ISEM2021 Schedule (Tentative)

2021/9/16

16– 18 November, 2021

Plenary Lectures 1-5: 60 min

Presentation: 20 min

Time JST (UTC+9)	16 Nov., 2021 (Tue)		17 Nov., 2021 (Wed)		18 Nov., 2021 (Thu)	
	Room A	Room B	Room A	Room B	Room A	Room B
9:00	Opening		Invited Lecture **L2** Denes V. Agoston		Invited Lecture **L4** Kaiwen Xia	
10:00	**A1** Explosion Safety 1	**B1** Shock Compression of Condenced Matter 1	**A4** Explosion Safety 2	**B4** Gas Detonation	**A7** Blasting	**B7** Thermal Behavior 1
11:00						
12:00	Lunch		Lunch		Lunch	
13:00	Invited Lecture **L1** Alexander Vorozhtsov		**A5** Propellant and Pyrolant 2	**B5** Explosion Safety 3	Invited Lecture **L5** Mitsuru Arai	
14:00	**A2** HEMs 1	**B2** Propellant and Pyrolant 1			**A8** Fireworks	**B8** Propellant and Pyrolant 4
15:00			Invited Lecture **L3** Thomas M. Klapötke			
16:00	**A3** HEMs 2	**B3** Pyrotechnics and Analysis and Detection of Explosives	**A6** Propellant and Pyrolant 3	**B6** Pyrotechnics	**A9** Thermal Behavior 2	**B9** Shock Compression of Condenced Matter 2
17:00					Closing	
18:00						

ISEM2021 Program (Tentative)

Nov. 16 (Tue)

Sep-16, 2021

Time, JST (UTC+9)

9:00	Openning			
9:30	**A1**	**Explosion Safety 1**	**B1**	**Shock Compression of Condenced Matter 1**
		Effect of porous MgO when used as a stabilizer for nitrocellulose, Katsumi Katoh, Japan		A study of reaction growth-rate and burn-front velocity in PBXs through interface-resolved reactive simulations and experiments, Shobhan Roy, USA
		Integrated safety system design for a detonation physics laboratory, Michael Meadows, USA		Hotspot formation from elliptical void collapse in 1,3,5,7-tetranitro-1,3,5,7-tetrazoctane (HMX): comparison between MD and continuum models, Yen Nguyen, USA
		The next generation of CAMES(TM) sensors for shear and contact stress detection, Bernard M Kosowski, USA		A novel framework for modeling the effects of single crystal plasticity in cyclotetramethylene tetranitramine (HMX) under Shocks, Oishik Sen, USA
		Laser ignition of GO/Al/$KClO_4$ ternary nanothermites for micro thruster applications, Ahmed Fahd, Canada		Canonical detonation phenomena and Novel tools for characterization (temporary) Eric Welle, USA
		Thermal behaviour of potassium periodate and mixtures thereof containing fuels and metal oxides, Yuka Sakae, Japan		
11:30		Kinetic modeling for autoxidation of methyl acrylate containing radical inhibitor, Michiya Fujita, Japan		
	LUNCH			
13:00	**Invited Lecture 1: L1** Decision of antibacterial and antiviral problems based on the experience of nanotechnologies application for HEMs Alexander Vorozhtsov, Tomsk State University, Russia			
14:00	**A2**	**HEMs 1**	**B2**	**Propellant and Pyrolant 1**
		Investigation of the mechanical properties of the A359 aluminum alloy reinforced with basalt fibers, Valihov Vladimir , Russia		Agglomeration and combustion characteristics of Aluminum particles in Ammonium Perchlorate based composite propellants, Kotaro Matsumoto, Japan

