

9 th September 2018	
15:00 – 20:30	Registration [Le Meridien Foyer]
18:30 – 20:30	Welcome Reception [Le Meridien Lobby and Bar]

10 th September 2018			
Room	Elysee 1	Elysee 2	Versailles
08:00 – 08:25	Speaker briefing / presentation upload	Speaker briefing / presentation upload	Speaker briefing / presentation upload
08:30		Conference Introduction	
09:00 – 09:45		Plenary Lecture 1. isicp2018-pl1 Combustion processes in hybrid rockets L. Galfetti, Politecnico di Milano, Space Propulsion Lab, IT Chair: A. Karabeyoglu	
	Session 1: Commercial Applications of EMs	Session 2: Innovative / Advanced Rocket Propulsion Techniques and Systems [Hybrids 1]	Session 3: Innovative / Advanced Rocket Propulsion Techniques and Systems [Solids 1]
Chairs:	B. Kosovski, C. Kirchberger	A. Karabeyoglu, C. Schmierer	S. Fasoulas, V. Weiser
09:50	isicp2018-23781 Energetic Metals for Construction on the Moon and Mars E. Shafirovich, The University of Texas at El Paso Department of Mechanical Engineering, USA	isicp2018-23815 Development of direct injection gas-hybrid rocket system using glycidyl azide polymer Y. Wada, Chiba Institute of Technology, JPN	isicp2018-23750 Apparatus and Experiments for Thermal Conductivity Study of Ablative Composite Materials R. Shilav (presenter: A. Gany), Technion Rafael, ISR
10:15	isicp2018-23751 Development of Anti-hail Rocket with Reaction Liftoff V. Bozic, Ministry of Environment, SRB	isicp2018-23818 Improvement of Combustion Efficiency using Baffle Plate for LT/GOX Hybrid Rocket Motor Y. Kawabata, Chiba Institute of Technology, JPN	isicp2018-23814 Advanced Materials Development for Thrust Vector Control and Testing in an Abrasive Jet Wash Facility M. Frieß, DLR Institute of Structures and Design, DEU
10:40	isicp2018-23801 New applications for aerosol generator of extinguisher S. Tomiyama, YAMATO PROTEC CORPORATION Central of Research and Development Laboratories, JPN	isicp2018-23819 A novel polyethylene particles/paraffin-based self-disintegration fuel for hybrid rocket propulsion W. Zhang, School of Chemical Engineering Nanjing University of Sci. & Tech, CHN	isicp2018-23776 Reactivity and Combustion of Porous Silicon Energetic Chips R. Shen, School of Chemical Engineering Nanjing University of Sci. and Tech., CHN
11:05	Coffee Break [Foyer]		
	Session 4: Conventional, Advanced and Environmentally-friendly "Green" Propellants [Liquid Monopropellants]	Session 5: Innovative / Advanced Rocket Propulsion Techniques and Systems [Hybrids 2]	
Chairs:	N. Wingborg, Y. Batonneau	L. Galfetti, Y. Wada	
11:25	isicp2018-23831 Improving ADN-based propulsion systems: the RHEFORM Project M. Negri, DLR Institute of Space Propulsion, DEU	isicp2018-23761 Characteristic Length and Combustion Efficiency of Aluminized Solid Fuel for Hybrid Rocket Y. Murakami, Department of Aerospace Engineering College of Science and Technology Nihon University, JPN	
11:50	isicp2018-23787 Ethene / Nitrous Oxide Mixtures as a Green Propellant to substitute Hydrazine: Reaction Mechanisms Validation C. Naumann, DLR Institute of Combustion Technology, DEU	isicp218-23830 Modeling and Testing of Nitrous Oxide Systems for Explosive Decomposition A. Karabeyoglu, KOC University, TUR	
