

Invited Plenary 40 min

1. Alexander Eremin (Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia) **Passive and active laser methods for studying the kinetics of high-temperature reactions in shock tubes**
2. Vladimir Feldman (Lomonosov Moscow State University, Moscow, Russia) **Modeling of cold astrochemical processes through matrix isolation: extremely hot chemistry at extremely low temperatures**
3. Alexander Mebel (Florida International University, Miami, Florida, USA) *To be confirmed*
4. Valery Nakariakov (University of Warwick, United Kingdom) *To be confirmed*
5. Aleksandrs Prokofjevs (Department of Chemistry, North Carolina Agricultural and Technical State University, Greensboro, USA) **Organic Chemists' Journey into 2D Materials**
6. Nickolay N. Smirnov (Federal Science Center "Scientific Research Institute for System Analysis of Russian Academy of Sciences", Moscow, Russia) *Topic to be confirmed*
7. Andrey Shmakov¹, Denis Knyazkov^{1,2}, Tatyana Bolshova¹, Ilya Gerasimov¹, Ksenia Osipova^{1,2}, Artëm Dmitriev^{1,2} (¹Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, ²Novosibirsk State University, Novosibirsk, Russia,) **Study of the flame structure of CH₄/H₂ mixtures at elevated pressure and development of reduced reaction mechanism**

Invited 25 min

8. Ivan O. Antonov (Lebedev Physical Institute, Samara Branch) *Topic to be confirmed*
9. Viatcheslav Bykov¹, (¹ Karlsruhe Institute of Technology, Institute of Technical Thermodynamics, Karlsruhe, Germany,) **Model reduction of mechanisms of chemical kinetics and the problem of estimation of reaction rate constants**
10. Gleb Fedoseev^{1,2} (¹Xinjiang Astronomical Observatory, Chinese Academy of Sciences, ²Xinjiang Key Laboratory of Radio Astrophysics, China) **Laboratory investigation of interstellar ice analogues in view of the newest open data from JWST observatory**
11. Vladimir Gubernov, (P.N. Lebedev Physical Institute of Russian Academy of Sciences) **On the role of low temperature reactions in burner stabilized and propagating flames**
12. Vitaly G. Kiselev,^{1,2,3} Margarita V. Gorn,^{1,2} Shivaiah Vaddypally,⁴ Michael J. Zdilla⁴ (¹Institute of Chemical Kinetics and Combustion SB RAS, ²Novosibirsk State University, Novosibirsk, Russia, ³Semenov Federal Research Center for Chemical Physics RAS, Moscow, Russia ⁴Temple University, United States) **Thermal stability and unusual rearrangements of nitrogen-rich energetic compounds: New insights from predictive electronic structure calculations**
13. Denis Knyazkov, Andrey Cherepanov, Vitaly Kiselev, Artem Dmitriev, Andrey Shmakov, (Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia)

A comprehensive chemical kinetic model for the evolution of charged species naturally occurring in non-sooting flames of hydrocarbons

14. Maria Murga, (Institute of astronomy of Russian academy of sciences, Moscow, Russia) **Evolution of carbonaceous particles from AGB stars to planetary nebulae: observations and theory**
15. Ksenia Osipova, Andrey Shmakov (Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia) **Kinetics of oxidation and combustion processes of ammonia-based fuel blends**
16. Anton I Vasyunin, (Ural Federal Institute, Chelyabinsk, Russia) *Topic to be confirmed*
17. Dmitri Wiebe (Institute of Astronomy of the RAS, Moscow, Russia) Carbon Dust Life Cycle in the Universe **Cosmic rays as an astrochemical factor**
18. Igor I. Zinchenko (Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of RAS, Nizhny Novgorod, Russia) **Molecular inventory of the interstellar medium**

