8th International Flame Chemistry Workshop

25th-26th July 2026

Agenda

*Day 1 - **Saturday 25th July***			
	Moderator	**8.00-8.30**	Registration
Joint Session RCM and Flame Chemistry workshops	*Matteo Pelucchi* *Scott Goldsborough*		
		8.30-8.40	Introduction
		8.40-9.05	"*Community-driven Collaboration: Scientific Advances via the RCM Workshop Initiatives*" Scott Goldsborough, Argonne National Laboratory, USA
		9.05-9.20	"*Highlights from the 7th Flame Chemistry Workshop: challenges and objectives in chemical kinetics modeling of combustion and plasma combustion*" Matteo Pelucchi, Politecnico di Milano, Italy
		9.20.9.35	"*Combining Theory, Modeling, and Experiment: An Example from DME Research*" Markus Kohler – German Aerospace Center, Stuttgart, Germany
		9.35-10.00	Open Discussion
		10.00-10.30	Coffee Break and group picture
Opening FCWS	*Matteo Pelucchi, Bin Yang*	**10.30-10.45**	Welcome, summary and agenda
Topic 1: Sustainable fuels combustion (LFS, IDT, pollutants): H_2, NH_3, SAFs	*Liming Cai*		
		10.45-11.30	"*Theoretical kinetics of reactions between molecular oxygen and nitrogen centered radicals formed during alkylamine oxidation*" Yusuyuki Sakai, Ibaraki University, Japan
			"*Multiscale physics-based, data-driven studies of combustion and emissions of hydrogen and Ammonia"* Mike Burke, Columbia University, USA
			"*Combustion chemistry of SAF and supercritical autoignition of H_2"* Song Cheng, Hong Kong Polytechnic University, Hong Kong
		11.30-12.15	Open Discussion
		12.15-13.30	Lunch
Topic 2: Advanced diagnostics for combustion measurements	*Andrea Comandini*		
		13.30-14.15	"*Simultaneous multi-species sensing in shock tubes through variable-pathlength laser absorption*" Ron Hanson, Stanford University, USA
			"S*ynchrotron-based diagnostics for chemical kinetic experiments"* Tina Kasper, Paderborn University, Germany
			"*Structured combustion data and databases for kinetic mechanism development and validation*" Tibor Nagy, Research Centre for Natural Sciences, Hungary
		14.15-15.00	Open Discussion
		15.00-15.30	Coffee Break

Topic 3: Plasma combustion: experiments and modelling	*Bin Yang*	**15.30-16.15**	"*Theoretical study and cross section calculation of electron-molecule scattering*" Xianwu Jiang, Wuhan University of Technology, China
			"*Laser diagnostics methods for plasma systems*" Wei Ren, The Chinese University of Hong Kong, Hong Kong
			"*Low temperature combustion and plasma-assisted combustion*" Nicholas Tsolas, Auburn University, USA
		16.15-17.00	Open Discussion
Wrap-up	*Organizers*	**17.00-17.30**	Summary from Day 1
Poster reception		**17.30-19.30**	Poster Session and reception

Day 2 - ***Sunday 26th July***			
	Moderator	**8.00-8.50**	Registration
	Matteo Pelucchi	**8.50-9.00**	Welcome, summary and agenda
Topic 4: AI-TST-ME: automation, benchmarking and knowledge transfer	*Feng Zhang*	**9.00-9.45**	"*Edge migration of aromatic rings by radical reactions—kinetics and directionality: can the outcome of an aromatic edge migration be predicted on the fly?*" Alexander Mebel, Florida International University, USA
			"*Transforming combustion chemistry workflows to handle the big data deluge*" William H. Green, Massachusetts Institute of Technology, USA
			"*Automated kinetic data generation for combustion models using the tabulated model of transition states (TMTS) method*" Baptiste Sirjean, Centre National de la Recherche Scientifique, France
		9.45-10.30	Open Discussion
		10.30-11.00	Coffee Break
Topic 5: Chemical Kinetics Mechanisms: Progress in accuracy and details.	*Brandon Rotavera*	**11.00-11.45**	"*Speciation experiments in kinetics: what do we learn from modeling?*" Guillaume Dayma, Centre National de la Recherche Scientifique, France
			"*Details in elementary kinetics: setting the foundations for combustion kinetics modeling*" Raghu Sivaramakrishnan, Argonne National Laboratory, USA
			"*Developing detailed chemical kinetic mechanisms for fuel combustion*" Henry Curran, University of Ireland, Ireland
		11.45-12.30	Open Discussion
		12.30-13.45	Lunch
Discussion and actions	*Matteo Pelucchi* *Bin Yang*	**13.45-15.30**	- Open discussion on challenges - Feasible joint actions and initiatives for Topic 1-5 - Feedback and suggestions from participants - …