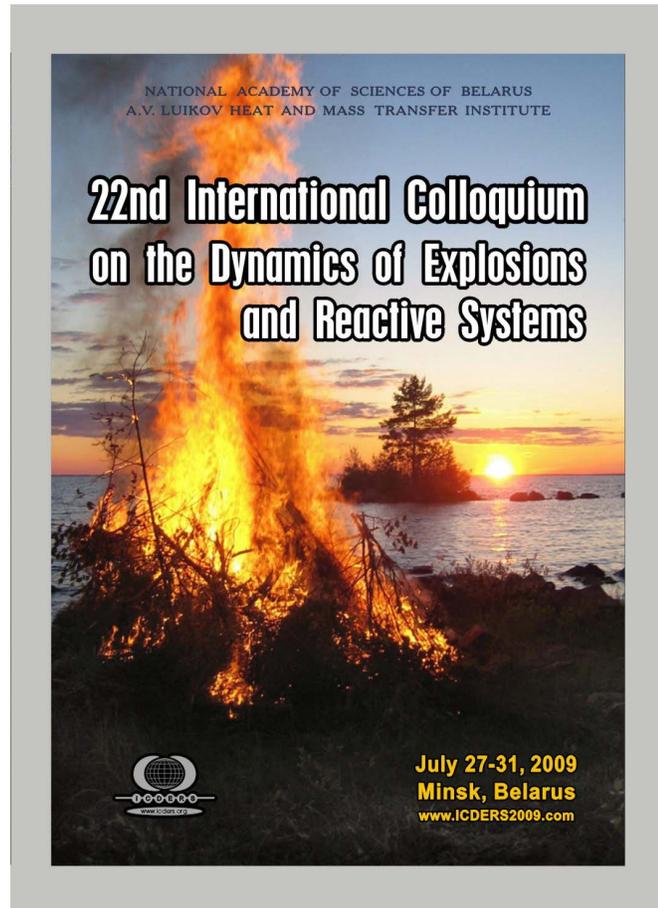


**22nd International Colloquium
on the Dynamics of Explosions and
Reactive Systems**

July 27-31, 2009

*Luikov Heat and Mass Transfer Institute
Minsk, Belarus*



First announcement

The International Colloquium on the Dynamics of Explosions and Reactive Systems is the premier international forum for the presentation of scientific contributions in the fields of explosions and unsteady combustion.

The ICDERS meeting has been held every two years since its founding in 1967. The purpose of this meeting is to provide a forum for the presentation and discussion of research primarily concerned with explosions and unsteady combustion events with strong coupling between reaction and fluid mechanics. It is held on alternate years from the International Combustion Symposium and is recognized by the Combustion Institute as a Specialist Meeting on the fluid dynamics of combustion.

Colloquium Venue



The Colloquium will be held in Minsk, capital of Belarus, a big industrial, scientific and cultural center, www.minsk.gov.by; www.minsk.nemiga.info. Minsk has direct flight connections with Moscow, Warsaw, Frankfurt, Berlin, Vienna, Rome, Milan, London, Paris, Prague, Shannon, Tel-Aviv, Riga, Vilnius (www.airport.by) and convenient night trains to Moscow, St-Petersburg, Kiev and Warsaw. Weather in Belarus: www.meteo.by

Luikov Heat and Mass Transfer Institute of National Academy of Science of Belarus is founded in 1956 and now it is one of the biggest research institutes in Belarus. Department of Physics and Chemistry of Non-Equilibrium Media deals with a number of directions in studying of various aspects of dynamics of explosions and reactive systems. About 60 researchers including young scientists is concentrated in this department, see www.itmo.by.

Previous ICDERS meetings

Bruxelles (1967), Novosibirsk (1969), Marseille (1971), San Diego (1973), Bourges (1975), Stockholm (1977), Gottingen (1979), Minsk (1981), Poitiers (1983), Berkeley (1985), Warsaw (1987), Ann Arbor (1989), Nagoya (1991), Coimbra (1993), Boulder (1995), Krakow (1997), Heidelberg (1999), Seattle (2001), Hakone (2003), Montreal (2005), Poitiers (2007).

Scientific Program

The term “*Dynamics of Explosions*” is primarily concerned with flows in which compressibility is a major factor: for example, detonations in gases.

