

PROGRAM

SUNDAY, AUGUST 26, 2018

10.00-12.00 **REGISTRATION**

(Hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

12.00-19.00 7-hour excursion to Tsarskoe Selo (Tsar's Village) with a visit to the park, the Catherine Palace and the amber room, including lunch

MONDAY, AUGUST 27, 2018

9.30-14.00 **REGISTRATION**

(Hall of the Saint-Petersburg Scientific Centre of Russian Academy of Sciences, Universitetskaya naberezhnaya, 5)

10.30-11.00 **OPENING CEREMONY**

(Conference hall of the Saint-Petersburg Scientific Centre of Russian Academy of Sciences, Universitetskaya naberezhnaya, 5)

Welcome address of the chairman of the organizing committee of the conference of academician of the Russian Academy of Sciences, Prof. V.Ya. Shevchenko

Opening keynote of the deputy chairman of the organizing committee of the conference, acting director of Institute of Silicate Chemistry of Russian Academy of Sciences, Prof. I.Yu. Kruchinina

PLENARY SESSION

(Conference hall of the Saint-Petersburg Scientific Centre of Russian Academy of Sciences, Universitetskaya naberezhnaya, 5)

Chairpersons: **Academician of the Russian Academy of Sciences, Prof. V.Ya. Shevchenko, Dr. I.Yu. Kruchinina**

11.00-11.30 **Prof. O.A. Shilova**

Sol-gel processing for sensorics and photonics
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

11.30-12.00 **Prof. V.V. Kozik, L.P. Borilo, V.K. Ivanov, A.S. Brichkov, S.A. Kozyukhin, V.M. Bouznik**

The obtaining of initial components and creation of composite materials promising for application in Siberia and Arctic conditions

Tomsk State University, Tomsk, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia

12.00-12.05 **Dr. V.V. Vinogradov**

Concise report about the XX International Sol-Gel Conference (August 25-30, 2019, St. Petersburg, Russia)

ITMO University, Saint-Petersburg, Russia

12.05-12.10 **Dr. S.I. Tolstosheeva**

Concise report “The anticorrosive protection of polyorganosiloxane paint materials CERTACOR produced by NPP Spectr Ltd”

NPP Spectr Ltd, Novocheboksarsk, Russia

12.10-12.30 **Coffee break**

PLENARY SESSION

(Conference hall of the Saint-Petersburg Scientific Centre of Russian Academy of Sciences, Universitetskaya naberezhnaya, 5)

Chairpersons: **Prof. O.A. Shilova, Corresponding Member of the Russian Academy of Sciences, Prof. Yu.A. Schipunov**

12.30-13.00 **Prof. Hideo Sawada**

Preparation and property of fluoroalkyl end-capped oligomer/magnesium oxide nanocomposites

Hirosaki University, Hirosaki, Japan

13.00-13.30 **Prof. Michel Wong Chi Man**

Nanostructuring of bridged silsesquioxanes

Institute Charles Gerhardt Montpellier, Montpellier, France

13.30-14.00 **Corresponding Member of the Russian Academy of Sciences, Prof. Yu.A. Schipunov**

Silica with regulated meso/macroporosity,

hydrophilicity/hydrophobicity and elasticity

Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia

14.00-14.15

Dr. M. Ignat, P. Samoila, C. Coromelci,
T.F. Kuznetsova, A.I. Ivanets, Ju.D. Sauka

Sol-gel strategies for titanosilicates: synthesis, characterization, applications

"Alexandru Ioan Cuza" University, Iasi, Romania; "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania; Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus

14.15-14.20

Chairman of the Board of Directors G.I. Agafonov

Concise report "Pigment Holding Company Ltd." Invitation to cooperation"

LLC "Pigment Holding Company", Saint-Petersburg, Russia

14.20-15.20

Lunch

SECTION-REPORTS

SECTION 1.

