

**XIII INTERNATIONAL WORKSHOP
«HEMs-2017»**

**HIGH ENERGY MATERIALS:
DEMILITARIZATION,
ANTITERRORISM
AND CIVIL
APPLICATION**

PROGRAM

November 6, 2017

Sendai, Miyagi, Japan

High Energy Materials:
Demilitarization, Antiterrorism and Civil Application

XIII International Workshop HEMs-2017 is held for the purpose of strengthening collaboration of scientists from different countries and manufacturers working on the development of new articles based on high energy materials and chemical substances, and their applications. In addition, development and applications of other materials with relevant chemical structures and compositions are considered.

The Workshop covers fundamental and applied problems of antiterrorism-related and civilian applications of HEMs, and pertinent metallic and pharmaceutical substances. It will establish the present state of the art and development perspectives in the following directions:

- Development of HEMs, their Features, Diagnostics and Combustion;
- Demilitarization / Utilization / Environmental Safety of Energetic Systems;
- Rocket Motors for Space Systems, Gas Generators;
- High Energy Materials for Antiterrorism Purposes;
- Dual-Purpose Chemical Substances and Medico-Biologic materials;
- Nanoscience and Nanotechnologies (including medicine and pharmaceuticals and special metallurgy).

International Scientific Committee

Prof. Keiichi Hori	Co-Chairman, JAXA/ISAS (Japan)
Prof. Alexander Vorozhtsov	Co-Chairman, TSU, IPCET SB RAS (Russia)
Prof. Eduard Galazhinskiy	Head of University TSU (Russia)
Acad. Gennadiy Sakovich	IPCET SB RAS (Russia)
Mrs. Elena Buylova	JSC «Russian Industry Board» (Russia)
Dr. Sergey Sysolyatin	IPCET SB RAS (Russia)
Dr. Boris Pevchenko	IPCET SB RAS (Russia)
Dr. Andrey Litvinov	JSC FR & PC ALTAI (Russia)
Acad. Alexander Dygai	Goldberg Research Institute of Pharmacology and Regenerative Medicine (Russia)
Prof. Vadim Zhdanov	Goldberg Research Institute of Pharmacology and Regenerative Medicine (Russia)
Dr. Herve Graindorge	Airbus Safran Launchers (France)
Dr. Guy Jacob	Airbus Safran Launchers (France)
Prof. Adam Cumming	The Edinburgh University (UK)
Prof. Raphaël Terreux	Université Lyon 1 (France)
Prof. Colin Pulham	The University of Edinburgh (UK)
Dr. Christian Paravan	Politecnico di Milano (Italy)
Dr. Bernard Kosowski	MACH I (USA)
Dr. Volker Gettwert	Fraunhofer ICT (Germany)
Mrs. Marina Khmeleva	TSU (Russia)

General Information

REGISTRATION

Registration fees (incl. proceedings, coffee break)

Cost of participation:
10,000 JPY

The fee must be paid **upon receipt of the invoice** by bank transfer to the account given on the invoice

ACCOMMODATION

The cost of accommodation is not included in the conference fee.

CONFERENCE OFFICE

Foyer of the Sakura Hall.
Open from Monday, November 6, 08:00 h till 16:30 h.

CHECK IN

Please check in at the **Sakura Hall** on Monday, November 6, starting at 08:45 h in the foyer of the **Sakura Hall**.

