



**The 4th International Symposium on
Energetic Materials and their Applications**
16-18 November, 2011 - Naha, Okinawa, Japan

Schedule and Program

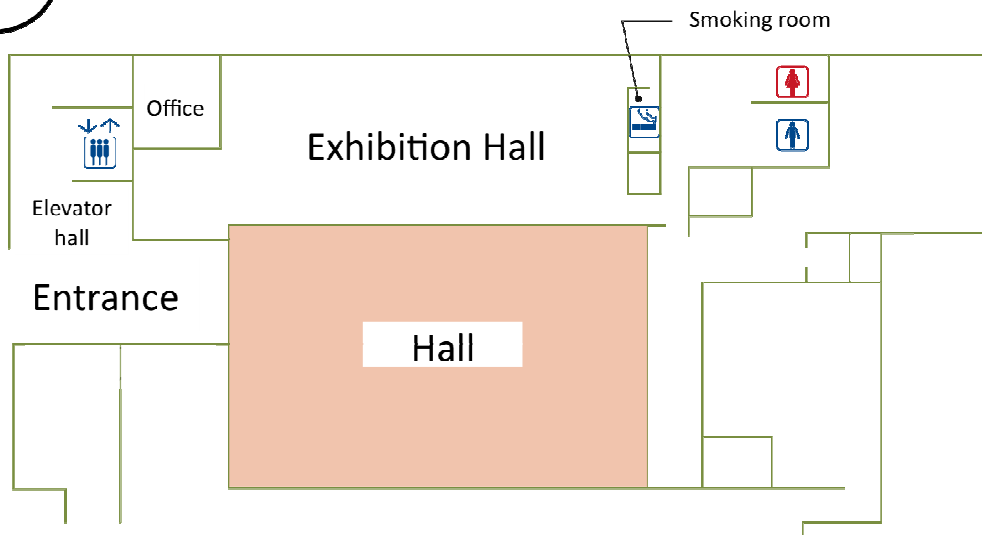
Final Version

ISEM2011 Schedule

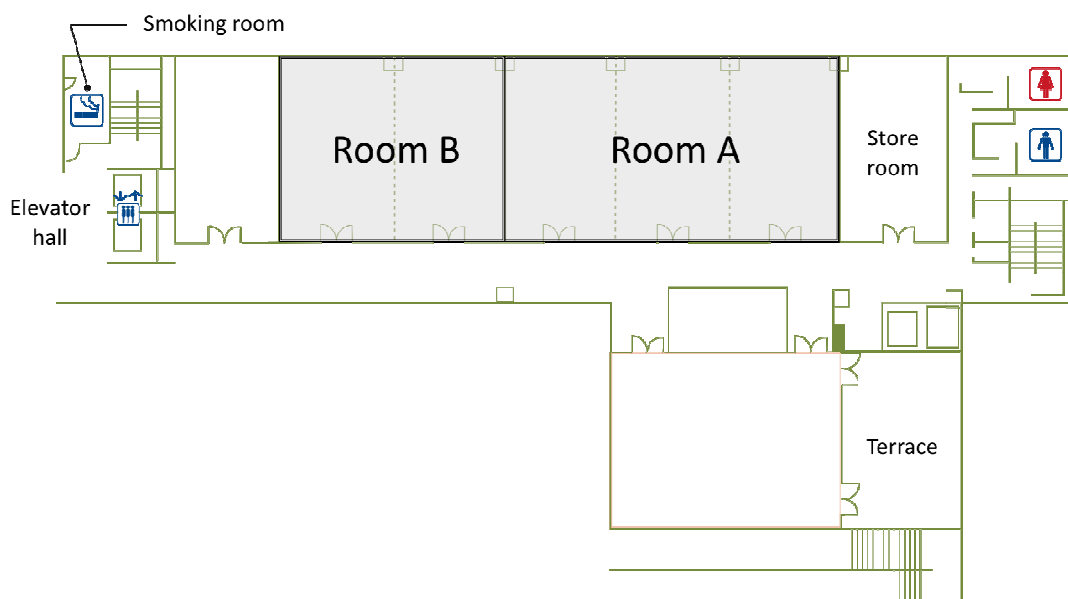
Date	Time	Hall (2F)	Room A (4F)	Room B (4F)
15 Nov. Tue.	16:00~18:30	Registration (Exhibition Hall, 2F)		
	17:00~19:00	Welcome Party (Exhibition Hall, 2F)		
16 Nov. Wed.	9:00~17:00	Registration		
	9:45~10:30	Opening Address		
	10:30~10:50	Coffee Break		
	10:50~11:50	Plenary Lecture 1 (Hall, 2F) Fines and dust generation and control in rock fragmentation by blasting Sushil Bhandari (Earth Resource Technology Consultants, India)		
	11:50~12:50	Lunch Time		
	12:50~13:50	Poster Session 1 (Exhibition Hall, 2F)		
	13:50~15:10	Session 16-H1 Blasting	Session 16-A1 Propellants 1	Session 16-B1 Combustion and Explosion
	15:10~15:30	Coffee Break		
	15:30~16:30	Session 16-H2 Detonation 1	Session 16-A2 Propellants 2	Session 16-B2 Safety and Detection
	16:40~17:40	Session 16-H3 Detonation 2	Session 16-A3 Propellants 3	Session 16-B3 Synthesis 1
17 Nov. Thu.	9:00~17:00	Registration (Exhibition Hall, 2F)		
	9:30~10:30	Session 17-H1 Synthesis 2	Session 17-A1 Detonation 3	Session 17-B1 Fireworks 1
	10:30~10:50	Coffee Break		Session 17-J Japanese Session (10:40-11:55)
	10:50~11:50	Plenary Lecture 2 (Hall, 2F) The long and winding road: Development of new energetic materials Patrick Goede and Nikolaj Latypov (Swedish Defence Research Agency (FOI), Sweden)		
	11:50~12:40	Lunch Time		
	12:40~13:30	Poster Session 2 (Exhibition Hall, 2F)		
	13:30~14:30	Session 17-H2 Pyrotechnics 1	Session 17-A2 Fireworks 2	Session 17-B2 Safety 1
	14:30~14:50	Coffee Break		
	14:50~15:50	Session 17-H3 Pyrotechnics 2	Session 17-A3 Combustion Mechanism	Session 17-B3 Safety 2
	16:00~17:00	Plenary Lecture 3 (Hall, 2F) Formation of Al oxide particles in combustion of aluminized condensed systems Vladimir Zarko and Oleg Glotov (Institute of Chemical Kinetics and Combustion, Russia)		
	18:00~20:00	Banquet (Okinawa Harborview Crowne Plaza, 2F, <i>SAIKAI NO MA</i>)		
18 Nov. Fri.	9:00~11:30	Registration (Exhibition Hall, 2F)		
	9:30~10:30	Session 18-H Detonation Engines	Session 18-A Thermal Analysis	Session 18-B New Developments
	10:30~10:50	Coffee Break		
	10:50~11:50	Plenary Lecture 4 (Hall, 2F) Investigations of unsteady flow processes in a pulse detonation engine Venkat Tangirala (General Electric Global Research Center, USA)		
	11:50~12:20	Closing Address (Hall, 2F)		

