

6th EUCASS Aerospace Thematic Workshop:

Fundamentals of Aerodynamic Flow and Combustion Control by Plasmas



Saint Petersburg
April 9-14, 2017
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	Monday, April 10	Tuesday, April 11	Wednesday, April 12	Thursday, April 13	Friday, April 14
Topic	Aerodynamic flow control	Plasma-assisted combustion	Kinetics modelling	Diagnostics	Advanced simulations
8:40-9:00	Opening				
9:00-10:00	1. Ivan Moralev (JIHT, Moscow) Surface DBD plasma actuators: 3D effects and their possible effect on flow control applications	6. Wenting Sun (Georgia Tech, USA) Combustion control with ozone addition: the effect of explosive ozonolysis reactions on jet flames	11. Nickolay Aleksandrov (MIPT, Russia) Kinetics of water-containing plasmas: state-of-the-art and unsolved problems	16. Azer Yalin (Colorado State Univ., USA) Laser Ignition: from laboratory investigation to real world application	19. Marc Massot (Ecole Polytechnique, France) Adaptive time-space algorithms with error control for the simulation of multi-scale reaction waves: plasma/combustion applications
10-10:30	Coffee break				
10:30-11:30	2. Jenny Larfeldt (Siemens Industrial Turbomachinery AB, Sweden) Challenges for flexible operation of Siemens industrial gas turbines	7. Min Suk Cha (KAUST) Reforming of liquid hydrocarbons using electrical discharges	12. Alexander Konnov (Lundt University, Sweden) Response of laminar burning velocity on flame conditions and plasma constituents: experiments vs modelling	17. Ryo Ono (University of Tokyo, Japan) Measurement of streamers propagation, temperature, density of radicals and electrons	20. Laxminarayan Raja (Univ. of Texas at Austin, USA) Multi-scale computational modeling of plasma-assisted ignition and combustion control
11:30-12:30	3. Igor Mashek and Valery Lashkov (SPSU, Russia) Beamed Energy Deposition in Supersonic Flows. Physics and Aerodynamic Applications	8. Elena Filimonova (JIHT, Moscow, Russia) Controlling combustion in HCCI engine by activation of low T combustion mode by streamer discharges	13. Vasco Guerra (Instituto Superior Técnico, Portugal) Evidence and modelling of vibrational excitation in N ₂ , O ₂ and CO ₂ plasmas	18. Giorgio Dilecce (CNR, Italy) LIF on simple molecular radicals from gas discharges to combustion	21. Victor Soloviev, (MIPT, Russia) Fundamentals of SDBD development
12:30	Lunch				22. Conclusions
					Lunch
Topic	Aerodynamic flow control	Plasma-assisted combustion	Diagnostics	Free time	
17:00-18:00	4. Andrei Sidorenko (ITAM, Russia) Plasma control of transonic and supersonic separated flows	9. Nikolay Popov (SINP, MSU, Russia) Filamentary nanosecond SDBD: physics and application for plasma assisted combustion	14. Armelle Cessou (CORIA, France) Space and time analysis of energy deposition of nanosecond overvoltage pulsed discharge with spark phase		
18:00-19:00	5. Sergey Stepanyan (Ecole Centrale France) Hydrodynamic effects induced by nanosecond discharges in air, Ar, combustible mixtures	10. Huyngrok Do (Seoul National University, Korea) Plasma for ignition and measurements	15. Dmitry Lopaev (SINP, MSU, Russia) Elementary processes in oxygen plasma. What ever is actually important and what is still questionable		
19.30	Dinner	Dinner	Dinner	Banquet dinner	
20.30-22.30	Poster Session 1	Poster Session 2	Poster Session 3		