«THEORETICAL ASPECTS OF SOL-GEL PROCESS»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof. A.V. Agafonov, Dr. E.V. Skorb**

15.20-15.35

Prof. V.A. Valtsifer, N.B. Kondrashova,
A.Sh. Shamsutdinov, A.S. Starostin, I.V. Valtsifer

Rheological characteristics of a fire-extinguishing powder composition as influenced upon by morphology of functional filler particles

Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia

15.35-15.50

Prof. A.G. Zakharov, M.I. Voronova, O.V. Surov,
A.V. Afineevskii

Formation of porous structure of CNC-polymer composites
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia; Ivanovo State University of Chemistry and Technology, Ivanovo, Russia

- 15.50-16.05** **Prof. O.V. Mikhailov**
Synthesis of (dd)heterobinuclearic cyanocomplexes in gelatin matrix using modified sol gel technology
Kazan National Research Technological University, Kazan, Russia
- 16.05-16.20** **Dr. D.Kh. Mirkhamitova, S.E. Nurmanov, O.N. Ruzimuradov, Sh.M. Urazov**
Heterogeneous catalytic reaction of acetylene with morpholine in the presence of a catalyst on the basis of nanostructural activated coal
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan
- 16.20-16.35** **Dr. O.V. Rakhimova, O.S. Magomedova, T.A. Tsyganova**
Investigation of hydrolytic polycondensation in systems based on tetraethoxysilane by DK-spectrophotometry method
Saint-Petersburg Electrotechnical University 'LETI', Saint-Petersburg, Russia; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- 16.35-16.50** **Dr. E.V. Skorb**
Dynamic light-induced processes at heterostructured interfaces
ITMO University, Saint-Petersburg, Russia
- 16.50-17.05** **Dr. T.A. Tsyganova, O.V. Rakhimova**
The role of "secondary" colloid silicon in modification of the structure of porous glasses
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia; Saint-Petersburg scientific center of the Russian Academy of Sciences, Saint-Petersburg, Russia
- 17.05-17.20** **Graduate student O.Yu. Vodorezova, A.A. Buzaev, T.I. Izaak**
Hierarchical porous silica monoliths
Tomsk State University, Tomsk, Russia

17.20-17.35 **Graduate student Ph.Yu. Gorobtsov, N.P. Simonenko, E.P. Simonenko, V.G. Sevastyanov, N.T. Kuznetsov**
Preparation of nanocrystalline Ln:Y₃Al₅O₁₂ thin films utilizing metal alkoxiacetylacetonates
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Institute of Fine Chemical Technologies, MIREA - Russian Technological University, Moscow, Russia

SECTION 3.

«SOL-GEL FILMS, COATINGS AND MEMEBRANES»

(Showroom of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof.O.A. Shilova, Dr. Yu.M. Evdokimov**

15.20-15.35 **Prof. S.N. Stepin, S.I. Tolstosheeva, V.E. Katnov**
Optical properties of sol-gel coatings containing silver nanoparticles
Kazan National Research Technological University, Kazan, Russia; NPP Spectr Ltd, Novocheboksarsk, Russia

15.35-15.50 **Dr. Yu.M. Evdokimov, V.A. Sulimenko, P.V. Komrakov**
Estimation of surface of contact system liquid adhesive-solid body
The State Fire Academy of the Ministry of Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters, Moscow, Russia

15.50-16.05 **Dr., young specialist O.V. Boytsova, E.G. Nechaev, A.D. Yapryntsev, A.E. Baranchikov**
Hybrid photoactive coatings of polymers with mesocrystals TiO₂
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Lomonosov Moscow State University, Moscow, Russia

16.05-16.20 **Dr. G.S. Buslaev, T.A. Kochina, P.A. Milyutina**
Creation of an electrically insulating organosilicate coating

with high adhesion to metal and heat resistance up to 700°C
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

16.20-16.35

Dr., young specialist A.S. Vishnevskiy, N.M. Kotova, D.S. Seregin, K.A. Vorotilov

Structural features of thin-film low-k materials based on MTMS-BTMSE and MTEOS-TEOS(co)polymer
MIREA - Russian Technological University, Moscow, Russia

16.35-16.50

Dr. G.N. Gubanova, T.P. Maslennikova, E.N. Korytkova, S.V. Kononova

Hydrosilicate nanoparticles as effective fillers for polymers aimed for membrane technologies
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

16.50-17.05

Dr. M.S. Masalovich, A.G. Ivanova, O.A. Zagrebelnyy, A.M. Nikolaev, O.A. Shilova, I. Yu. Kruchinina

