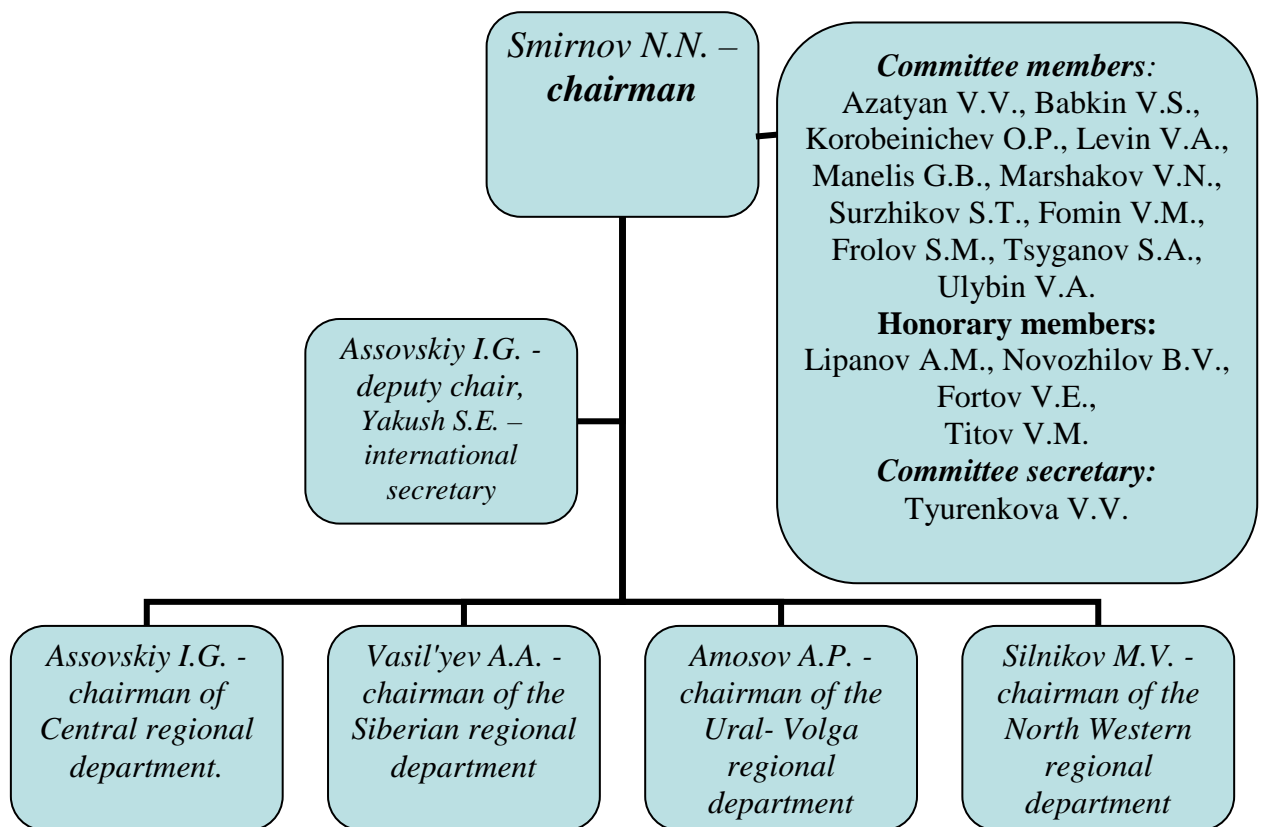


Russian Section of the Combustion Institute activity report over years 08.2014 – 07.2016

Russian Section of the Combustion Institute incorporates several regional departments: Central regional department, Siberian and Far East regional department, Ural- Volga regional department, North Western regional department.

1. Organizational activities.

1.1. Section structure



The list of Committee Members of the Russian Section of the Combustion Institute.