Floor Map

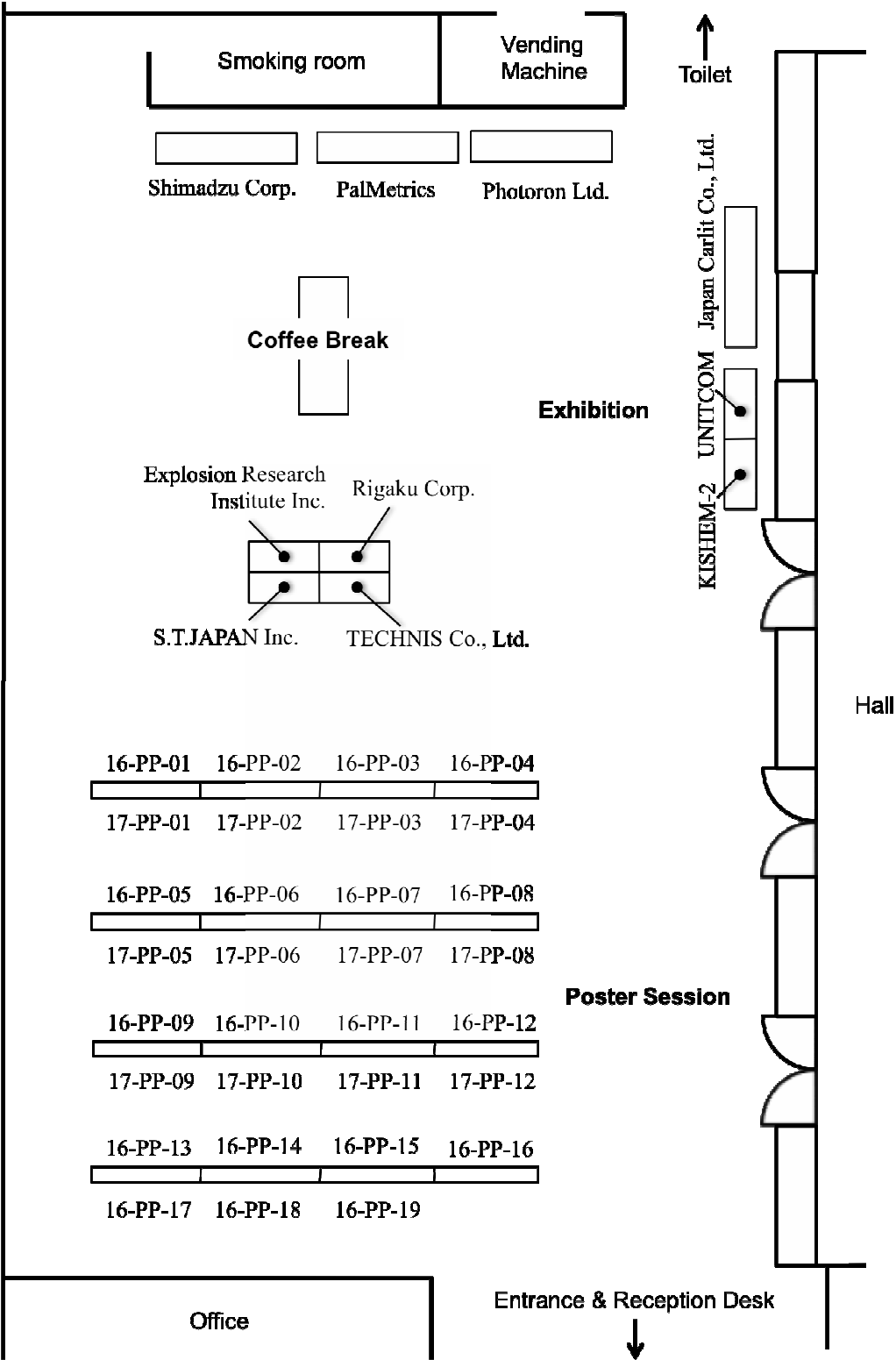
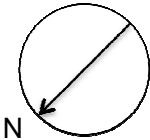
2 F