CONFERENCE LANGUAGE

English

CONTACT PERSON

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- 8:45-9:35** **Registration**
Foyer of the Sakura Hall
- 9:35-9:45** **Welcome Address and Opening**
Alexander Vorozhtsov

9:45-11:15 **1st Session**

- 9:45-10:15** **NANOPARTICLES FOR HEMS
AND LIGHT ALLOYS**
Alexander Vorozhtsov
Tomsk State University, Russia
- 10:15-10:45** **ENERGETICS AND THE ENVIRONMENT –
NEW DEVELOPMENTS AND NEW
CHALLENGES**
Adam Cumming
The University of Edinburgh, UK
- 10:45-11:15** **PREDICTION OF REGULATION
TOXICOLOGICAL TESTS APPLIED
TO HIGH ENERGY MOLECULES**
Raphael Terreaux
Claude Bernard Lyon 1 University, France
- 11:15-11:40** **Coffee Break**

11:40-13:10 **2nd Session**

- 11:40-12:10** **AP-FREE COMPOSITE PROPELLANTS
FOR SPACE APPLICATIONS**
Uwe Schaller
Fraunhofer ICT, Germany
- 12:10-12:40** **NITROPYRAZOLES: CHEMISTRY
AND APPLICATION AS ENERGETIC
MOLECULES**
Guy Jakob
Airbus Safran Launchers, France
- 12:40-13:10** **STRUCTURE-PROPERTY RELATIONSHIPS
IN ENERGETIC CO-CRYSTALS AND SALTS**
Colin Pulham
The University of Edinburgh, UK
- 13:10-14:30** **Lunch Break**

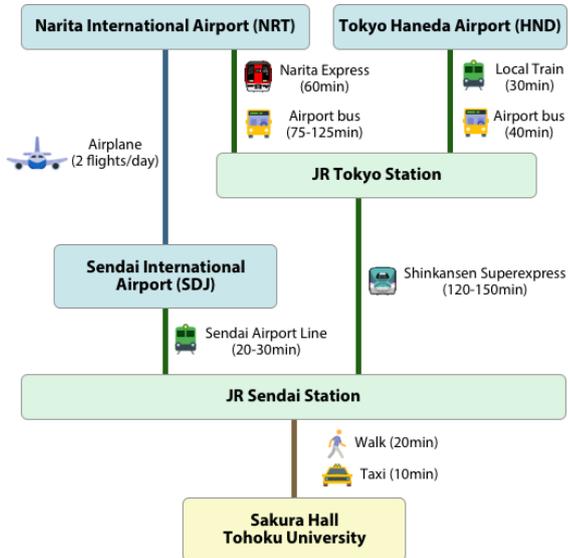
14:30-16:30 **3rd Session**

- 14:30-15:00** **NANO-SIZED ALUMINUM EFFECTS
ON THE BURNING BEHAVIOR OF SOLID
PROPELLANTS AND FUELS FOR ROCKET
APPLICATIONS**
Christian Paravan
Politecnico di Milano, Italy
- 15:00-15:30** **STATE OF THE ART IN CHEMICAL-
ANALYTICAL METHODS
FOR DETECTION OF EXPLOSIVES**
Vladimir Gruznov
IPGG SB RAS, Russia
- 15:30-16:00** **ULTRAWET[®] SURFACTANTS: A NEW CLASS
OF COMPATIBILIZING ADDITIVES FOR USE
IN BOTH PROPULSION AND COMBUSTION
ENERGETIC APPLICATIONS**
Bernard Kosowski
MACH I, USA
- 16:00-16:30** **NEW THERMOPLASTIC FUELS
FOR SOLID & HYBRID ROCKETS**
Keiichi Hori
ISAS/JAXA, Japan
- 16:30** **Closing Remarks**

For notes

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Arrival Sakura Hall



By taxi:

10 minutes from Sendai Station. 30 minutes from Sendai Airport

By Subway:

Take the subway from Sendai Station to Itsutsubashi Station (2 mins). Exit at North 4. Turn left and walk straight ahead for 450 m towards the South Entrance of Katahira Campus

By foot:

About 20 minutes from the Sendai Station west exit

Sakura Hall, Tohoku University

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AIRBUS SAFRAN
LAUNCHERS



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Lyon 1



NJIT
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Technology University



POLITECNICO
MILANO 1863



Goldberg Research
Institute of Pharmacology
and Regenerative Medicine



TP «Medicine of the Future»