Smirnov N.N. – **chairman**, (ebifsun1@mech.math.msu.su):

Assovskiy I.G. - deputy chairman, chairman of central regional department. (igas02@mail.ru) (assov@center.chph.ras.ru)

Yakush S.E. - international secretary, (yakush@ipmnet.ru);

Vasil'yev A.A. - chairman of the Siberian regional department, (gasdet@hydro.nsc.ru);

Trotskyuk A.N. - scientific secretary of Siberian regional department (trotskyuk@itam.nsc.ru).

Assovskiy I.G. - chairman of central regional department. (igas02@mail.ru)

Nikitin V.F. - scientific secretary of central regional department. (yfnikitin77@rambler.ru)

Amosov A.P. - chairman of the Ural- Volga regional department, (mvm@sstu.edu.ru)

Lukin A.N. - scientific secretary of the Ural-Volga regional department, (Alexander_Lukin@yahoo.com);

Silnikov M.V. - chairman of the North Western regional department, (director@npo-sm.ru);

Chernyshov M.V. - scientific secretary of the North Western regional department,
(mvcher@newmail.ru)

The members of the committee: Azatyan V.V. (azatyan@ism.ac.ru), Babkin V.S. (babkin@kinetics.nsc.ru), Korobeinichev O.P., (korobein@kinetics.nsc.ru), Levin V.A. (levin@imec.msu.ru), Marshakov V.N. (marsh@center.chph.ras.ru), Filimonov I.A. (fil@ism.ac.ru), Fomin V.M., (fomin@itam.nsc.ru), Frolov S.M. (smfrol@center.chph.ras.ru), Surzhikov S.T. (surg@ipmnet.ru), Tsyganov S.A. (tsyganov@rfbr.ru), Ulybin V.A. (giph@rscac.spb.su).

Honorary members: Fortov V.E. (fortov@ficmp.ac.ru), Lipanov A.M. (lipanov@udm.ru), Novozhilov B.V. (novozhilov@starnet.ru), Titov V.M. (titov@hydro.nsc.ru)

Committee secretary: Tyurenkova V.V. (turenkova.v.v@rambler.ru)

1.2. Election of new members.

The Election procedure includes the following steps:

- signed personal application submitted to the chairman;
- CV and list of publications;
- recommendation of the chairman of regional department sent to the Section Chair;
- voting via e-mail, no response case is treated in favor of the nominee.

2. Scientific meetings and sessions organized.

2.1 3rd Space Flight Safety Symposium of the International Academy of Astronautics was organized in St.Petersburg July 4-8, 2016, CI organizers – N.N.Smirnov, M.V.Silnikov (Russian Section), Grunde Jomaas (Scandinavian Section). (<http://sfs-spb.ru/>)

2.2. Session on Combustion and Detonation was organized within the frame of 44th International Summer School-Conference Advanced Problems in Mechanics (APM 2014). Russia, St. Petersburg June 27 – July 2, 2016. Co-Chairmen: D. A. Indeitsev, A.M. Krivtsov, CI organizers: V.A.Levin, N.N. Smirnov.

2.3. 10th International Colloquium on Pulsed and Continuous Detonations, July 4-8, 2016. St. Petersburg, Russia. CI organizer – S.M.Frolov, S.A. Gubin
<http://www.icpcd.ru/index.php/icpcd/2016>

2.4. 11-th Russian young scientists Conference on “Problems of explosion safety and antiterrorism” organized by Russian Academy of Rocket and Artillerist Sciences, Saint Petersburg University of the Ministry of Emergency and Combustion Institute Russian Section in Saint Petersburg 22-24 April 2016. CI Organizers: M.V. Silnikov, N.N. Smirnov, M.V.Chernyshov. www.npo-sm.ru/conf_blasts11.php

2.5. 4th Colloquium on Physics of Shock Waves, Combustion and Detonation was organized jointly by Belarus and Russian Sections in Minsk, Belarus, November 9-12, 2015. Joint event organized by Belarus and Russian Sections of the Combustion Institute. CI Organizers from Russian section, S.M.Frolov, N.N.Smirnov, O.V.Sharypov. Colloquium Chair O.G.Penyazkov, Belarus Section.
<http://www.itmo.by/mic2015>

2.6. 11-th Russian Conference on “Technical devices against terrorist and criminal explosion” was held in St. Petersburg on 6-8 October 2015 under the auspice of Russian Academy of Rocket and Artillerist Sciences, Saint Petersburg University of the EMERCOM (Ministry of Emergency) and Combustion Institute Russian Section. Organizers: M.V. Silnikov, N.N. Smirnov, M.V.Chernyshov, V.V.Adushkin.