12:15	isicp2018-23775 Ignition of aqueous ADN-based monopropellants M. Wilhelm, DLR Institute of Space Propulsion, DEU	isicp2018-23831 Inexpensive Smallsat Launch Service using Hybrid Rocket Propulsion C. Schmierer, DLR Institute of Space Propulsion, DEU	

12:40	isicp2018-23793 A premixed green propellant consisting of N2O and C2H4: Experimental analysis of quenching diameters to design flashback arresters L. Werling, DLR Institute of Space Propulsion, DEU		
13:05	Lunch [Foyer]		
14:05		Welcome Address U. Steinbach, Ministerial Director, Baden-Wuerttemberg Ministry of Science, Research and Art	
14:20 – 15:05		Plenary Lecture 2. isicp2018-pl2 Nanometals for High Energetic Materials A. Vorozhtsov, Tomsk State University, Institute for Problems in Chemical and Energetic Technologies, RUS Chair: R. Stowe	
15:05 – 15:20		Group Photo (hotel terrace or Élysée 2, depending on weather)	
	Session 6: Combustor and Thrust Chamber Process Analysis	Session 7: Synthesis & Characterization of EMs	Session 8: Ignition and Initiation Processes - 1
Chairs:	Y. Wada, V. Weiser	S. Rashkovskiy, R. Stowe	C. Kappenstein, J. Zevenbergen
15:20	isicp2018-23817 Pyrolysis Behavior of Paraffin-based Thermoplastic Polymer used in Hybrid Rocket Fuel A. Banno, Chiba Institute of Technology, JPN	isicp2018-23752 Thermal stability and combustion behaviors of energetic materials based on a new heterocycle azasidnon V. Sinditskii, Mendeleev University of Chemical Technology, RUS	isicp2018-23821 Catalytic Activity Data for the Decomposition of Hydrazine or Hydrogen Peroxide C. Kappenstein, IC2MP, University of Poitiers, FRA
15:45	isicp2018-23796 A Visual Study of the Combustion Process in Paraffin-Based Hybrid Rocket Fuels A. Petrarolo, DLR Institute of Space Propulsion, DEU	isicp2018-23766 High-Pressure Burning Rate Measurements by Direct Observation G. Derk, The Pennsylvania State University, USA	isicp2018-2375 Experimental Investigation of Catalyst Internal Structures with Hydrogen Peroxide R.-J. Koopmans, FOTEC, AUT
16:10	isicp2018-23760 Solid Propellant Periodic Self-Extinctions Phenomenon Induced by Self-Synchronization of the Micro-Scale Oscillatory Networks of the Reactionary Zones A. Lukin, Western-Caucasus Research Center, RUS	isicp2018-23762 Internal Plasticized Glycidyl Azide Copolyethers for Solid Propellant Binders S. Hafner, Fraunhofer ICT, DEU	isicp2018-23769 Catalytic Decomposition of Tetramethyltetrazene (TMTZ) R. Beauchet (presenter: Y. Batonneau), IC2MP, University of Poitiers, FRA
16:35	Coffee Break [Foyer]		
17:00 – 17:20		Kenneth K. Kuo Memorial Ceremony	
17:25 – 18:10		Plenary Lecture 3: Kenneth K. Kuo Memorial Lecture. isicp2018-pl3 Innovative Concepts for High-Speed Underwater Propulsion A. Gany, Technion, Faculty of Aerospace Engineering, ISR Chair: K. Hori	

11 th September 2018			
Room	Elysee 1	Elysee 2	Versailles
08:00 – 08:25	Speaker briefing / presentation upload	Speaker briefing / presentation upload	Speaker briefing / presentation upload
08:30 – 09:15		Plenary Lecture 4. isicp2018-pl4 Advances in Gel Propulsion B. Natan, Technion, Faculty of Aerospace Engineering, ISR Chair: H. Ciezki	
	Session 9: Conventional, Advanced and Environmentally-friendly “Green” Propellants [Gel]	Session 10: Conventional, Advanced and Environmentally-friendly “Green” Propellants [Bipropellants 1]	Session 11: Innovative / Advanced Rocket Propulsion Techniques and Systems [Liquids – Methane]