4 F



Layout
of
Exhibition Hall



Program

15 Nov. Tuesday

Welcome Party 15 Nov., 17:00~19:00, Exhibition Hall (2F)

16 Nov. Wednesday

Opening Address 16 Nov., 9:45~10:30, Hall (2F)

- Symposium Chair: **Prof. Mitsuru Arai**

Plenary Lectures 1 16 Nov., 10:50~11:50, Hall (2F)

Fines and dust generation and control in rock fragmentation by blasting

Sushil Bhandari (Earth Resource Technology Consultants, India)

- Chair: Prof. Gentō Mogi

Poster Session 1 16 Nov., 12:50~13:50, Exhibition Hall (2F)

Oral Session 16-H1 (Blasting) 16 Nov., 13:50~15:10, Hall (2F)

- Chair: **Dr. Sushil Bhandari, Earth Resource Technology Consultants**

- Chair: **Prof. Gentō Mogi, The University of Tokyo**

16-H1-1 **The utility of the blast in agricultural field**

H. Matsuoka*, K. Kurogi, K. Jyukurogi, S. Fujita, Y. Ogata, S. Kubota, T. Saburi
(*KAYAKU JAPAN CO., LTD., Japan)

16-H1-2 **Dynamic fracture experiments of mortar using a high-speed loading apparatus driven by explosives**

Y. Nakamura*, S. Cho, K. Kaneko, S. Kajiki, Y. Kiritani
(*Kumamoto National College of Technology, Japan)

16-H1-3 **Prediction of the effects of meteorology on airblast overpressure levels**

A. Richards*, P. Howarth (*Terrock Pty Ltd, Australia)

16-H1-4 **Fracture tests of concrete sample under dynamic loading**

K. Nishino*, S. Kubota, T. Saburi, Y. Ogata, K. Shinozaki, M. Arai (*Yokohama City University, Japan)

Oral Session 16-H2 (Detonation 1) 16 Nov., 15:30~16:30, Hall (2F)

- Chair: **Dr. Shiro Kubota, AIST**

16-H2-1 **Sympathetic detonation experiments of high explosive by using mortar, light weight concrete and sand as gap materials**

T. Matsumura*, K. Wakabayashi, Y. Nakayama, M. Iida (*AIST, Japan)

16-H2-2 **Prevention of sympathetic detonation of model munitions by sand layer**

Y. Nakayama*, T. Matsumura, K. Wakabayashi, M. Iida (*AIST, Japan)

- 16-H2-3 **Measurements of detonation properties of aluminized emulsion explosive**
Y. Kato*, K. Murata, N. Kaga, K. Tanaka (*Nippon Koki Co., Ltd., Japan)

Oral Session 16-H3 (Detonation 2) 16 Nov., 16:40~17:40, Hall (2F)

- Chair: Dr. Yukio Kato, Nippon Koki Co., Ltd.