Oral

1. Mehdi Abbasi¹, Ali Chaibakhsh Langroudi², Amirreza P. Shirazi¹ (¹ University of Tehran, Tehran, I.R. Iran, ² University of Guilan, Rasht, I.R. Iran) **Rearrangement of Combustion Control System of Gas Turbine, Based on the Diesel Surrogate Model**
2. B.P. Aduiev, D.R. Nurmukhametov, I.Y. Liskov (The Federal Research Center of Coal and Coal-Chemistry of Siberian Branch of the Russian Academy of Sciences, Kemerovo, Russia) **Features of laser ignition of carbon particles by laser radiation (overview)**
3. A.P. Amosov, I.A. Uvarova, Yu.V. Titova (Samara State Technical University, Samara, Russia) **Combustion synthesis of highly dispersed powder composition AlN-SiC using sodium azide and polytetrafluoroethylene**
4. E. Borshcheva¹, A. Vasyunin² (¹ Institute of Astronomy of RAS, Moscow, Russia, ² Ural Federal University, Yekaterinburg, Russia) **Formation of complex organic molecules in prestellar cores: the role of non-diffusive grain chemistry**
5. T.A. Bolshova, V.M. Shvartsberg, A.G. Shmakov, (Voevodsky Institute of Chemical Kinetics and Combustion, Novosibirsk, Russia) **Regularities of the combustion chemistry of PMMA in the oxidizer flow in microgravity**
6. A.V. Cherepanov^{1,2}, D. A. Knyazkov^{1,2}, K.N. Osipova^{1,2}, V.G. Kiselev^{1,2}, A.M. Dmitriev^{1,2}, A.G. Shmakov^{1,2} (¹ Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, ² Novosibirsk State University, Novosibirsk, Russia) **Ion chemistry in ammonia-hydrogen-oxygen flames**
7. S. Derteev, M. Sapraliev, N. Shividov, B. Mikhalyaev (Kalmyk state university named after B.B. Gorodovikov, Elista, Russia) **Quasi-periodic pulsations in active regions of the solar corona**

8. D. Kasymov¹, V. Perminov², E. Golubnichiy¹ (¹Tomsk State University, ²Tomsk Polytechnic University, Tomsk, Russia) **Firebrand Generation and Transport During Forest Fires: Experimental Approach**
9. V. Kislov, M. Tsvetkov, Yu. Tsvetkova, M. Salganskaya, A. Zaichenko, E. Salgansky, D. Podlesniy (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia) **Neutralization of sulfur compounds by calcium-based additives in the filtration combustion processes**
10. V. Krasnoukhov¹, A. Mebel^{2,3} (¹Lebedev Physical Institute, Samara Branch, ²Samara National Research University, Samara, Russia, ³Florida International University, Miami, Florida, USA) **Gas-phase Formation of Phenanthrene and Dibenzofulvene via the Reaction of Fluorenyl and Methyl Radicals**
11. O. Kuznetsov, M. Evseev, V. Azyazov (Lebedev Physical Institute, Samara Branch, Samara, Russia) **Experimental investigation of naphthalene growth via HACA mechanism**
12. A.D. Moroshkina, A.A. Ponomareva, E.V. Sereshchenko, V.V. Mislavskii, V.V. Gubernov (P.N. Lebedev Physical Institute of Russian Academy of Sciences, Moscow, Russia) **Investigation of critical phenomena of the methane-air flames at normal and elevated pressure**
13. S.N. Mokrin¹, E.V. Bazilevich¹, M.V. Muradova^{1,2}, A.V. Kulik¹, S.S. Minaev¹ (¹Far Eastern Federal University, Vladivostok, ²ITMO University, St. Petersburg, Russia) **Thermal Characteristics of Radiative Porous Burner with Axial Gas Supply**
14. G. Morar, A.I. Karpov, A.A. Shaklein (Udmurt Federal Research Center Ural Branch Russian Academy of Science, Izhevsk, Russia) **Numerical Study of the Thermal Structure of Turbulent Diffusion Flame on PMMA surface**
15. D. Nurmukhametov, B. Aduiev, G. Belokurov (The Federal Research Center of Coal and Coal-Chemistry of Siberian Branch of the RAS, Kemerovo, Russia) **Ignition of microparticles of coals of different ash content by laser pulses**
16. V.V. Dorokhov, G.S. Nyashina, D.S. Romanov, K.Yu. Vershinina (Heat and Mass Transfer Laboratory, National Research Tomsk Polytechnic University, Tomsk, Russia) **Combustion of pellets from biomass and refused derived fuel**
17. D.S. Riashchikov^{1,2}, N.E. Molevich^{1,2}, D.I. Zavershinskii^{1,2}, E.V. Scoptsova¹ (¹Samara National Research University, ²Lebedev Physical Institute, Samara Branch, Samara, Russia) **Propagation features of acoustic-gravity waves in a medium with thermal misbalance**
18. E. Salgansky, A. Zaichenko, D. Podlesniy, M. Salganskaya, M. Tsvetkov, Yu. Tsvetkova (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia) **Experimental study of low-temperature gasification of urotropine at different flux of filtering gas with obtaining combustible gaseous products**
19. E. Sereshchenko, V. Gubernov, S. Minaev (P.N. Lebedev Physical Institute of Russian Academy of Sciences, Moscow, Russia) **Dynamics of sporadic combustion waves and single ball-like flame in straight channels**