	Investigation of the effect of erbium particles on the structure and mechanical properties of the AA5056 alloy, Nikolai Kakhidze, Russia	Integration of Fuel Regression Measurement Function into Hybrid Rocket Solid Fuels with Multi-material Additive Manufacturing, Kohei Ozawa, Japan
	Structure and phase composition of AlMgB14-TiB2 obtained by SHS, Dmitrii Tkachev, Russia	Optical Observation and Measurement of the Burning Surface Temperature Profile of GAP/AP, Tamiaki Takasago, Japan
	Formation of the structure of mullite obtained using low-temperature plasma, Ruslan Gafarov, Russia	Numerical analysis of hybrid rocket engine combustion with Al powder added to solid fuel, Kanami Aoki, Japan
15:40	Investigation of structure and mechanical properties of the AA5056 alloy reinforced with tungsten nanoparticles, Anton Khrustalev, Russia	Temperature measurements of boundary layer diffusion flames in hybrid rockets using fine thermocouple and spectroscopy techniques, Ayana Banno, Japan
	BREAK	
15:50	**A3 HEMs 2**	**B3 Pyrotechnics and Analysis and Detection of Explosives**
	Consortia as a new format for the formation of a world-class competitive Russian research and educational space, Elena.A. Danilova, Russia	Effect of mechanically activated powder for use in high energetic materials, Sergei Sokolov, Russia
	Influence of preparation methods on burning rate of pyrotechnic mixtures, Sebastian Knapp, Germany	Obtaining and studying the properties of mechanically activated powders, Sergei Sokolov, Russia
	Evaporation dynamics of trinitrotoluene microparticles from the glass surface, V.M. Gruznov, Russia	Combustion of large porous titanium particles in air as individual and as component of composite propellant, Oleg Glotov, Russia
17:10		Development and characterization of fluorescent sensory materials based on polystyrene for detection of nitroaromatic compouds, Roman Chuvashov, Russia
17:30		Mathematical treatment of hyperspectral data in standoff detection of explosive traces by active spectral imaging technique, Anatoly Pavlenko, Russia

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Nov. 17 (Wed)

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9:00	**Invited Lecture 2: L2** When physics meets biology; explosive blast induced traumatic brain injury Denes V. Agoston, Uniformed Services University, USA			
10:00	BREAK			
10:10	**A4**	**Explosion Safety 2**	**B4**	**Gas Detonation**
		Effects of targeted application of a shock wave(s) to the brain and/or lungs in rats, Satoko Kawauchi, Japan		Generation of planar blast waves using a gaseous detonation-driven blast simulator, Tomoki Takehara, Japan
		Scale effect on blast wave mitigation by interaction with water droplets, Takahiro Tamba, Japan		Experimental study on deflagration-to-detonation transition in a channel with densely-arranged roughness elements on the wall, Shinichi Maeda, Japan
		Study on shock wave pressure attenuation by shock wave interaction with water droplets layer, Kiyonobu Ohtani, Japan		Flame propagation behavior in a swirling flow induced in a rotating tube, Riku Hayashi, Japan
		Numerical analysis of the effect of water droplets layer location on the blast mitigation, Kakeru Shibue, Japan		Propagation characteristics of deflagration in swirling flow, Hajime Takahara, Japan
		Blast-wave mitigation by periodic obstacles in a straight tube, Tomotaka Homae, Japan		Effects of bubble Gas composition on Bubble collapse by an underwater shock wave, Masaki Yamada, Japan
		Numerical simulations on the blast wave mitigation during propagation inside an inner-grooved straight tube, Yuta Sugiyama, Japan		
12:10	LUNCH			
13:00	**A5**	**Propellant and Pyrolant 2**	**B5**	**Explosion Safety 3**
		Combustion-mode transition of a solid propellant rocket motor by nitrogen gas injection, Masafumi Tanaka, Japan		Development of energetic material fast cook-off testing for the new Nato Standard (AOP-4240), Chong-Wei Ho, Taiwan
		Combustion of ammonium perchlorate with activated charcoal at high pressures, M. S. Ingole, India		Thermal decomposition behaviour in dry and humid conditions of single base propellants having different methyl violet test stabilities, Ayane Haba, Japan

	Performance evaluation of WAX-based hybrid-rocket solid fuel with added Mg-Al powder, Takayuki Fujita, Japan	Stability of NC-based explosives, relation between Bergman-Junk-Siebert test and Methyl Violet paper test, Ken Okada, Japan
	Experimental investigation of combustion of ethanol–methylcellulose gel droplets with Al powder, Junyu Zhu, Japan	Thermal safety evaluation in nitration of toluene with ionic liquid, Hiroaki Ono, Japan
	Development of high-energy systems using mechanically activated aluminum, Ayagoz Bakkara, Republic of Kazakhstan	
14:40	BREAK	
14:50	**Invited Lecture 3 ：L3** TKX-50: A New high explosive developed at LMU Munich Thomas M. Klapötke, Ludwig Maximilians University of Munich, Germany	
15:50	**A6 Propellant and Pyrolant 3**	**B6 Pyrotechnics**
	Detailed kinetic modeling for liquid-phase reactions of hydrazine nitrate based on quantum chemistry calculations, Yuichiro Izato, Japan	Exothermic Reaction of Fine and Coarse Magnesium Powders with Water, Yosuke Nishiwaki, Japan
	Numerical simulation of the boron agglomeration in combustion of boron-containing solid propellants, Sergey Rashkovskiy, Russia	Characterization of pyrotechnic Igniter based on heat flux and propellant ignition delay, Sumit Sarma, India
	Developing a theoretical approach for accurate determination of the density and thermochemical properties of energetic Ionic liquids, Yang Li, China	Characterization of periodate binary pyrotechnic mixtures, Robert Matyas, Czech Republic
	Synthesis of dinitramide salts with small continuous reactor, Hiroki Matsunaga, Japan	Novel method for Investigation the mass of different pyrotechnics MTV Compositions for rocket motor igniter, Ahmed hawass, Republic of Korea
17:10		