- 16-H3-1 **Experimental research on shock initiation of pentaerythritol tetranitrate by laser-driven flyer plates**
L. Wu*, R. Shen, J. Xu, Y. Ye, Y. Hu (*Nanjing University of Science and Technology, China)
- 16-H3-2 **Numerical research of the flying plate detonator**
C. Okamoto*, T. Saiki, H. Kato (*JAXA, Japan)
- 16-H3-3 **Plate impact model for initiation and detonation phenomena of high energetic materials**
S. Kubota*, T. Saburi, Y. Ogata, K. Nagayama (*AIST, Japan)

Oral Session 16-A1 (Propellants 1) 16 Nov., 13:50~15:10, Room A (4F)

- Chair: Prof. Masafumi Tanaka, National Defense Academy

- 16-A1-1 **Characteristics of aluminum agglomeration in AP/AN composite propellants**
S. Oide*, K. Takahashi, T. Kuwahara (*Nihon University, Japan)
- 16-A1-2 **Agglomerate and ignition characteristics of aluminum particles in AN composite propellants**
K. Takahashi*, K. Nakadai, S. Oide, M. Tanabe, T. Kuwahara, T. Shimada (*Nihon University, Japan)
- 16-A1-3 **Ignition characteristics of AN/ADN composite propellants**
K. Takahashi*, K. Matsumoto, K. Nakadai, S. Oide, T. Kuwahara, H. Shibamoto, X. Yu, H. Habu (*Nihon University, Japan)
- 16-A1-4 **Combustion characteristics of ADN-based propellants**
K. Fujisato*, H. Habu, H. Shibamoto, X. Yu, A. Miyake, K. Hori (*The University of Tokyo, Japan)

Oral Session 16-A2 (Propellants 2) 16 Nov., 15:30~16:30, Room A (4F)

- Chair: Prof. Takuo Kuwahara, Nihon University

- 16-A2-1 **An experimental study on a flat-plate-type solid propellant rocket motor**
M. Tanaka*, K. Urakawa (*National Defense Academy, Japan)
- 16-A2-2 **Influences of content and diameter of HMX on burning characteristics of HMX based-propellant**
T. Naya*, S. Shioya, M. Kohga (*National Defense Academy, Japan)
- 16-A2-3 **Mechanism of high burning rate of HAN-based solutions**
T. Inoue*, T. Katsumi, K. Hori (*Tokai University, Japan)

Oral Session 16-A3 (Propellants 3) 16 Nov., 16:40~17:40, Room A (4F)

- Chair: Mr. Kenichi Takahashi, Nihon University

- 16-A3-1 **Ultrasonic measurement of fuel regression rate in traditional hybrid rocket motors**
S. Iwasaki*, K. Hori, K. Hasegawa, K. Kobayashi, Y. Wada, H. Nakayama (*The University of Tokyo, Japan)
- 16-A3-2 **Ignition characteristics of metal particles for gas hybrid rocket**
K. Matsumoto*, T. Kuwahara (*Nihon University, Japan)

- 16-A3-3 **Origin of hypergolic ignition of $\text{N}_2\text{H}_4/\text{NO}_2$ mixtures**
Y. Daimon, H. Terashima, M. Koshi* (*The University of Tokyo, Japan)

Oral Session 16-B1 (Combustion and Explosion) 16 Nov., 13:50~15:10, Room B (4F)

- Chair: Dr. Takehiro Matsunaga, AIST

- 16-B1-1 **Fire and explosion of dinitrosopentamethylenetetramine - a review**
T. Suzuki*(*National Research Institute of Fire and Disaster, Japan)
- 16-B1-2 **Anchoring of water-magnesium particle flame in a lab-combustor**
T. Kim, W. Yoon*(*Yonsei University, Korea)
- 16-B1-3 **Scale effect of premixed flame deflagration**
K. Mukaiyama*, K. Kuwana (*Yamagata University, Japan)
- 16-B1-4 **Lewis number effect on DDT process and detonation**
E. Dzieminska*, A. K. Hayashi, N. Tsuboi (*Aoyama Gakuin University, Japan)

Oral Session 16-B2 (Safety and Detection) 16 Nov., 15:30~16:30, Room B (4F)

- Chair: Mr. Jun Nakamura, Research Institute for Safety Engineering

- 16-B2-1 **Evaluation of thermal decomposition hazards by differential adiabatic calorimeter**
Y. Iwata*(*National Research Institute of Fire and Disaster, Japan)
- 16-B2-2 **A simple method for measuring vapor pressure of military and improvised high explosive**
A. Weitz*, R. Steiner (*RAFAEL, Israel)
- 16-B2-3 **Cancel**

Oral Session 16-B3 (Synthesis 1) 16 Nov., 16:40~17:40, Room B (4F)

- Chair: Prof. Mieko Kumasaki, Yokohama National University

- 16-B3-1 **Habit modification of 1,1-diamino-2,2-dinitroethylene(DADNE) by crystallization**
H. Lee*, M. Kim, W. Jeong, W. Lee, Y. Yang, J. Kim, H. Kim,
(*Hanwha Corporation, Korea)
- 16-B3-2 **High-yield synthesis of ammonium dinitramide**
X. Yu*, H. Shibamoto, K. Fujisato, H. Habu, K. Hori, (*Hosoya Pyro-Engineering Co., Ltd., Japan)
- 16-B3-3 **Explosive compaction of anatase TiO_2 powder**
Y. Kim*, S. Itoh (*Kumamoto University, Japan)

17 Nov. Thursday

Oral Session 17-H1 (Synthesis 2) 17 Nov., 9:30~10:30, Hall (2F)