20. A.P. Shevchenko^{1,2}, M.A. Frolov², V.A. Blatov² (¹ Lebedev Physical Institute, Samara Branch, ² Samara State Technical University, Samara, Russia) **Crystallochemical approach to high-throughput screening of potential ionic electrides**
21. A. Shostov, K. Fedotova (Bauman Moscow State Technical University, Moscow, Russia) **Numerical simulation of waveguide elements of an experimental microwave setup to determine the burning rate of energy condensed systems**
22. E.A. Sosnin^{1,2}, S.A. Trubachev^{1,2}, O.P. Korobeinichev¹, A.I. Karpov³, A.A. Paletsky¹, A.A. Shaklein³, I.V. Kulikov¹, A.R. Sagitov^{1,2}, A.G. Shmakov¹, A.A. Chernov¹, O.O. Tuzhikov⁴ (¹Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, ² Novosibirsk State University, Novosibirsk, ³Udmurt Federal Research Center., Izhevsk, ⁴ Volgograd State Technical University, Volgograd, Russia) **Experimental study of flame spread over flame retardant glass fiber-reinforced epoxy resin in opposed oxidizer flow**
23. V. V. Stakhanov, O. V. Shults, A. A. Ryakin, I. K. Sharapov, A. V. Ushkov (FSUE «RFNC – VNIITF named after Academ. E. I. Zababakhin», Snezhinsk, Russia) **Experimental investigation of combustion limits of hydrogen/ methane/carbon monoxide/air/water vapor mixtures**
24. Yu.V. Titova, G.S. Belova, A.F. Yakubova (Samara State Technical University, Samara, Russia) **Application of combustion of Ti-Si-Na₃-Na₂SiF₆-C powder mixture for the synthesis of highly dispersed Si₃N₄-TiC ceramic composition**
25. S.A. Trubachev¹, O.P. Korobeinichev¹, A.I. Karpov³, A.A. Paletsky¹, E.A. Sosnin^{1,2}, A.A. Shaklein³, I.V. Kulikov¹, A.R. Sagitov^{1,2}, A.G. Shmakov¹, A.A. Chernov¹, O.O. Tuzhikov⁴, Xin Wang⁵ (¹Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, ² Novosibirsk State University, Novosibirsk, ³Udmurt Federal Research Center., Izhevsk, ⁴ Volgograd State Technical University, Volgograd, Russia, ⁵ State Key Laboratory of Fire Science, USTC, P.R. China) **The influence of flame retardants on the combustion of fiber-reinforced epoxy resin**
26. D.S. Romanov, P.A. Strizhak, K.Yu. Vershinina, K.A. Kartashova (National Research Tomsk Polytechnic University, Tomsk, Russia) **Ignition, combustion, and emission performance of composite fuels from fossil and biomass derived components**
27. D.I. Zavershinskii^{1,2}; N.E. Molevich^{1,2}; D.S. Riashchikov; S.A. Belov² (¹ Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia) **Dynamics of slow magnetoacoustic and entropy modes in flaring coronal loops**
28. S. Yakovlev, E. Bezgodov, S. Pasyukov, A. Tarakanov, M. Nikiforov (FSUE «RFNC – VNIITF named after Academ. E. I. Zababakhin», Snezhinsk, Russia) **Combustion of non-uniformly hydrogen-air mixtures in partially obstructed closed volume**

Poster

1. Bystrov Nikita, Emelianov Alexander, Eremin Alexander, Yatsenko Pavel (Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia) **Measurements of the oxygen dissociation rate constant with verification of modern models of hydrocarbon combustion**

