

**FIFTH INTERNATIONAL SYMPOSIUM ON  
“NON-EQUILIBRIUM PROCESSES,  
PLASMA, COMBUSTION, AND  
ATMOSPHERIC PHENOMENA”**

**NEPCAP 2012**

**1 – 6 October 2012**

**Sochi (Loo), Russia**

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**WELCOME TO THE FIFTH  
INTERNATIONAL SYMPOSIUM**

The Organizing Committee of the **Fifth International Symposium on Non-equilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena** (to be held in Sochi (Loo), Russia, October 1-6, 2012) invites you to participate in the Symposium.

The previous, First Symposium was held July 7-11, 2003, in St. Petersburg, Russia, and was dedicated to the memory of Academician N.N. Semenov – distinguished scientist, founder of the chain-branching reaction theory, and Nobel Prizewinner. The Symposium has received an impressive response from the scientific community with more than 200 participants from 20 nations.

The Second International Symposium on Nonequilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena was held October 3-7, 2005, in Sochi, Russia has received an impressive response from the scientific community with more than 150 participants from 22 nations.

The Third International Symposium on Non-equilibrium Processes, Plasma, Combustion, and

Atmospheric Phenomena was held June 25-29, 2007 in Sochi, Russia has received an impressive response from the scientific community with more than 120 participants from 20 nations.

The Fourth International Symposium on Non-equilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena was held October 5-9, 2009, in Sochi, Russia has received an impressive response from the scientific community with more than 120 participants from 21 nations.

**OBJECTIVE**

The objective of the Symposium is to provide a forum for international experts in kinetics of physical and chemical nonequilibrium processes, oxidation and combustion of hydrocarbon, metallized, and synthetic fuels, as well as laser, plasma, and aerosol physics and chemistry to discuss novel approaches to combustion with high efficiency and low pollutant emission, to address the issues of combustion-generated pollutants and technogeneous aerosols, aviation - produced particles and their environmental effects, and application of laser radiation, plasma and combustion for production of nanoparticles and surface treatment.

**ORGANIZERS**

N.N. Semenov Institute of Chemical Physics of RAS  
P.I. Baranov Central Institute of Aviation Motors  
Department of Chemistry and Material Sciences of RAS  
Department of Energy, Mechanics, Machine - Building,  
and Problems of Control of RAS  
Scientific Council on Chemical Physics of RAS  
Scientific Council on Combustion and Explosion of RAS

**TOPICS**

1. Kinetics of elementary processes in plasma, combustion, and atmosphere.
2. Fundamentals of ignition and combustion of organic, metallized, and synthetic fuels.
3. Physics of shock and detonation waves.
4. Novel combustion concepts including plasma-assisted and laser-induced combustion.
5. Physics and chemistry of high speed gas flows.
6. Novel physical and chemical propulsion concepts.
7. Combustion, laser and plasma generated aerosols and nanoparticles.
8. Plasma, laser and combustion assisted technologies, fuel reforming, nanomaterials and surface treatment.
9. Gaseous and particulate pollutant formation and pollution control.
10. Impact of pollutant emission on the atmospheric processes and climate.

**KEY DATES**

Notification of participation and submission of extended abstract — before **April 1, 2012**.

Acceptance notification — before **May 20, 2012**.

Final Announcement with tentative program — before **July 10, 2012**.

More detailed information can be received on a website of the Symposium **[www.nepcap2012.ciam.ru](http://www.nepcap2012.ciam.ru)**

## ORGANIZING COMMITTEE

Favorskii O.N.	(Russia)	co-chair
Roy G.D.	(USA)	co-chair
Starik A.M.	(Russia)	co-chair
Frolov S.M.	(Russia)	co-chair

## INTERNATIONAL ADVISORY COMMITTEE

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## LOCAL ORGANIZING COMMITTEE

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## SESSIONS AND PRESENTATIONS

Based on the collected manuscripts, the Organizing Committee will form the list of technical sessions at the Symposium. Each session will start with a plenary invited lecture followed by contributed presentations of technical papers. Both oral and poster presentations will be organized. At the end of the Symposium, it is planned to organize an open Panel Discussion on a specific topic of interest.

The plenary lectures are intended as reviews of recent worldwide research accomplishments and future outlook. They will be delivered by internationally recognized experts in the specific areas.

The contributed papers will be on latest results from basic and applied research in the areas covered in the Symposium.

The topic of Panel Discussion will be notified in the Final Announcement. The panel will consist of scientists and industry experts.

If you are interested in attending the Symposium without presenting a paper, please notify either of the technical co-chairs.

The official language of Symposium is English.

## VENUE

The complex "AkvaLoo" is a modern complex sited on the Black Sea coast amidst a lush park in the subtropical climate zone on the Caucasian National park territory 18 km far from central part of Sochi.

## VISA SUPPORT

A valid passport and visa are required to enter Russia. In most of countries such a visa can be obtained from Russian Consulates in return to corresponding formal invitation issued by Russian Ministry for Foreign Affairs. In the case of necessity, the Organizing Committees of NEPCAP 2012 will help to receive such invitation. To get it, the person to be invited has to send a copy of the first page of his/her passport to the conference organizers by e-mail: star@ciam.ru. This message has to be accompanied by the fax, or e-mail message, containing the following personal information: first name, last name, sex, date of birth, passport number, date of passport expiration, nationality, employer, work address, phone, fax, position, place of visa application (country and city, where is situated the Russian Consulate), supposed dates of country entering and leaving. The same information is required for all the accompanying persons.

Issuing such invitations and delivery of original copies require a lot of time (at least 1.5 month). The interested persons are encouraged to deliver the enumerated information before June 1, 2012.

## CONTACTS

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