Chairs:	B. Natan, R. Yetter	U. Gotzig, T. Katsumi	G. Hagemann, S. Schleichtrien
09:20	isicp2018-23822 Space Applications of Gelled Propellant Rocket Technology K. Naumann, Bayern-Chemie, DEU	isicp2018-23748 Hypergolicity and ignition delay study of 2-azidoethanol and hydrogen peroxide S. Heimsch, Ludwig-Maximilians Universität München Department Chemistry, DEU	isicp2018-23805 Current status of the DLR LUMEN Project G. Waxenegger-Wilfing, DLR Institute of Space Propulsion, DEU
09:45	isicp2018-23807 Analysis of Gelled Propellant Combustion Processes by Means of a Model Rocket Combustion Chamber with Optical Access C. Kirchberger, DLR Institute of Space Propulsion, DEU	isicp2018-23768 Hydrogen Peroxide and Activated Diamine Gels – an Approach for a Green Hypergolic Bipropellant System M. Kurilov, DLR Institute of Space Propulsion, DEU	isicp2018-23791 Flame Structure of Gaseous Methane/Oxygen in a Pintle Injector M. Son, Korea Aerospace University, KOR
10:10	isicp2018-23798 Pressure Loss and Flow Behaviour of Gels over a Constriction A. Stiefel, DLR Institute of Space Propulsion, DEU	isicp2018-23786 Development of a Satellite Propulsion System based on Water Electrolysis N. Harmansa, University of Stuttgart, Institute of Space Systems, DEU	isicp2018-23792 Characteristics of Combustion Instability in CH₄/O₂ Model Combustors J. Bae, Seoul National University, KOR
10:35	isicp2018-23795 Ignition and Combustion Phenomena of Gelled Nitromethane Monopropellants D. Freudenmann, DLR Institute of Space Propulsion, DEU	isicp2018-23833 A Review of MACH I Development Activities Relating to 2-Dimethylaminoethylazide from 2000 to Present. B. Kosowski, MACH I, USA	
11:00	Coffee Break [Foyer]		
	Session 12: Innovative / Advanced Rocket Propulsion Techniques and Systems [Solids 2]	Session 13: Test Methods and Diagnostic Techniques in CP and Combustion of EMs [Solids 2]	
Chairs:	A. Gany, T. Katsumi	V. Yang, E. Shavirovich	
11:20	isicp2018-23758 Properties and Laser-Ignition Performance of Al/CuMoO₄, Al/CuO/MoO₃, Al/CuO and Al/MoO₃ nanothermites C.F. Petre, Defence Research and Development Canada, CAN	isicp2018-23763 Oscillating and Cellular Structures on the Burning Surface of Solid Homogeneous Energetic Materials S. Rashkovskiy, IPMech RAS, RUS	
11:45	isicp2018-23808 Effects of aluminum based multi-metal particles on solid propellants Z. Qin, Science and Technology on Combustion and Explosion on Laboratory, Xi'an Modern Chemistry Research Institute, CHN	isicp2018-23813 Detailed analysis of combustion process of a single aluminum particle in air using an improved experimental approach A. Braconnier, ArianeGroup, FRA	
12:10	isicp2018-23824 Thermomechanical Combustion Acceleration A. Hahma, Diehl Defence, DEU		
12:35	Lunch [Foyer]		

13:45 – 14:30		<p>Plenary Lecture 5. isicp2018-pl5</p> <p>Multi-fidelity modeling and simulations of rocket-engine combustion dynamics</p> <p>V. Yang, Georgia Institute of Technology, USA Chair: L. Galfetti</p>	
	Session 14: Innovative / Advanced Propulsion Techniques and Systems [Liquids 1]	Session 15: Ignition and Initiation Processes - 2	Session 16: Theoretical Modelling and Numerical Simulation for Chemical Propulsion (CP) and EM – 1
Chairs:	S. Fasoulas, K. Naumann	R. Yetter, P. Wanninger	W. Pang, U. Riedel