2. Alexey Chichinin (Institute of Chemical Kinetics and Combustion, Siberian Branch RAS, Novosibirsk, Russia) **Astropolarimetry: reduced form of statistical equilibrium equations**
3. Davydov D.M., Umerov E.R., Novikov V.A. (Samara State Technical University, Samara, Russia) **Preparation of Ti_3SiC_2 and Ti_3AlC_2 MAX phases from $TiSi_2$ -C and $TiAl$ -C by SHS in river sand shield**
4. Davydov D.M., Amosov A.P. (Samara State Technical University, Samara, Russia) **Synthesis of porous MAX phases Ti_3SiC_2 and Ti_3AlC_2 by combustion in air and river sand**
5. Demin A.S., Mokrin S.N., Minaev S.S. (Far Eastern Federal University, Vladivostok, Russia) **Combustion Modes of Low-Strached CH_4+H_2 /Air Premixed Flames**
6. Artëm Dmitriev, Denis Knyazkov, Andrey Shmakov (Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, ² Novosibirsk State University, Novosibirsk, Russia) **Chemical structure of laminar hydrogen flames with the addition of tetraethoxysilane**
7. Eremin A.V., Khodyko E.S., Kolotushkin R.N., (Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia) **Investigation of the soot growth process in a flame by the 2D-LII method**
8. V. Kislov, M. Tsvetkov, Yu. Tsvetkova, M. Salganskaya, A. Zaichenko, E. Salgansky, D. Podlesniy (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia) **The dynamics of sulfur compounds release investigation at combustion and its absorption by the calcium-based additives**
9. V. Kislov, M. Tsvetkov, Yu. Tsvetkova, M. Salganskaya, A. Zaichenko, E. Salgansky, D. Podlesniy (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia) **Thermal decomposition of sulfur brown coal at different heating rates**
10. Krikunova L.I., Porfirev D.P., Azyazov V.N. (¹Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia) **The Acetobenzene with methylidyne potencial energy surface**
11. A.A. Kuznetsova, D.P. Porfiriev, V.N. Azyazov (¹Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia) **Theoretical study of 1-acenaphthyl oxidation with molecular oxygen**
12. I.Yu. Liskov, B.P. Aduiev, D.R. Nurmukhametov (The Federal Research Center of Coal and Coal-Chemistry of Siberian Branch of the RAS, Kemerovo, Russia) **Ignition of carbon microparticles by continuous laser radiation of various wavelengths**
13. Anatoliy Nikolayev^{1,2}, Valeriy Azyazov^{1,2}, Alexander Mebel^{1,3} (¹ Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia, ³ Florida International University, Miami, Florida, USA) **The formation of the simplest methyl-substituted cyclic aromatic hydrocarbons in gas-phase reactions**
14. A.A. Pershin, S.P. Miroshnichenko, A.P. Palov (Samara University, Samara Branch of LPI RAS) **Inelastic cross sections for Ar^* -He complex**

15. I. Pomelnikov^{1,2}, D. Riashchikov^{1,2}, N. Molevich^{1,2} (¹ Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia) **Study of clumps in atomic zones of photodissociation regions**
16. A.A. Ponomareva^{1,2}, A.D. Moroshkina¹, E.V. Sereshchenko¹, V.V. Mislavskii¹, V.V. Gubernov¹ (¹Lebedev Physical Institute of RAS, Moscow, ²ITMO University, Saint Petersburg) **Activation energy of lean methane-hydrogen-air mixtures**
17. Eugene Salgansky, A. Zaichenko, D. Podlesniy, M. Salganskaya, M. Tsvetkov, Yu. Tsvetkova (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia) **Thermodynamic assessment of the composition of mixed solid fuel for the gas generator of a high-speed flying vehicle**
18. M. Tsvetkov¹, D. Podlesniy¹, M. Salganskaya¹, Yu. Tsvetkova¹, A. Glukhov¹, E. Latkovskaya², A. Zaichenko¹, E. Salgansky¹ (Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry RAS, Chernogolovka, Russia, ²Sakhalin State University, Yuzhno-Sakhalinsk, Russia) **Characteristics of algae biomass-derived biochars**
19. A.S. Savchenkova, A. M. Golenko, I.V. Chechet, S.G. Matveev, A.A. Konnov, A.M. Mebel (Samara National Research University, Samara, Russia) **Interaction of pyridine radicals with molecular oxygen: Theoretical study**
20. E. Scoptsova¹, D. Riashchikov^{1,2}, D. Zavershinskiy^{1,2} (¹ Samara National Research University, ²Lebedev Physical Institute, Samara Branch, Samara, Russia) **Impact of non-adiabatic heating and cooling on the gravitational stratification of the solar atmosphere**
21. A.S. Semenikhin, A.S. Savchenkova, S.S. Matveev, A.M. Mebel (Samara National Research University) **Singlet potential energy surface of C₃H₂+O₂ interaction**
22. Aleksei Torbin^{1,2}, Alexander Chernyshov¹, Pavel Mikheyev¹ (¹Lebedev Physical Institute, Samara Branch, ² Samara National Research University, Samara, Russia) **NO₂ production in a dielectric barrier discharge in air-CH₄ mixtures.**
23. Vladimir Arkhipov¹, Nikolay Zolotarev^{1, 2} (¹ National Research Tomsk State University, Tomsk, Russia, ² Kutateladze Institute of Thermophysics of the Siberian Branch of the RAS, Novosibirsk, Russia) **Influence of aluminum powder additives on the acoustic conductivity of the burning surface of solid propellant**
24. A.A. Akopyan, S.Yu. Ganigin, V.A. Novikov (Samara State Technical University, Samara, Russia) **Modeling the Heating Process of Sprayed Particles during Detonation Coating Application**
25. V. Vorontsova, V. Kiyashchenko, S. Ganigin (Samara State Technical University, Samara, Russia) **Optimization of the technology for obtaining coatings based on reaction materials using a software package for express analysis of microsections**
26. A.M. Golenko¹, A.S. Savchenkova¹, I.V. Chechet¹, S.S. Matveev¹, A.A. Konnov², A.M. Mebel^{1,3} (¹ Samara National Research University, Samara, Russia, ²Department of Combustion Physics, Faculty of Physics, Lund University, Lund, Sweden, ³Department of Chemistry and Biochemistry, Florida International University; Miami, USA) **Rate constants for the interaction of para-pyridyl with O₂: Theoretical study**