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Nov. 18 (Thu)

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Time, JST (UTC+9)

9:00	**Invited Lecture 4 : L4** Quantification of dynamic fracture properties of rocks subjected to confinements Kaiwen Xia, University of Toronto, Canada			
10:00	BREAK			
10:10	**A7**	**Blasting**	**B7**	**Thermal behavior 1**
		Evaluation of dynamic tensile fracture behavior of rocks by digital image correlation method, Tei Saburi, Japan		Analysis of thermal destabilization mechanism of ammonium nitrate/ammonium chloride mixtures, Kota Watanabe, Japan
		Influence of partially dense regions near the free surface on stress wave interference and crack propagation in laboratory blasting tests, Yoshiaki Takahashi, Japan		Hazard evaluation of chlorosilanes based on thermodynamic data, Masaya Sato, Japan
		Study on improvement of washing effect using underwater explosion phenomenon, Hayate Ueda, Japan		The promoting role of graphene oxide in the exothermic mechanism of Al/CuO nanocomposites, Jiaxin Su, China
		Unsteady interaction between underwater explosion and the concave curved wall, Yoshiteru Anshi, Japan		Detailed reaction simulation incorporating evaporation model of ammonium dinitramide, Yuto Kubota, Japan
		Study of the controlled blasting method for concrete using GANSIZER®, Kenji Murata, Japan		Evolved gas analysis of ammonium dinitramide and hydroxyethylhydrazinium nitrate mixture, Kento Shota, Japan
11:50	LUNCH			
13:00	**Invited Lecture 5 : L5** Recent topics in scientific study on fireworks Mitsuru Arai, The University of Tokyo, Japan			
14:00	BREAK			
14:10	**A8**	**Fireworks**	**B8**	**Propellant and Pyrolant 4**
		Quantitative analysis of $KClO_4$ reduction by Ti in fireworks composition, Kouta Odagiri, Japan		Electrolysis and ignition characteristics of HAN-based monopropellant, Toshiyuki Katsumi, Japan
		Influence of charcoal properties on the burning rate of black powder, Kenta Yuminaga, Japan		Thermal analytical screening of effective catalysts for the ignition of high energy ionic liquid propellants, Noboru Itouyama, Japan

	Thermal and evolved gas analysis for oxidation of carbon in senko-hanabi, Yukino Watanabe, Japan	Visualized image analysis of Electrolysis-Ignition of ammonium dinitramide based ionic liquid propellants using a high-speed camera, Kiichiro Iguchi, Japan
	Analysis on bursting mechanism of carbon steel sparks, Taro Kimura, Japan	“Tandem-action” ferrocenyl iodocuprates promoting low temperature hypergolic ignitions of “green” EIL–H2O2 bipropellants, Michael Gozin, Israel
15:30		
	BREAK	
15:40	**A9 Thermal behavior 2**	**B9 Shock Compression of Condenced Matter 2**
	Stability of explosives under continued laser pulse exposure, Thomas de Prinse, Australia	Complete equation of state for PETN products from atomistic simulations, Oleg V. Sergeev, Russia
	Thermal runaway propagation mechanism analysis of multiple lithium-ion batteries, Tomoya Suzuki, Japan	Shock Hugoniot prediction for unreacted high explosives, Kunihito Nagayama, Japan
	Effect of ozone on the thermal decomposition behavior of guanidine nitrate, Kyohei Amano, Japan	Numerical investigation of reaction zone for steady state detonation of solid explosives, Shiro Kubota, Japan
	Energetic cocrystal of 1H-tetrazole/sodium perchlorate, Kazuki Inoue, Japan	Basic study on the processing of thick magnesium alloy plate by impact forming method, Masatoshi Nishi, Japan
	Effect of mixing condition of ammonium Nitrate aqueous solution on cyclic thermal behavior of some phase-stabilized ammonium nitrates, Shingo Date, Japan	Metal oxides as a sensitizer in laser initiation of energetic materials, Anton S. Zverev, Russia
17:20		
18:00	Closing	