- Chair: Dr. Patrick Goede, Swedish Defence Research Agency (FOI)
- Chair: Prof. Shingo Date, National Defense Academy

- 17-H1-1 **Synthesis and thermal properties of alkali metal compounds of 1,2,4-triazole-3-one**
M. Nakano*, S. Yoshino, M. Kumasaki, A. Miyake (*Yokohama National University, Japan)
- 17-H1-2 **Underwater shock compaction of nanocrystalline Al-AlN/TiN composite of reactively milled powder**
H. Amini Mashhadi*, N. Wada, S. Tanaka, K. Hokamoto (*Kumamoto University, Japan)
- 17-H1-3 **Synthesis of a greener insensitive melt cast explosives**
G. Ampleman*, A. Marois, P. Brousseau, S. Thiboutot, S. Trudel, P. Béland (*DRDC Valcartier, Canada)

Oral Session 17-A1 (Detonation 3) 17 Nov., 9:30~10:30, Room A (4F)

- Chair: Dr. Yoshio Nakayama, AIST

- 17-A1-1 **Numerical approach to 1D CH₄/O₂ detonation with the reduction model DRG30**
Y. Morii*, Y. Ogawa, N. Tsuboi, H. Ogawa, S. Tokudome, A. K. Hayashi
(* The Graduate University of Advanced Studies, Japan)
- 17-A1-2 **Velocity deficit of gaseous detonation in hydrogen-oxygen system near extinction limit in small diameter tubes**
A. Susa*, K. Sadahira, H. Yokoyama, S. Hasegawa, M. Koshi, T. Endo (*Hiroshima University, Japan)
- 17-A1-3 **Appearance and disappearance of triple points in diverging and converging detonations**
T. Honda*, T. Dozen, S. Hasegawa, A. Susa, T. Endo (*Hiroshima University, Japan)

Oral Session 17-B1 (Fireworks 1) 17 Nov., 9:30~10:30, Room B (4F)

- Chair: Prof. Toshiyuki Nagaishi, Kyushu Sangyo University
- Chair: Prof. Hidetsugu Nakamura, Japan Explosives Society

- 17-B1-1 **Study on temperature and color purity of colored flame of firework composition**
D. Tabata*, N. Kaga, Y. Sato, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-B1-2 **Effects of particle sizes of KClO₄ and PVC on the colored flame of firework compositions**
Y. Sato*, H. Imaizumi, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-B1-3 **Numerical simulations for acceleration of firework shells**
M. Yoshida*, T. Kumaki, S. Forstmann*, S. Hatanaka, Y. Oki (*Explosion Research Institute Inc., Japan)

Plenary Lectures 2 17 Nov., 10:50~11:50, Hall (2F)

The long and winding road: Development of new energetic materials

- Patrick Goede, Nikolaj Latypov (Swedish Defence Research Agency (FOI), Sweden)
- Chair: Prof. Shingo Date

Oral Session 17-J (Japanese Session) 17 Nov., 10:40~11:55, Room B (4F)

- Chair: Prof. Youichi Sano, Kyushu Sangyo University

- 17-J-1 **Combustion properties of grain black powder used as lifting charge and ballistics of firework shell in a mortar**
S. Hosoya*, Y. Morimoto, K. Nishida, Y. Ooki, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-J-2 **Investigation of a firework composition used high-nitrogen fuels**
H. Imaizumi*, Y. Sato, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-J-3 **Burning characteristics of some guanidine derivatives/ammonium nitrate/additive mixtures**
T. Ohtake*, N. Odagiri, S. Date (*National Defense Academy, Japan)
- 17-J-4 **Blast design for explosive demolition of a large-scale concrete foundation**
H. Park, H. Park, J. Ko, C. Suk* (*Korea Kacoh Co., Ltd., Korea)
- 17-J-5 **Proposal concerning damage level evaluation when reinforced concrete structure that used high explosive is demolished**
M. Kato*, K. Yanagida (*Research Institute of Structural and Safety Co., Ltd., Japan)

Poster Session 2 17 Nov., 12:40~13:30, Exhibition Hall (2F)

Oral Session 17-H2 (Pyrotechnics 1) 17 Nov., 13:30~14:30, Hall (2F)

- Chair: Dr. Hiroto Habu, JAXA

- 17-H2-1 **The nature of charcoal used in black powder**
A. Ichimiya*, T. Taguchi (*Kayaku Japan Co., Ltd., Japan)
- 17-H2-2 **Ignition and combustion properties of potassium nitrate pyrotechnic compositions**
K. Nishida*, S. Hosoya, Y. Morimoto, D. Ding, T. Yoshida, (*Ashikaga Institute of Technology, Japan)
- 17-H2-3 **AN-urea liquid gun propellant and their properties**
R. Shafiee Falavarjanie*, H. Shahinzadeh, (*Islamic Azad University Shahreza Branch, Iran)