27. E.S. Zhuravleva, Y.R. Skidanov, S.Yu. Ganigin (Samara State Technical University) **Method for assessing the efficiency of combustion of reactive materials in the case of shock wave initiation**
28. V. Perminov¹ D. Kasymov² (¹Tomsk Polytechnic University, ²Tomsk State University, Tomsk, Russia) **Mathematical and physical modeling of forest fire spread in the presence of firebreaks**
29. P. Khomiakova (¹N.N. Semenov Federal Research Center for Chemical Physics of the Russian Academy of Sciences, ²D.I. Mendeleev Russian University of Chemical Technology, Moscow, Russia) **Kinetics of the reaction of monochloroacetic acid with atomic fluorine**
30. Ganigin S.Yu., Kiyashchenko V.V., Vorontsova V.A. (Samara State Technical University) **Explosive Combustion Process Analysis through Computer Vision Techniques**
31. R.A. Kryev, A.M. Korobkov, E.G. Belov, S.V. Mikhailov, A.A. Yagofarov (Kazan National Research Technological University, Kazan, Russia) **Energy-saturated materials based on silicon and halogen-containing polymers**
32. R. Kuramshin^{1,2}, A. Torbin^{1,2}, A. Chernyshov¹ (¹Lebedev Physical Institute, Samara Branch, ²Samara National Research University, Samara, Russia) **Measuring gas temperature in Ar-He plasma using diode laser absorption spectroscopy**
33. E.A. Batrakova, S.O. Tuchin, D.S. Trufanov, I.O. Antonov (Lebedev Physical Institute, Samara Branch, Samara National Research University, Samara, Russia) **Reactions in cryogenic methane films initiated by ultraviolet vacuum radiation**
34. S.O. Tuchin, E.A. Batrakova, D.S. Trufanov, I.O. Antonov (Lebedev Physical Institute, Samara Branch, Samara National Research University, Samara, Russia) **Experimental optimization of the time-of-flight mass spectrometer of the cryogenic surface processes: mass spectrum of butadiene**
35. D.S. Trufanov, E.A. Batrakova, S.O. Tuchin, I.O. Antonov (Lebedev Physical Institute, Samara Branch, Samara National Research University, Samara, Russia) **Numerical simulation of the time-of-flight mass spectrometer of the cryogenic surface processes apparatus: influence of the heterogeneity of the source region field**
36. A. Astashova^{1,2}, M. Evseev², E. Bashkirov¹ (¹Samara National Research University, ²Lebedev Physical Institute, Samara Branch, Samara, Russia) **Synthesis of the simplest alcohols and nitrogen-substituted PAHs in the interstellar medium**