



The Australian Combustion Symposium 2025 Programme

Date/time (AEST, UTC+10)	St Leo's College, UQ*
Day 0, Monday 1st December	
6:00 pm -9:00 pm	Registration and Reception – held at St Leo's College Deck

Date/time	Hawken Engineering Building (#50) - T203 (including Plenaries**)	Hawken Engineering Building (#50) - T103
Day 1, Tuesday 2nd December		
8:30 am – 8:45	Opening (Chair Klimenko) Welcome from the Combustion Institute (Masri)	
8:45 – 9:30	Bilger Lecture - José L. Torero (Chair Masri)	
9:30 – 10:00	Morning tea (30 min)	
10:00 am – 12:00 pm	S1 Clean Fuels (Chairs Medwell & Lu)***	S2 Turbulent Flames (Chairs Hng & G.Li)***
1	ACS25106 – On the Autoignition of Turbulent Flames of Oxy-Methylene Fuels <i>H.A. Samara*, M.J. Dunn and A.R. Masri</i>	ACS25108 – Large Eddy Simulation of Hydrogen Premixed Flames in a Laboratory Scale Burner <i>M. N. Ali*, M. Talei, N. Rouland and B.Cuenot</i>
2	ACS25117 – The Impact of Boost on the Combustion and Autoignition behaviour of Hydrogen and Natural Gas Blends in a CFR Engine <i>B.L. Hayward*, M.J. Brear, F. Poursadegh, and Y. Yang</i>	ACS25158 – Turbulence–chemistry interaction in premixed hydrogen and methane flames at comparable Karlovitz and Reynolds numbers <i>M. Gauding*, J.Z. Ho, M. Talei and H. Pitsch</i>
3	ACS25156 – Effects of differential diffusion on the critical velocity gradient of hydrogen flashback in a laminar boundary layer <i>T. Komatsu*, J. Lin and E.R. Hawkes</i>	ACS25136 – Impact of Hydrogen Addition on the Acoustic Characteristics of Open, Swirled, Turbulent Premixed Methane-Air Flames <i>J. Fleger*, V. Ahmadi, J. Ho, A. Rostami, M. Talei and S. Kheirkhah</i>
4	ACS25109 – Impact of Hydrogen Addition to Natural Gas on Combustion Dynamics in a Model Combustor <i>A.A. Alahmadi, M. Talei*, Y. Yang and M.J. Brear</i>	ACS25131 – LES of Turbulent Premixed Methane and Propane Jet Flames Using G-Equation Modelling <i>A. Essamaldin*, M. Talei and Ö.L. Gülder</i>
5	ACS25122 – Numerical Investigation of Hydrogen Adaptation Strategies in an Industrial – Scale Iron Pelletiser <i>M.A. Chishty*, A. Katoch, W. Saw, G. J. Nathan, M.J. Evans, P.R. Medwell and A. Chinnici</i>	ACS25112 – A New Bluff-Body Burner to Stabilize Turbulent Lean Flames Based on the Concept of Compositional Inhomogeneity <i>A. Kattan*, M.J. Dunn and A.R. Masri</i>
6	ACS25142 – Convolution Neural Network Based Filtered Reaction Rate model for Thermo-diffusively Unstable Hydrogen flames <i>K. Thakur*, M. Pandey, K. Agrawal, A. Klimenko</i>	ACS25111 –Towards computations of turbulent stratified flames using MMC-LES with shadow-position reference variable and detailed <i>N.N. El Hakim*, M.J. Cleary and A.R. Masri</i>