Elaboration of a composite electrode based on cobalt oxide with a silicon oxide underlayer
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

17.05-17.20

E.V. Sokhovitch, E.V. Kolobkova, Graduate student V.S. Zemko, S.V. Mjakin, N.S. Kuleshov

Sol-gel technology for obtaining tungsten oxide based electrochromic materials
Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia; ITMO University, Saint-Petersburg, Russia

17.20-17.35

Graduate student A.S. Mokrushin, E.P. Simonenko, N.P. Simonenko, V.G. Sevastyanov, N.T. Kuznetsov

Thin nanostructured films compounds $ZrO_2 - (TiO_2, CeO_2, Y_2O_3)$ prepared sol-gel technologies advanced for oxygen detection
Kurnakov Institute of General and Inorganic Chemistry of the

Russian Academy of Sciences, Moscow, Russia

17.35-19.00

Welcome Party

(Ground floor of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

TUESDAY, AUGUST 28, 2018

PLENARY SESSION

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: Prof. O.N. Ponamoreva, Prof. A.I. Ivanets

10.00-10.30

**G.A. Seisenbaeva, K. Nilsson Ekdahl, B. Nilsson,
V.G. Kessler, Prof. V.G. Kessler**

Protein interactions of metal oxide nanoparticles

Swedish University of Agricultural Sciences, Uppsala, Sweden

10.30-11.00

Dr. A.V. Kanaev

Preparation of size-selected pure, mixed and composite metal oxide nanoparticles for environmental and photonic applications

Université Paris / HDR, France

11.00-11.30

Prof. O.N. Ponamoreva, V.A. Alferov

"Living" hybrid materials from sol-gel chemistry: microorganism encapsulation into ormosil and biotechnological perspectives

Tula State University, Tula, Russia

11.30-12.00

Prof., young specialist A.I. Ivanets

Sorption and catalytically active materials based on mesoporous transition metal oxides

Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus

12.00-12.05

Dr. V.V. Vinogradov

Concise report about the International Laboratory "Solution Chemistry of Advanced Materials and Technologies" (SCAMT laboratory)

ITMO University, Saint-Petersburg, Russia

12.05-12.10

Yu.V. Lazareva

Concise report "LABTEST equipment for investigation of sorption properties and molecular composition of materials"

LLC NCC "LABTEST", Moscow, Russia

12.10-12.30 **Coffee break**

PLENARY-SESSION

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof. V.G. Kessler, Dr. E.P. Simonenko**

12.30-13.00 **Prof. Yahia Djaoued**

New Rapid Synthesis Routes of 2D and 3D Inverse Opal
Transition Metal Oxide Films: Application in Smart Devices
University of Moncton, Canada

13.00-13.30 **Prof. K.A. Vorotilov, A.S. Sigov**

Sol-gel materials for advanced semiconductor manufacturing
technology
MIREA - Russian Technological University, Moscow, Russia

13.30-14.00 **Prof. E.P. Simonenko, N.P. Simonenko, V.G. Sevastyanov,
N.T. Kuznetsov**

Sol-gel technology to create ultra-high temperature materials
*Kurnakov Institute of General and Inorganic Chemistry of the
Russian Academy of Sciences, Moscow, Russia*

14.00-14.15 **Y. Ünvar, A. Akşit, Ph.D. student E. Kılıç**

Environmental assessment of antibacterial cotton textile
coated by sol-gel technology
*Dokuz Eylul University Faculty of Engineering, Textile
Engineering Department, İzmir, Turkey; Usak University
Faculty of Engineering, Material Science and
Nanotechnology Engineering Department, Usak, Turkey*

14.15-15.15 **Lunch**

SECTION REPORTS

SECTION 4.