Oral Session 17-H3 (Pyrotechnics 2) 17 Nov., 14:50~15:50, Hall (2F)

- Chair: Prof. Vladimir E. Zarko, Institute of Chemical Kinetics and Combustion

- Chair: Prof. Keiichi Hori, JAXA

- 17-H3-1 **Dielectric structure igniters prepared by integrating Al/CuO reactive multilayer films with Ti heater layers**
P. Zhu*, R. Shen, Y. Ye, Y. Hu, L. Wu (*Nanjing University of Science and Technology, China)
- 17-H3-2 **Fabrication and electro-explosive performance of carbon nanotube energetic igniter**
Y. Hu*, R. Guo, Y. Ye, R. Shen, L. Wu (*Nanjing University of Science and Technology, China)
- 17-H3-3 **Thermite as a chemical heat source for the science payload**
H. Habu*, M. Okada, M. Ito, K. Nozoe, T. Kawano, S. Matsumoto, Y. Yoshida (*JAXA, Japan)

Oral Session 17-A2 (Fireworks 2) 17 Nov., 13:30~14:30, Room A (4F)

- Chair: Prof. Michio Koga, Kyushu Sangyo University

- 17-A2-1 **Investigation on the combustion characteristics of color flame firework compositions**
Y. Morimoto*, K. Nishida, S. Hosoya, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-A2-2 **Effects of chlorine donor on colored flame of firework compositions**
N. Kaga*, D. Tabata, Y. Sato, D. Ding, T. Yoshida (*Ashikaga Institute of Technology, Japan)
- 17-A2-3 **The microcalorimetry of chemicals for fireworks**
I. Matsui*, S. Hatanaka (*Japan Pyrotechnics Association, Japan)

Oral Session 17-A3 (Combustion Mechanism) 17 Nov., 14:50~15:50, Room A (4F)

- Chair: Prof. Takeshi Tachibana, Kyushu Institute of Technology

- 17-A3-1 **Numerical analysis on combustion efficiency of nano aluminum particle-oxygen two-phase detonation**
H. Hosoda*, A. K. Hayashi, E. Yamada (*Aoyama Gakuin University, Japan)
- 17-A3-2 **Combustion behavior of some guanidinium 1,5'-bis-1H-tetrazolate/ammonium nitrate/additive mixtures**
S. Date*, K. Asazuki, T. Yamamoto, T. Ohtake, N. Odagiri (*National Defense Academy, Japan)
- 17-A3-3 **Thermal behavior and combustion mechanism of high-nitrogen energetic materials of 1,2,4,5-tetrazine family**
V.P. Sinditskii*, V.Yu. Egorshov, G.F. Rudakov, A.V. Burzhava, S.A. Filatov, L.D. Sang (*Mendeleev University of Chemical Technology, Russia)

Oral Session 17-B2 (Safety 1) 17 Nov., 13:30~14:30, Room B (4F)

- Chair: Mr. Yusaku Iwata, National Research Institute of Fire and Disaster

- 17-B2-1 **Spontaneous explosion of ammonium nitrate in a contact with an active chlorine-containing organic substance**
B. Ermolaev, A. Sulimov, B. Korsunskii, H.-N. Presles, B. Khasainov, V. Martynyuk* (*Gubkin Russian State University of Oil and Gas, Russia)
- 17-B2-2 **Catalytic effect of copper oxide (II) for oxidation of cellulose**
J. Nakayama*, M. Kumasaki, A. Miyake (*Yokohama National University, Japan)
- 17-B2-3 **Safety analysis of ground vibration and debris dispersal by internal explosion in subsurface magazine**
T. Saburi*, S. Kubota, K. Katoh, Y. Ogata (*AIST, Japan)

Oral Session 17-B3 (Safety 2) 17 Nov., 14:50~15:50, Room B (4F)

- Chair: Dr. Yuji Wada, AIST

- 17-B3-1 **Development of physical hazard database for chemicals**
T. Matsunaga*, M. Sugimoto, N. Matsunaga (*AIST, Japan)
- 17-B3-2 **Cancel**
- 17-B3-3 **Optimization of modeling of propellants aging investigated according to NATO AOP-48 Ed. 2 test procedure**
B. Roduit, M. Hartmann*, P. Folly, A. Sarbach, P. Guillaume, L. Jeuniau (*AKTS AG, Switzerland)

Plenary Lectures 3 17 Nov., 16:00~17:00, Hall (2F)

Formation of Al oxide particles in combustion of aluminized condensed systems

Vladimir E. Zarko, Oleg Glotov (Institute of Chemical Kinetics and Combustion, Russia)

- Chair: Prof. Keiichi Hori

Banquet 17 Nov., 18:00~20:00, Okinawa Harborview Crowne Plaza

18 Nov. Friday

Oral Session 18-H (Detonation Engines) 18 Nov., 9:30~10:30, Hall (2F)