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Day 1, Tuesday 2nd December		
12:00 pm – 1:30 pm	Lunch (1.5 h)	
1:30 – 3:30	S3 Turbulent Combustion/Clean Fuels (<i>Chairs Wandel & Chishty</i>)	S4 Combustion Engines (<i>Chairs Talei & Wheatly</i>)
1	ACS25105 – A Study Over the Excitation Frequency for CN and CH ₂ O PLIF: A Broad Range Wavelength Scan in NH ₃ -DME Flame <i>H.A. Samara*, A.R.W. MacFarlane, M.J. Dunn and A.R. Masri</i>	ACS25126 – High-pressure direct injection of hydrogen or methanol in a heavy-duty diesel engine <i>Y. Zhao, S. Chan and S. Kook*</i>
2	ACS25140 – Ignition and Combustion Characteristics of Methanol <i>K. Aryal, G. Zhai, K.M. Pang, S. Xu, G.H. Yeoh and Q.N. Chan*</i>	ACS25121 – Performance Improvement of a Hydrogen-fuelled Spark-ignited Internal Combustion Engine by Ammonia Addition <i>A. Sherwood, Y. Yang* and M. Brear</i>
3	ACS25155 – Stability and Emission Characteristics of a Scaled-Down Industrial Dual-Swirl Burner Operated with 100% Hydrogen <i>A. Katoch*, M.A Chishty, P. Medwell, G. J Nathan, A. Chinnici</i>	ACS25135 – Capturing Thermoacoustic Instability in a Dry Low-Emission Gas Turbine Combustor: A Numerical Study <i>J. Fleger*, S. Jella, J. Ho and M. Talei</i>
4	ACS25128 – Chemical investigation of hydrogen peroxide as an oxidant and steam carrier for hydrogen combustion <i>J.A.C. Kildare*, M.J. Evans, M.A. Chishty, P.R. Medwell, and A. Chinnici</i>	ACS25127 – Simultaneous measurement and view-factor reconstruction of radiative and convective heat transfer of impinging flames under engine-like conditions <i>J. Cao, T. Li and S. Kook*</i>
5	ACS25151 – Experimental Study of Raw and Torrefied Biomass Blends under Air Staging in a Fixed-Bed Combustor <i>A. Elsebaie*, Y.M. Al-Abdeli, M. Zhu and S. Riaz</i>	ACS25133 – On the Prediction of Combustion-Induced Unstart in a Scramjet <i>M.A. Trudgian* and A. Veeraragavan</i>
6	ACS25139 – An Improved Mixing Distribution for Modified Curl's Mixing <i>M. du Preez and A. P. Wandel*</i>	ACS25107 – Numerical simulations of laser-ignited hydrogen jets using gaseous Lagrangian particle tracking method <i>S. Wang, S. Xu*, G. Zhai, K.M. Pang and Q.N. Chan</i>
3:30 – 4:00	Afternoon tea (30 min)	
4:00 – 4:45	Plenary Review - Agi Kourmatzis (<i>Chair Lu</i>)	
	End of the day	

Notes: *located within the UQ St Lucia campus.

**All plenary sessions are held in 50-T203.

**Each presentation in parallel sessions is 20-minute-long including 5 min Q&A.



Date/time (AEST, UTC+10)	Hawken Engineering Building (#50) - T203 (including Plenaries*)	Hawken Engineering Building (#50) - T103
Day 2, Wednesday 3rd December		
9:00 am - 9:45	Keynote Lecture - Zhuyin Ren (Chair Klimenko)	
9:45 - 10:20	Morning tea (35 min)	
10:20 am - 12:00 pm	S5 Soot, Nanomaterials, and Large Molecules (Chairs Yang & Klimenko)	S6 Fire Research 1 (Chairs Morrisset & Kourmatzis)
1	ACS25130 – Surface growth of carbonaceous nanoparticles by molecular dynamics simulations <i>E. Goudeli*, A. Ganguly, A. Fakharneshad, G.A. Kelesidis and S.P. Roy</i>	ACS25157 – Effect of ventilation on heat release rate and smoke properties in model tunnel fires <i>J. Bielawski, W.K. Cheung, D. Luan, X. Huang, W. Węgrzyński*</i>
2	ACS25110 – Experimental investigation of silica deposition from siloxane decomposition in biomethane combustion <i>K.M. Ng*, T.S.M. Fernando, M.R. Yosri, A. Duan, E. Goudeli and M. Talei</i>	ACS25124 – Effect of fire-retardant treatment on flaming behaviour of CCA-treated timber <i>Z. Darabi*, J.J. Morrell, F. Wiesner, T. Singh, L. Yermán</i>
3	ACS25113 – A Numerical Investigation of Process Parameters Affecting Silica Nanoparticle Deposition During Biomethane Combustion <i>T. S. M. Fernando, K. M. Ng, M. R. Yosri, E. Goudeli and M. Talei*</i>	ACS25138 – Characterising Li-ion battery thermal runaway types <i>H.K. Wyn*, W. Wu, D. Morrisset, S. Zarate and D. Lange</i>
4	ACS25119 – Nucleation, Surface Growth and Coagulation of Soot by Hierarchical Modeling <i>A. Fakharneshad, G. A. Kelesidis, J. D. Berry and E. Goudeli*</i>	ACS25118 – Quantifying the effectiveness of water as a bushfire suppressant in a combustion wind tunnel <i>A.L. Sullivan* and M.P. Plucinski</i>
5	ACS25134 – Large Eddy Simulation of Pilot Fuel Soot Oxidation in Methane/n-Heptane Dual Fuel Combustion <i>L. Munck*, J.C. Ong, K.M. Pang, G. Zhai, Q. N. Chan and J. H. Walther</i>	ACS25154 – The effect of boundary conditions and transient exposure on ignition times <i>A. Singh*, D. Morrisset, W. Wu, N. White and J. Leonard</i>
12:00 pm - 1:30	Lunch (90 min)	