«HYBRID INORGANIC AND ORGANIC-INORGANIC SOL-GEL MATERIALS»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: Corresponding Member of the Russian Academy of Sciences, Prof. Yu.A. Schipunov, Prof. G.A. Seisenbaeva

15.15-15.30

**I. Pylypchuk, I.V. Melnyk, V.G. Kessler,
Prof. G.A. Seisenbaeva**

Hybrid multifunctional nanoadsorbents for water purification
Swedish University of Agricultural Sciences, Uppsala, Sweden; Chuiko Institute of Surface Chemistry NANU, Kiev, Ukraine

15.30-15.45

**Prof. A.B. Shipovskaya, O.N. Malinkina,
Yu.Yu. Zhuravleva, T.G. Khonina, I.V. Zudina,
N.O. Gegel**

Influence of chitosan ascorbate chirality on the gelation kinetics and properties of silicon-chitosan-containing glycerohydrogels
Saratov State University, Saratov, Russia; Institute of Biochemistry and Physiology of Plants and Microorganisms Russian Academy of Sciences, Saratov, Russia; I.Ya. Postovsky Institute of Organic Synthesis of the Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia

15.45-16.00

**Dr. R.I. Lyga, O.A. Shilova, V.M. Mikhal'chuk,
V.A. Zagreba**

Regularities of formation and structural features of epoxy composites containing oxide filler
Donetsk National University, Donetsk; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

16.00-16.15

**Dr. I.V. Polyakova, A.A. Osipenko, L.N. Borovikova,
A.I. Kipper, O.A. Pisarev**

Synthesis and properties of se-containing organo-inorganic

sorbents surface immitrated with molecules of biologically active substances

Institute of Macromolecular Compounds, Russian Academy of Science, Saint-Petersburg, Russia

16.15-16.30

Dr., young specialist N.S. Skorikova, D.V. Loginov, O.V. Sidorova, A.D. Fofanov, E.F. Kudina

Influence of the ion-modificator on the structure of metal-epoxy-silicate composites

Petrozavodsk State University, Petrozavodsk, Russia; ГИИ V.A. Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, Gomel, Belarus

16.30-16.45

Dr. O.V. Fedorova, A.N. Murashkevich, O.V. Koryakova, G.L. Rusinov, V.N. Charushin

Structurally controlled surface modification of single and mixed oxides Si, Ti, Al and Zr by organic molecules. Novel approaches and opportunities

I.Ya. Postovsky Institute of Organic Synthesis of the Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia; Belarusian State Technological University, Minsk, Belarus

16.45-17.00

Dr., young specialist A.S. Chainikova, N.E. Shchegoleva, S.U. Modin, A.A. Akopyan, V.S. Kovaleva, D.A. Zabelin, D.V. Grashchenkov

Sol-gel synthesis of the aluminosilicate glass ceramics modified by additives of refractory oxides

All-Russian Scientific Research Institute of Aviation Materials State Research Center of the Russian Federation, Moscow, Russia

17.00-17.15

Graduate student M.V. Sayfutdinova, V.M. Mikhal'chuk, O.A. Shilova, R.I. Lyga

Properties of epoxy-inorganic composites received by sol-gel
Donetsk National University, Donetsk; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

17.15-17.30 Coffee break

POSTER SESSION

(Conference hall and Ground floor of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: Dr. L.P. Mezentseva, Dr. A.V. Zdravkov

17.30-19.30 Poster session No. 1 (Sections 1, 2, 3) with preliminary non-stop presentation of posters

WEDNESDAY, AUGUST 29, 2018

THE SCHOOL OF YOUNG SCIENTISTS

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Corresponding Member of the Russian Academy of Sciences, Prof. Yu.A. Schipunov, Dr. P.V. Krivoshapkin**

10.00-10.30 **Prof. Michel Wong Chi Man**
Bridged silsesquioxanes: hybrid silica materials for applications
Institute Charles Gerhardt Montpellier, Montpellier, France

10.30-11.00 **Corresponding Member of the Russian Academy of Sciences, Prof. Yu.A. Schipunov**
Immobilization of biomaterial by sol-gel method
Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia

11.00-11.30 **Dr. P.V. Krivoshapkin**
Carbon-ceramic nanomaterials: colloid-chemical processes and application
ITMO University, Saint-Petersburg, Russia; Institute of Chemistry of Komi Science Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia

11.30-12.00 **Coffee break**

THE SCHOOL OF YOUNG SCIENTISTS

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof. I.B. Ban'kovskaya, Dr. N.P. Simonenko**

12.00-12.30 **Prof. I.B. Ban'kovskaya**
Obtaining and research of high-temperature materials and coatings for energetic, space and aviation
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