Over the years, what is meant by “*Reactive Systems*” has been broadened to include fluid systems with a variety of different kinds of additional chemical and physical effects. The meeting is concerned with both basic and applied. “*Reactive Systems*” deals with flows in which transient reactions or rapid fluid deformations play key roles: for example, ignition of flames or interaction of flames with turbulence.

Specific examples of contributions and topics from previous years can be found by visiting the website of the Institute for the Dynamics of Explosions and Reactive Systems (IDERS), www.icders.org, which has links to websites of previous meetings.

Contributed presentations, in oral and poster sessions, and plenary sessions will take place during the week-long Colloquium. Extended abstracts of papers presented at the Colloquium will be published in the CD of the Proceedings. The CD will be part of the conference materials given to participants in Minsk. Authors of papers presented at this meeting are encouraged to submit full-length versions to one of these journals: *Combustion Science and Technology*, *Combustion Theory and Modelling*, *Experiments in Fluids*, *Shock Waves* and *Journal of Engineering Physics and Thermal Physics*. Submitted manuscripts will be peer reviewed according to individual

journal standards. Submissions are encouraged on the following topics:

- *Detonation structure in gases and multi-phase systems*
- *Initiation, propagation and failure of detonations*
- *Transition from deflagration to detonation*
- *Generation and coupling of shock waves with rapid combustion*
- *High-speed flames -confined and unconfined*
- *Propulsion applications of detonations and high-speed flames*
- *Material processing applications of detonations*
- *Flame propagation in internal combustion engines*
- *Combustion in fuel clouds and fireballs*
- *Multiphase dynamically reactive systems*
- *Turbulence in compressible reacting flows*
- *High-speed diagnostics for reactive systems*
- *Accidental explosions and mitigation strategies*
- *Dynamics of ignition in gases*
- *Ignition and flame spread over liquid layers*
- *Dynamics of large scale fires*
- *Chemical reaction kinetics and reaction dynamics*
- *Flame instabilities and quenching*
- *Numerical analysis of dynamics of reactive systems*
- *Nonlinear analysis of dynamical reactive systems*

Special Sessions

A plenary lecture and three special memorial sessions for Professors A.K.Oppenheim, R.I.Soloukhin and H.Edwards will be held.

Connection with 27 ISSW

27th International Shock Wave Symposium will be held in St. Petersburg on July 19 – 24, see www.iswi-online.org. All 27th ISSW participants kindly invited to attend 22nd ICDERS. There is a good transport connection between St. Petersburg and Minsk (the distance is about 900 km): motorway, a number of flights, night trains.

Language

The official language of the Colloquium will be English.

Program Committee

A.Teodorczyk (chair), N.Chamieux, A.Matsuo, F.Williams.

IDERS Board

M.C. Branch (Vice-President), L. Bauwens, Y. C. Chao, G. Continillo, S.B. Dorofeev (Secretary), D. Dunn-

Rankin (Treasurer), G. Dupre, T. Fujiwara, B. Gelfand, R.K. Hanson, A. K. Hayashi, A.L. Kuhl, J.H.S. Lee, E.S. Oran, J.E. Shepherd (President), W.A. Sirignano, P.J. Van Tiggelen, F.A. Williams, P. Wolanski

Lodging and Accommodation

Special rates including less expensive hotels will be arranged through an official program (Check the conference Website).

Submission/Deadlines

- Paper submission: January 15, 2009
- Notification for oral presentation: April 1, 2009
- Revised extended abstracts submission: June 1, 2009
- Work-In Progress Poster Submission: April 30, 2009
- Work-In Progress Poster Notification: May 10, 2009
- Work-In Progress Poster Abstract Revision: June 1, 2009

The registration will start on April 1st, 2009 (“early bird” registration till June 27, 2009)

Host Committee

O. Penyazkov (Chair)
N. Fomin (co-chair)
A. Boreisho, I. Krasovskaya (St. Petersburg);
N. Bazulev, A. Chernui, K. Dobrego, B. Khina, P. Khramtsov, P. Krivosheyev,
V. Martynenko, A. Migoun, O. Rabinovich, G. Romanov, K. Sevrouk, S. Shabunya,
K. Stepanov (Minsk);
V. Fortov, S. Frolov, V. Golub, N. Smirnov, A. Starikovskii (Moscow);
V. Fomin, S. Alekseenko, M. Topchiyan (Novosibirsk);
V. Levin (Vladivostok).

Contact

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IDERS website: <http://www.icders.org/>