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Day 2, Wednesday 3rd December		
1:30 - 3:10 pm	S7 Gas-phase Reaction Kinetics (<i>Chairs Cleary & Konarova</i>)	S8 Fire Research 2 (<i>Chairs Kook & Goudeli</i>)
1	ACS25123 – The Effect of NH ₃ and NO additions on H ₂ Oxidation at the Second Explosion Limit <i>G.J. Gotama, F.A.F. Gomes, A. Sherwood, Y. Yang*, and X. Lu</i>	ACS25125 – Coupled gas-phase and solid-phase measurements for downward flame spread over PMMA <i>D. Morrisset, A. Padhiary, A.O. Ojo, R. Hadden, B. Peterson*</i>
2	ACS25129 – Oxidation of methane/hydrogen and ethane/hydrogen mixtures at elevated pressures and temperature <i>F.A.F Gomes*, Y. Yang and M. Talei</i>	ACS25152 – Experimental Investigation of Smouldering Propagation in Encapsulated Cross-Laminated Timber <i>H. Wu*, D. Morrisset, and A. Orabi</i>
3	ACS25143 – Oxygen-assisted H ₂ -based iron ore reduction in shaft furnace: a DEM-CFD coupled modelling study <i>C. Zhang, and Y. Lu*</i>	ACS25137 – Effect of mesh resolution on near-wall heat transfer in FDS <i>H. Fang*, D. Morrisset, D. Lange, A. Orabi</i>
4	ACS25148 – Euler–Lagrangian CFD framework for PAH chemistry and carbon particle tracking in methane pyrolysis <i>X. Zhang*, Z. Sun, R. C. Chin and G. J. Nathan</i>	ACS25132 – Orientation Effects on the Burning Behaviour of Wood <i>J.Madden*, D.Morrisset, F.Wiesner, W.Wu, R.Hilditch, and D. Lange</i>
5	ACS25150 – Co-Pyrolysis with CaO: A Pathway for Bromine Recovery from E-Waste Plastics <i>A. A. Aguilar-Morones, A. Bekele, C. O. Ojo V. Murthy, S. Thennadil, S. Levchik, J. Tenney, P. Ramkissoon, P. Kappen, and B. Z. Dlugogorski*</i>	ACS25147 – Thermal Stability and Fire Performance of Flax-Reinforced Epoxy Composites with Different Fire Retardants <i>N. Khaliavin *, E. Morozov, and M. Ghodrat*</i>
3:10 – 3:40	Afternoon tea (30 min)	
3:40 - 4:25	Plenary Review - Gule Li (<i>Chair Nathan</i>)	
4:30 - 5:00	CI section board meeting (<i>Chair Masri</i>) – 50-T103	
5:00 - 5:30	CI section members meeting (<i>Chair Masri</i>) – 50-T103	
6:50 pm - 11:00 pm	Dinner* - The Westin Brisbane, 111 Mary St, Brisbane City QLD 4000	

Note* 7:00pm – 7:15pm: Guest arrival, welcome and pre-dinner drinks



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Day 3, Thursday 4th December		
9:00 am – 10:40	S9 Decarbonisation and Clean Fuels (<i>Chairs Ren & Veeraragavan</i>)	S10 Other Topics (<i>Chairs Abdel-jawad & Jafari</i>)
1	ACS25146 – Particle dynamics relevant to decarbonisation of drop-tube flash reactors <i>X. Bi*, E.W. Lewis, T.C.W. Lau, Z. Sun and G.J. Nathan</i>	ACS25160S – Hybrid Modelling of Dust Explosions: Implementation and Validation within exploCFD <i>J.R. Roos, M.M. Abdel-jawad*</i>
2	ACS25114 – Modelling of Conventional Diesel Haul Truck Performance for Mining Application <i>J. Li*, G. Zhai, C. Wang, G. H. Yeoh, S. Kook and Q. N. Chan</i>	ACS25145 – Thermodynamic analysis of a multistage compressed air energy storage with a single temperature thermal energy storage <i>A. Samant* and A. Y. Klimenko</i>
3	ACS25153 – Bilger’s Oxyfuel Process and Power-as-Gas Export from Australia <i>M. M. Kratzer* and A. Y. Klimenko</i>	ACS25159S – GPU and AI Applications to CFD Modelling of Combustion <i>L. Clark and D.F. Fletcher*</i>
4	ACS25149 – Queensland’s Hydrogen Combustion and Export Network <i>W. Yuan*, M. Kratzer, Y. Lu and A.Y. Klimenko</i>	ACS25120 – The effects of nozzle protrusions and voids on shockwave formation and hydrogen jets <i>D.J. Willmore*, J.A.C. Kildare, T.C.W. Lau, P.R. Medwell and M.J. Evans</i>
5	ACS25141 – The Role of Combustion in the Various Stages of an Electricity Grid’s Transition <i>D.S. Green* and A.Y. Klimenko</i>	ACS25116 – Time-Resolved Spectral Characterisation of Ejecta During Thermal Runaway in Lithium-Ion Cells <i>D. Karim*, V. Gupta, M.J. Dunn, A.R.W. MacFarlane, A.R. Masri</i>
10:40 – 11:00	Joint meeting of ACS organisers, session chairs, CI board members	
11:00 am – 12:00 pm	Award, closing, and farewell (with participation of CMES members)	