2.7. Session on Combustion Phenomena organized within the frame of 43-st International Summer School-Conference Advanced Problems in Mechanics (APM 2013). Russia, St. Petersburg June 22-27, 2015. Co-Chairmen: D. A. Indeitsev, A.M. Krivtsov, session organizers: V.A.Levin, N.N. Smirnov.

2.8. 10-th Russian young scientists Conference on “Problems of explosion safety and antiterrorism” organized by Russian Academy of Rocket and Artillerist Sciences, Saint Petersburg University of the Ministry of Emergency and Combustion Institute Russian Section in Saint Petersburg 21-23 April 2015. Organizers: M.V. Silnikov, N.N. Smirnov, M.V.Chernyshov.

2.9. 10-th International Conference on “Technical devices against terrorist and criminal explosion” and 2nd Memorial Seminar of B.E.Gelfand was held in St. Petersburg on 7-9 October 2014 under the auspice of Russian Academy of Rocket and Artillerist Sciences, Saint Petersburg University of the EMERCOM (Ministry of Emergency) and Combustion Institute Russian Section. Organizers: M.V. Silnikov, N.N. Smirnov, S.P.Medvedev, M.V.Chernyshov, V.V.Adushkin.

2.10. 8th International Seminar on Flame Structure Berlin, Germany, 21-24 September, 2014 was organized jointly by Berlin Institute of Technology, Institute of Combustion Technology DLR and Institute of Chemical Kinetics and Combustion SB RAS . **Organizers** - Prof. O. P. Korobeinichev, Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia; Prof. F. Behrendt, Berlin Institute of Technology; Prof. U. Riedel, Institute of Combustion Technology, German Aerospace Center, Stuttgart; Dr. N. Slavinskaya, Institute of Combustion Technology, German Aerospace Center, Stuttgart. (<http://flame-structure-2014.com>)

2.11. XIII International Symposium on Explosive Production of New Materials: Science, Technology, Business and Innovations (EPNM-2016) June 20 – 24, 2016, Coimbra, Portugal. Organizer: Institute for Structural Macrokinetics RAS, Chair: M.I.Alymov.

2.12. 2nd Space Flight Safety Symposium of the International Academy of Astronautics was organized in St.Petersburg June 29 – July 3, 2015, Special section “**Fire safety of Space vehicles**” was organized by CI members belonging to two European sections – N.N.Smirnov, M.V.Silnikov (Russian Section), Grunde Jomaas (Scandinavian Section). (<http://sfs-spb.ru/>)



2nd Space Flight Safety Symposium of the International Academy of Astronautics. Left to right: M.V.Silnikov, N.N.Smirnov, V.V.Adushkin

3. Young scientists' involvement.

3.1. Scientific seminar for undergraduate students and postgraduate students on “Detonation and combustion” named after I.N. Zverev was organized by the faculty of Mechanics and Mathematics Moscow M.V. Lomonosov State University. Periodicity: once per week, commencement: since 1 September through 20-th December, and since 7-th February through 20-th May. Seminar chair – Smirnov N.N., seminar secretary – Tyurenkova V.V.

3.2. Scientific seminar of the central regional department of the Combustion Institute Russian section is being held in Moscow hosted by the Institute for Problems in Mechanics (Vernadskogo, 101). Organizers: M.T.Surzhikov, V.M. Gremyachkin, S.E. Yakush. Periodicity: 6 – 10 sessions per year.

3.3. Annual sessions on Gas and Waves Dynamics and Detonation were organized within the frames of XX and XXI International Conferences of students, Ph.D. students and young professionals “Lomonosov-2013”, “Lomonosov-2014”, held in Moscow M.V. Lomonosov State University. Chairman of Organizing Committee – V.A. Sadovnichiy, session organizers – R.I. Nigmatulin, N.N. Smirnov.