14:35	<p>isicp2018-23800</p> <p>Green Solutions for Space Propulsion U. Gotzig, Ariane Group, DEU</p>	<p>isicp2018-23783</p> <p>Ignition and combustion of HEM containing boron and aluminum diboride A. Korotkikh, Tomsk Polytechnic University, RUS</p>	<p>isicp2018-23811</p> <p>Diffusion Flame Studies of Solid Fuels with Nitrous Oxide E. Boyer (presenter: R. Yetter), Pennsylvania State University, USA</p>
15:00	<p>isicp2018-23749</p> <p>Characterization of Detonation Wave Propagation in a Rotating Detonation Rocket Engine using Direct High-Speed Imaging J. Bennewitz, ERC Inc. Air Force Research Laboratory, USA</p>	<p>isicp2018-23767</p> <p>Igniter Compositions for LOVA- and Double Base Propellants containing KDN V. Weiser, Fraunhofer-Institut für Chemische Technologie ICT, DEU</p>	<p>isicp2018-23823</p> <p>Automatic Propellant Geometry Optimization by Genetic Algorithm A. Hahma, Diehl Defence, DEU</p>
15:25	<p>isicp2018-23772</p> <p>Experiments on Transpiration Cooling in a Model SCRamjet Combustor Using Background Oriented Schlieren (BOS) F. Strauss, DLR Institute of Space Propulsion, DEU</p>	<p>isicp2018-23788</p> <p>Thermal degradation and activation energies of two insensitive propellants : an experimental study J. Ehrhardt, Univ. Orleans PRISME EA 4229, FRA</p>	<p>isicp2018-23759</p> <p>Theoretical Modelling of Electrically-Operated Ammonium Nitrate Propellants M. Ben-Reuven, Technion, ISR</p>
15:50	<p>isicp2018-23799</p> <p>Efficiency Advancements in Novel Approaches for Liquid High Performance Rocket Thrust Chambers M. Ortelt, DLR Institute of Structures and Design, DEU</p>		<p>isicp2018-23797</p> <p>Numerical simulation on the combustion of Zirconium/Potassium Perchlorate inside a spherical and cylindrical vessel D. Han, Korea Aerospace University, KOR</p>
16:15	Coffee Break [Foyer]		
16:35 – 18:05		<p>Panel Discussion</p> <p>Future of propellants and energetic materials</p> <p>L. Galfetti, Professor, Politecnico di Milano, Italy U. Gotzig, Coordinator Green Propellants Activities, ArianeGroup, Germany B. M. Kosowski, President Mach 1, USA K.-W. Naumann, Director Strategy and Business Development, Bayern-Chemie, Germany W. Pang, Professor, Xi'an Modern Chemistry Research Institute, China A. Vorozhtsov, Professor, Tomsk State University, Russia N. Wingborg, Deputy Research Director, FOI, Sweden (Moderator: H. Ciezki)</p>	
19:00 – 22:00	Chairpersons Meeting and Dinner (on invitation only, location will be announced on invitation)		

12 th September 2018			
Room	Elysee 1	Elysee 2	Versailles
08:00 – 08:25	Speaker briefing / presentation upload	Speaker briefing / presentation upload	Speaker briefing / presentation upload
08:30 – 9:15		Plenary Lecture 6. isicp2018-pl6 Ammonium dinitramide N. Wingborg, Swedish Defence Research Agency (FOI), SWE Chair: C. Kappenstein	
	Session 17: Conventional, Advanced and Environmentally-friendly “Green” Propellants [Liquid Bipropellants 2]	Session 18: Conventional, Advanced and Environmentally-friendly “Green” Propellants [Solids]	
Chairs:	J. Zevenbergen, M. Negri	Y. Batonneau, A. Vorozhtsov	
09:20	isicp2018-23810 Progress in Green Liquid Bi-propellant Rocket Engine Using Catalytically Decomposed 98% Hydrogen Peroxide K. Sobczak, Institute of Aviation, POL	isicp2018-23765 Environment-Friendly Composite Propellant V. Gettwert (presenter: C. Tagliabue), Fraunhofer-Institut für Chemische Technologie ICT, DEU	