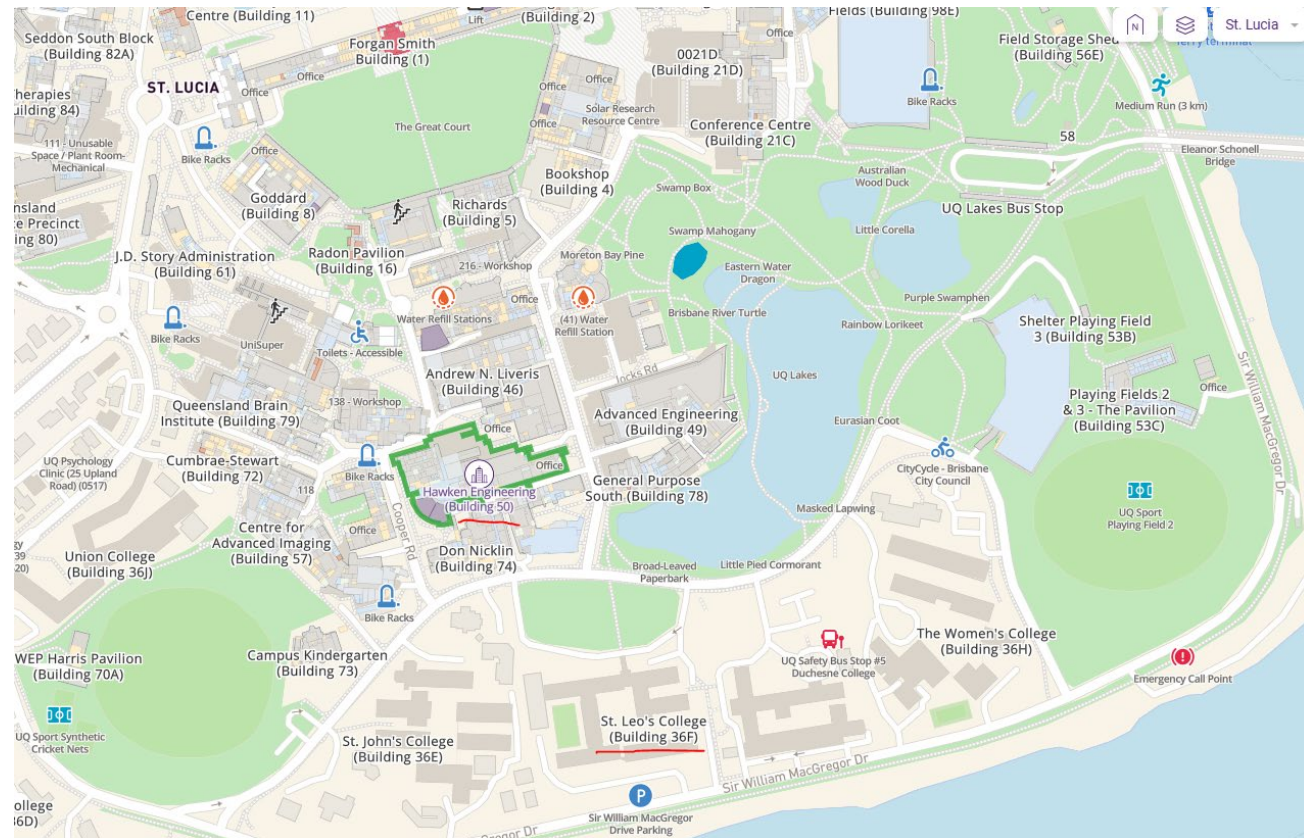
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Conference Venues

The conference will be held at **Hawken Engineering Building (Bld. #50)**, The University of Queensland, St Lucia, Brisbane, Queensland. Reception desk is set in the lobby of the building.