3.4. Scientific seminar on physical and chemical processes in aviation engines and jets was organized in CIAM (Central Institute for Aviation Motors) supervised by O.N. Favorskii and A.M. Starik.

4. Other forms of activities.

4.1. The scientific team of Central regional department of the International Combustion Institute Russian Section (Smirnov N.N., Assovskii I.G., Tyurenkova V.V.) participates in a joint Russian-European space experiment "SAFFIRE" (Spacecraft Fire Experiment) on measurements of materials burning rate under low gravity conditions in the space capsule environment using Cygnus unit as a test site after its separation from the International Space Station. First experimental results were obtained.

4.2. Terrorism being the major contemporary threat to Mankind Combustion Institute Russian Section supported a series of both International and National conferences aimed at antiterrorist activities with participation of students and young professionals.

4.2.1. Annual Russian young scientists Conference on "Problems of explosion safety and antiterrorism" organized by Russian Academy of Rocket and Artillerist Sciences, Saint Petersburg University of the Ministry of Emergency and Combustion Institute Russian Section held in Saint Petersburg in April. Organizers: M.V. Silnikov, N.N. Smirnov.

4.2.2. International Conference "Technical devices against terrorist and criminal explosions" organized under the auspice of Russian Academy of Rocket and Artillery Sciences, Saint Petersburg University of the EMERCOM of Russia and the Combustion Institute Russian Section. To be held in Saint Petersburg annually in October. Organizers: M.V. Silnikov, N.N. Smirnov, V.V. Adushkin.

4.3. The Cool Flames Investigation (CFI) is an ISS space flight experiment developed by the NASA Science Definition Team whose members include Prof. Forman A. Williams, University of California, San Diego, Prof. Frederick L. Dryer, Princeton University, Prof. Tanvir I. Farouk, University of South Carolina, Dr. Vedha Nayagam, Case Western Reserve University and Dr. Daniel L. Dietrich, NASA Glenn Research Center (GRC). The CFI experiment will be conducted in collaboration with Dr. Sergey Frolov, Prof. Valentin Basevich, Dr. Andrei A. Belyaev, Dr. Sergey N. Medvedev, and Dr. Igor Assovskii of N.N. Semenov Institute of Chemical Physics, Prof. Nickolay Smirnov, Moscow M.V. Lomonosov State University, Dr. Veronika Tyurenkova, Scientific Research Institute for System Analysis of the Russian Academy of Sciences and Dr. Oleg Korobeinichev, Dr. Tatyana Bolshova, Dr. Denis Knyazkov, Dr. Ilya Gerasimov, Institute of Chemical Kinetics and Combustion Russian Academy of Sciences Siberian Division. This joint Roscosmos-NASA spaceflight experiment is being coordinated by Dr. Francis Chiaramonte (NASA, Headquarters), and Project Scientist (PS) Dr. Daniel L. Dietrich (GRC) of the USA and Dr. Elena Lavrenko of TsNIIMash (Russian Space Agency/Russia).

4.4. Korobeinichev O.P. in 2016 was assigned to Associate Editor of the Proceedings of Combustion Institute (Elsevier) for 6 years (2016 - 2022).

4.5. The Growth and Extinction Limit of Solid Fuels (GEL) is the space flight investigation led by United States Principal Investigator Professor James S. T'ien (Case Western Reserve University, Cleveland, Ohio) with Co-Investigators Dr. Paul Ferkul (USRA), and Dr. Sandra Olson, (NASA Glenn Research Center) in collaboration with Professor Oleg P. Korobeinichev, (Siberian Branch of the Russian Academy of Sciences) This joint Roscosmos-NASA spaceflight experiment will be coordinated by Mark Hickman, NASA GRC, and Project Scientist (PS) Dr. Daniel L. Dietrich (GRC) of the USA and Dr. Elena Lavrenko of TsNIIMash (Russian Space Agency/Russia). This project now is under consideration in Roscosmos.