09:45	isicp2018-23806 Selection of Ionic Liquids and Characterization of Hypergolicity with Hydrogen Peroxide F. Lauck, DLR Institute of Space Propulsion, DEU	isicp2018-23771 New Safe, Green (chlorine-free) and High Performance Solid Propellant Formulations Based on a New Promising High-Energy Dense Oxidizer M. Abd-Elghany, Ludwig-Maximilian Universität München, DEU	
10:10	isicp2018-23809 Experimental comparison of the combustion of storable bipropellant alkanes with HTP oxidizer from impinging jet injectors N. Riaud, PPrime Institute, FRA	isicp2018-23753 Static Firing Tests of Aluminum-Water Propellant Motors Containing V-ALEX Nano-powders S. Wollmark, Technion, Faculty of Aerospace Engineering, ISR	
10:35		isicp2018-23738 Combustion Features of Nitrate Ester Plasticized Polyether Solid Propellants with ADN and GUDN Particles W. Pang, Xi’an Modern Chemistry Research Institute, CHN	
11:00	Coffee Break [Foyer]		
	Session 19: Theoretical Modelling and Numerical Simulation for Chemical Propulsion (CP) and EM – 2	Session 20: Ignition and Initiation Processes [Laser]	
Chairs:	U. Riedel, E.-C. Koch	D. Spitzer, A. Hahma	
11:20	isicp2018-23785 Unsteady Modelling of LOx/GH2 Flame Response to Longitudinal Chamber Mode Forcing F. Tonti, DLR Institute of Space Propulsion, DEU	isicp2018-23803 Optical Characterization of the Laser-Induced Ignition Spark in a Cryogenic Rocket Combustor R. Stützer, DLR Institute of Space Propulsion, DEU	
11:45	isicp2018-23745 Application of the Methodology “Counterflow Diffusion Flames” in Modeling of the Terminal Ballistic Processes of Munitions T.E. Zavodova, Ural Federal University, RUS	isicp2018-23816 Gasification Reaction Characteristics of Ionic Liquid Monopropellants by Laser Induced Breakdown Plasma T. Katsumi, Nagaoka University of Technology, JPN	
12:10	isicp2018-23764 Stable and Unstable Combustion in a Solid Fuel Scramjet with Channel Geometry Variation due to Burnout S. Rashkovskiy, IPMech RAS, RUS	isicp2018-23757 Experimental Study of a Laser Ignited Thruster with a Porous Injector Head M. Börner, DLR Institute of Space Propulsion, DEU	
12:35	Lunch [Foyer]		

13:45 – 14:30		Plenary Lecture 7. isicp2018-pl7 Nanocrystallization of energetic materials by Spray Flash Evaporation for Explosives and Propellants Issues D. Spitzer, ISL(Institute Saint-Louis)-CNRS-UNISTRA, FRA Chair: V. Sinditskii	
14:30 – 15:15		Plenary Lecture 8. isicp2018-pl8 Advances in Pyrotechnics: Sustainable & Intelligent Materials E.-C. Koch, Lutradyn, DEU Chair: V. Weiser	
15:20	Coffee Break [Foyer]		
15:40 – 16:25		General Assembly	
18:30	Bus Departure to Social Event		
19:30 – 23:30	Social Event		

13 th September 2018	LA Day
08:15	Bus departure from Le Meridien
10:00	Coffee Break [DLR Forum]
10:15	Introduction S. Schlechtriem, DLR Institute of Space Propulsion, DEU
10:40	Overview on R&T Activities on Advanced and Green Propellants at DLR Lampoldshausen H. Ciezki, DLR Institute of Space Propulsion, DEU
11:10	Propulsion Solutions for all Destinations D. Feyhl, ArianeGroup, DEU
12:00	Lunch [DLR Forum]
13:00	Guided tours to test site
17:00	Bus departure
18:30	Bus arrival at Le Meridien