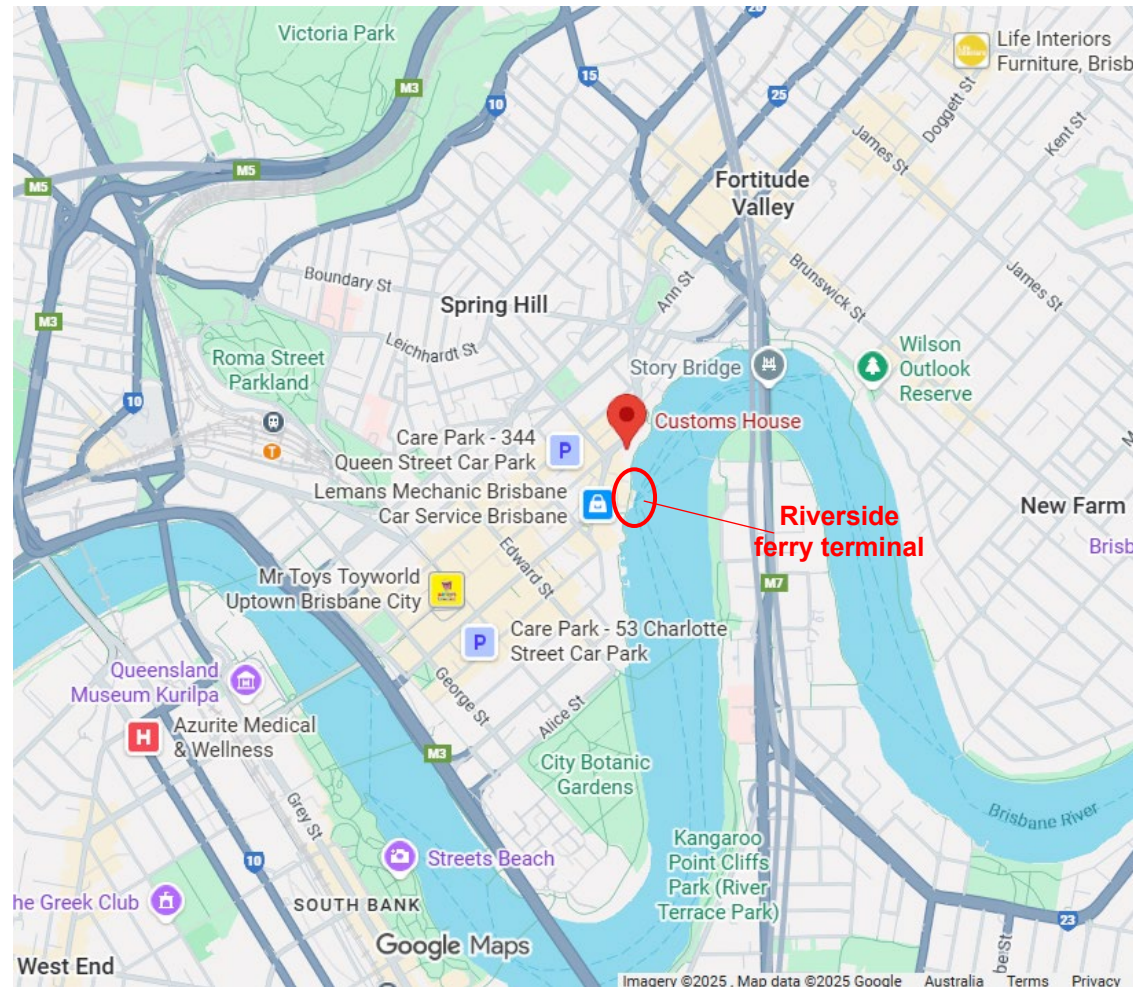
Information for delegates travelling to UQ

- The conference will be held at the **St Lucia campus** of University of Queensland.
- Parking fee on the UQ campus is around \$5/day.
- The Welcome Reception will be held in the evening of 1 December at **St Leo's College** within The University of Queensland.
- The sessions will be held in **Bld. #50**. The plenary sessions will be held in **50-T203**, while the second sessions will be held in **50-T103**. Breaks will be held in the lobby outside **T203**.



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- Conference dinner will be held in the evening of 3 December at the **UQ Customs House**. The Customs House is located at **399 Queen St, Brisbane City**. Recommended public transport options from UQ St Lucia campus are:
 - Ferry (CityCat): from **UQ St Lucia** ferry terminal to **Riverside ferry terminal**, and 4 min walking;
 - Bus M2: from **UQ Lake station** to **King George Square** bus station, and 12 min walking.





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