- 12.30-13.00** **L.B. Matushkin, Prof. V.A. Moshnikov**
 The technology of obtaining colloidal quantum dots, plasmon nanoparticles and hybrid structures based on them
Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia
- 13.00-13.30** **G.P. Kopitsa, T.V. Khamova, O.A. Shilova, A.E. Sokolov, A.E. Baranchikov, A.N. Bugrov, V.V. Runov, R.Yu. Smyslov, A. Feoktystov**
 Method small-angle polarized neutron scattering for the diagnostics of the structure and magnetic properties of sol-gel nanomaterials
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Gatchina, Leningradskaya oblast, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; JCNS, Forschungs zentrum Juelich GmbH, Outstationat MLZ, Garching, Germany
- 13.30-14.00** **Dr. N.P. Simonenko, E.P. Simonenko, A.S. Mokrushin, V.P. Kim, S.V. Tkachev, S.P. Gubin, I.S. Vlasov, I.A. Volkov, T. Maeder, V.G. Sevastyanov, N.T. Kuznetsov**
 Printing technologies in sol-gel synthesis of thin-film functional nanomaterials
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Moscow Institute of Physics and Technology (State University), Dolgoprudny, Moscow Region, Russia; LLC «AkKo Lab», Moscow, Russia; École Polytechnique Fédérale de Lausanne, EPFLSTIIMTLMIS1, Lausanne, Switzerland
- 14.00-20.00** **A boat trip along the rivers and canals of St. Petersburg. Dinner.**

THURSDAY, AUGUST 30, 2018

PLENARY SESSION

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: Prof. O.N. Ruzimuradov, Prof.A.V. Agafonov

10.00-10.30 **Prof. O.N. Ruzimuradov**

Molecular design of functionalized porous materials based on polymer-metal oxide nanocomposites

Turin polytechnic university in Tashkent, Tashkent, Uzbekistan

10.30-11.00 **Dr. S.S. Itkulova, S.K. Kussanova, Y.A. Boleubayev, K.A. Valishevskiy**

Sol-gel made Co-based multicomponent catalysts for CO₂ reforming of methane

D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan

11.00-11.30 **Prof. A.V. Agafonov, V.K. Ivanov**

Sol-gel materials are promising fillers for electro-rheological fluids

G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia

11.30-12.00 **Prof. T.G. Khonina, E.V. Shadrina, M.V. Ivanenko, E.Yu. Larchenko, O.N. Chupakhin**

New pharmacologically active nanostructured drug delivery systems based on Si, Ti, Fe and Zn polyolates, biocompatible precursors in sol-gel processing

I.Ya. Postovsky Institute of Organic Synthesis of the Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia; Ural Federal University named after the first President of Russia B.N. Yeltsin, Ekaterinburg, Russia

12.00-12.30 **Dr., young specialist A.V. Vinogradov**
Experience of sol-gel technology commercialization
ITMO University, Saint-Petersburg, Russia

12.30-13.00 **Coffee break**

SECTION REPORTS

SECTION 6.

«SOL-GEL MATERIALS FOR ENVIRONMENTAL PROTECTION, AGRICULTURE AND BIOMEDICINE APPLICATIONS»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Dr. O.Yu. Golubeva, Dr. E.Yu. Ladilina**

13.00-13.15 **Dr. V.V. Bakhmetyev, A.M. Dorokhina, V.V. Malygin,
L.A. Lebedev, M.V. Keskinova, S.V. Mjakin, M.M. Sychov**
Synthesis and characterization of nanophosphors for
enhancement of photodynamic therapy of cancer
*Saint-Petersburg State Institute of Technology, Saint-
Petersburg, Russia*

13.15-13.30 **Dr. P.V. Krivoshapkin, G.O. Kiselev,
E.D. Koshevaya, E.F. Krivoshapkina, A.A. Shtil',
V.N. Morozov, A.V. Belousov, M.A. Kolyvanova,
V.V. Vinogradov**
High electron density nanomaterials for cancer theranostics
*ITMO University, Saint-Petersburg, Russia; Institute of
Chemistry of Komi Scientific Centre of the Ural Branch of the
Russian Academy of Sciences, Syktyvkar, Russia; N.N.
Blokhin National Medical Research Centre of oncology of the
Health Ministry of Russia, Moscow, Russia; Lomonosov
Moscow State University, Moscow, