging, <i>M. Juddoo, W. O'Loughlin, A.R. Masri, R.W. Bilger</i></p> <p>Numerical Simulations of Premixed MILD Combustion in a Recuperative Furnace, <i>Pengfei Lia, Jianchun Mia</i></p> <p>Two-Dimensional Approximations to the Flame Surface Density and Curvature, <i>E.R. Hawkes, D. Veynante, J.H. Chen</i></p>	<p align="center">Coal and char & Emissions of Pollutants (The Leonian room)</p> <p align="center">Chair: Bo Feng</p> <p>Study of released atomic potassium and sodium of Loy Yang coal and pine wood in a laminar pre-mixed methane flame, <i>L. J. Hsu, Z.T. Alwahabi, G.J. Nathan, Z.S. Li, M. Aldéni</i></p> <p>Kinetics of sodium release from a single brown coal particle burning in a flat flame, <i>Philip J. van Eyk, Peter J. Ashman, Zeyad T. Alwahabi, Graham J. Nathan</i></p> <p>CFD Simulation of Brown Coal Combustion in a Tangentially Fired Furnace, <i>Z.F. Tian, P.J. Witt, M.P. Schwarz, W. Yang</i></p> <p>Numerical Modeling of Underground Coal Gasification Process, <i>Chetan R. Chodankar, Bo Feng, A. Y. Klimenko</i></p> <p>One-Dimensional Three-Way Catalyst Model for Optimisation Studies, <i>Denis I. Andrianov, Robert J. Dingli, Michael J. Brear, Chris Manzie</i></p> <p>Quantitative Soot Measurement for Fuels with Different Cetane Number at Low-Temperature-Combustion Diesel Conditions, <i>S. Kaak, L.M. Pickett</i></p>	<p align="center">Heterogeneous flows & Acoustics (The Dining room)</p> <p align="center">Chair: Damon Honnery</p> <p>Dynamic response of a ducted laminar premixed flame, part I: low amplitude forcing, <i>N. Karimi, M. J. Brear, S. H. Jin, J. P. Monty</i></p> <p>Dynamic response of a ducted laminar premixed flame, part II: higher amplitude forcing, <i>N. Karimi, M. J. Brear, S. H. Jin, J. P. Monty</i></p> <p>Toward Optimising Instantaneous Particle Clusters In Pulverised Fuel Combustion Systems, <i>C.H. Birzer, P.A.M. Kalt, G.J. Nathan</i></p> <p>Non-intrusive Water Vapour Absorption Measurements in a Simulated Helicopter Exhaust, <i>S. O'Byrne, L. Huynh, S. M. Wittig and N. S. A. Smith</i></p> <p>Oxy-fuel combustion heat transfer characteristics, <i>Yinghui Liu, Sameer Khare, Terry Wall</i></p> <p>Influence of droplet size on the release of atomic sodium during the combustion of black liquor, <i>W.L. Saw, G.J. Nathan, P.J. Ashman, M. Hupa</i></p>	<p align="center">Lunch</p>

1400 - 1500 **Invited Review (The Boardroom):** Progress and Challenges in Experimental Investigations of Realistic Turbulent Reacting Flows, *G. J. Nathan, Z.T. Alwahabi, B.B. Dally, P.R. Medwell, Q.N. Chan*
 (Chair: Assaad Masri)

1500 - 1530 **Afternoon tea**

<p>1530 - 1630, 15 min + 5 min questions and change-over</p>	<p>Turbulent combustion (The Boardroom)</p> <p>Chair: Evatt Hawkes</p> <p>Dependence of MILD Combustion on Fuel-Air Injection Pattern within a Recuperative Furnace, <i>R.A. Craig, B.B. Dally, J. Mi</i></p> <p>A Sparse-Lagrangian Simulation with Density Coupling by Dynamic Matching, <i>Yipeng Ge, M.J. Cleary, A. Y. Klimenko</i></p> <p>Comparison of Water and Acetone as Solvent for Two-line Atomic Fluorescence (TLAF), <i>Q.N. Chan, P.R. Medwell, P.A.M. Kait, Z.T. Alwahabi, B.B. Dally, G.J. Nathan</i></p>	<p>Hypersonic combustion (The Leonian room)</p> <p>Chair: Russell Boyce</p> <p>Premature Ignition in Scramjets with Intake Injection: A Preliminary Laminar Mixing Layer Simulation, <i>D.R. Buttsworth, P.A. Jacobs</i></p> <p>Multi-Objective Design Optimisation of Inlet and Combustor for Axisymmetric Scramjets, <i>H. Ogawa, R. R. Boyce, A. Isaacs, T. Ray</i></p>	<p>Heterogeneous flows (The Dining room)</p> <p>Chair: Peter Ashman</p> <p>Surface temperature measurement of a burning black liquor droplet using two-colour optical pyrometry, <i>W.L. Saw, G.J. Nathan, P.J. Ashman, Z.T. Alwahabi, M. Hupa</i></p> <p>Droplet Shedding from the Boundary Layer of Spray Flows in Pipes, <i>W. O'Loughlin, L. M. De Fina, A.R. Masri</i></p> <p>Gasification of Grape Marc in a Circulating Fluidised Bed, <i>Philip J. van Eyk, Richard A. Muhlack, Peter J. Ashman</i></p>
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1630 **Farewell drinks**