- Chair: Dr. Venkat Tangirala, General Electric Global Research Center

- Chair: Prof. A. Koichi Hayashi, Aoyama Gakuin University

- 18-H-1 **Experiments on energy balance and thermal efficiency of pulse detonation turbine engine**
T. Takahashi*, S. Kato, H. Yokoyama, A. Mitsunobu, A. Susa, T. Endo (*Hiroshima University, Japan)
- 18-H-2 **Three-dimensional simulation on a rotating detonation engine: Three-dimensional shock structure**
N. Tsuboi*, T. Yamada, A. K. Hayashi, E. Yamada (*Kyusyu Institute of Technology, Japan)
- 18-H-3 **Experimental research and numerical calculation of rotating detonation**
P. Wolanski*, J. Kindracki, A. Kobiera, P. Kalina, W. Balicki, M. Folusiak, K. Świdorski
(*Institute of Aviation and Warsaw University of Technology, Poland)

Oral Session 18-A (Thermal Analysis) 18 Nov., 9:30~10:30, Room A (4F)

- Chair: Dr. Haruhiko Itagaki, National Institute of Occupational Safety and Health

- 18-A-1 **Evolved gas analysis and pressure generating behavior caused by pyrolysis of 1,2,4-triazole- 3-one and guanidine nitrate mixtures**
S. Yoshino*, M. Kumasaki, A. Miyake, K. Sakamoto (*Nihon University, Japan)
- 18-A-2 **Thermal characteristics of ammonium nitrate, carbon, and copper(II) oxide mixtures**
K. Kajiyama*, Y. Izato, S. Yoshino, M. Kumasaki, A. Miyake (*Yokohama National University, Japan)
- 18-A-3 **Thermal decomposition mechanism of ammonium dinitramide**
H. Matsunaga*, S. Yoshino, M. Kumasaki, H. Shibamoto, H. Habu, A. Miyake
(*Yokohama National University, Japan)

Oral Session 18-B (New Developments) 18 Nov., 9:30~10:10, Room B (4F)

- Chair: Prof. Kazuyuki Hokamoto, Kumamoto University

- 18-B-1 **Development of food processing container using underwater shock wave**
H. Maehara*, S. Tanaka, K. Naha, T. Aka, Y. Miyafuji, K. Shimojima, S. Itoh
(*Kumamoto University, Japan)
- 18-B-2 **Reducing emission for diesel engines using hybrid combustion**
K. Hatada*, M. Kiguchi, A. Kakami*, T. Tachibana, S. Hirashima
(*Kyushu Institute of Technology, Japan)

Plenary Lectures 4 18 Nov., 10:50~11:50, Hall (2F)

Investigations of unsteady flow processes in a pulse detonation engine

Venkat Tangirala (General Electric Global Research Center, USA)

- Chair: Prof. A. Koichi Hayashi

Closing Address 18 Nov., 11:50~12:20, Hall (2F)

- Symposium Chair: Prof. Mitsuru Arai

Poster Session 1 16 Nov., 12:50~13:50, Exhibition Hall (2F)

- 16-PP-01 **Field test of high-throughput walkthrough portal for detecting improvised explosive devices (IEDs) at airport and train station**
H. Nagano*, Y. Kawaguchi, M. Sugiyama, Y. Hashimoto, Y. Suzuki, M. Sakairi, Y. Takada
(*Hitachi, Ltd., Japan)
- 16-PP-02 **Development of the testing method for mixing explosion hazards of pyrophoric substances**
Y. Sato*, K. Okada, K. Tokudome, T. Matsunaga (*AIST, Japan)
- 16-PP-03 **Cancel**
- 16-PP-04 **Evaluation possible and definite ways to assessment of effectiveness of repairs on reliability of weapons and comparing this issues**
H. Shahinzadeh, R. Shafiee Falavarjanie* (*Islamic Azad University Shahreza Branch, Iran)
- 16-PP-05 **An explosive forming process for making a copper plate relief**
K. Shiramoto*, A. Mori, T. Watanabe, K. Hisanabe, M. Fujita, (*Sojo University, Japan)
- 16-PP-06 **The Sayano-Shushenskaya hydrostation accident**
V. Kotelnikov, V. Martynyuk*, N. Chemakin, J. Saigina
(*Gubkin Russian State University of Oil and Gas, Russia)
- 16-PP-07 **Development of dismantlable adhesives which utilized the decomposition acceleration effect of oxidizer**
M. Sugimoto*, M. Yamamoto (*ASAHI KASEI CHEMICALS CORPORATION, Japan)
- 16-PP-08 **Promotion of thawing frozen soil by shock loading**
T. Watanabe*, H. Maehara, S. Itoh (*National Fisheries University, Japan)
- 16-PP-09 **Thermal hazard evaluation of ammonium nitrate emulsions using differential scanning calorimetry and 1.5L pressure vessel test**
K. Okada*, A. Funakoshi, M. Akiyoshi, S. Usuba, T. Matsunaga (*AIST, Japan)
- 16-PP-10 **Experimental study on dispersal of debris produced by explosion in concrete structure**
T. Saburi*, S. Kubota, K. Katoh, Y. Ogata (*AIST, Japan)
- 16-PP-11 **Thermal decomposition behavior of azido curdlan**
T. Tada*, K. Katoh, E. Higashi, T. Hasegawa, H. Abe, K. Nakano (*Fukuoka University, Japan)
- 16-PP-12 **Statistics of the accidents occurred with the energy substances**
H. Itagaki* (*National Institute of Occupational Safety and Health, Japan)
- 16-PP-13 **Influence of water and acids on the thermal stability of nitrocellulose**
T. Soramoto*, K. Katoh, E. Higashi, K. Nakano, S. Ito, Y. Wada, Y. Wada, S. Kawaguchi,
K. Kumagai, H. Noda, M. Arai (*Fukuoka University, Japan)
- 16-PP-14 **Development of the dismantlable adhesives containing the energetic materials**
N. Saeki*, K. Katoh, E. Higashi, M. Sugimoto, M. Yamamoto, K. Nakano (*Fukuoka University, Japan)
- 16-PP-15 **Evaluation of underwater discharge in a small water tank used in food processing**
H. Hamashima*, N. Wada, K. Hokamoto, S. Itoh (*Kumamoto Industrial Research Institute, Japan)
- 16-PP-16 **Explosion of LOX/LNG induced by gas explosion**
D. Kim*, S. Usuba, Y. Watanabe, T. Nario, Y. Kakudate (*AIST, Japan)

- 16-PP-17 **An arc-plasma assisted combustion thruster using HAN-based propellant**
K. Ideta*, A. Kakami, T. Tachibana (*Kyushu Institute of Technology, Japan)
- 16-PP-18 **Design of a laser-control solid propellant thruster**
S. Ishihara*, M. Morita, T. Hamada, A. Kakami, T. Tachibana (*Kyushu Institute of Technology, Japan)
- 16-PP-19 **Studies on the underwater shock wave compaction of Mg-SiC composite**
Y. Mitsuno*, T. Sato, A. N. Faruqui, P. Manikandan, K. Hokamoto (*Kumamoto University, Japan)

Poster Session 2 17 Nov., 12:40~13:30, Exhibition Hall (2F)

- 17-PP-01 **4,6-Diazido-N-(2,4,6-trinitrophenyl)-1,3,5-triazin-2-amine(TNADAzT)
– Synthesis and characterization**
T. Musil*, R. Matyáš, A. Lyčka, A. Růžicka (*University of Pardubice, Czech Republic)
- 17-PP-02 **Burning characteristics of some azodicarbonamide/ammonium nitrate/ additive mixtures**
S. Date*, T. Yamamoto, T. Ohtake, N. Odagiri (*National Defense Academy, Japan)
- 17-PP-03 **Thermal reaction of Bi₂O₃ and metal powder**
Y. Sano*, K. Narazaki, T. Nagaishi, H. Fukui, (*Kyushu Sangyo University, Japan)
- 17-PP-04 **Cladding of SUS 304/AZ 31 using underwater shock wave**
M. Palavesamuthu*, J. Lee, A. Mori, K. Hokamoto (*Kumamoto University, Japan)
- 17-PP-05 **Numerical study on the removal of a top part of full scaled cast-in-situ concrete piles utilizing simplicity charge holder blast system**
S. Cho*, H. Kim, S. Kim, Y. Nakamura, M. Kato, K. Kaneko, D. Fukuda, C. Suk, H. Park (*Chonbuk National University, Korea)
- 17-PP-06 **Influence of diatomaceous earth on burning characteristics of AP/HTPB composite propellant**
S. Shioya*, T. Naya, M. Kohga (*National Defense Academy, Japan)
- 17-PP-07 **Syntheses of FOX-7**
S. Ek*, N. Latypov (*The Swedish Defence Research Agency (FOI), Sweden)
- 17-PP-08 **Underwater shock wave induced bubble explosions in water and silicone oil**
K. Kitagawa*, F. Ishiguro, A. Abe, Y. Tanaka (*Aichi Institute of Technology, Japan)
- 17-PP-09 **Non-ideal behavior of ammonium nitrate based explosives**
S. Kubota*, T. Saburi, Y. Ogata, A. Miyake (*AIST, Japan)
- 17-PP-10 **Confinement effects on the distance to steady detonation of ammonium nitrate and aluminum powder mixture**
H. Arai*, R. I. Hiyoshi (*National Research Institute of Police Science, Japan)
- 17-PP-11 **Numerical investigation of impactor design for Hayabusa-2**
H. Kato*, C. Okamoto, T. Saiki (*Nippon Koki Co., Ltd., Japan)
- 17-PP-12 **Modification of the method for measuring the recoil force to study transient combustion of the condensed systems**
V. Arkhipov, A. Kiskin, A. Mamaev, V. Zarko* (*Institute of Chemical Kinetics and Combustion, Russia)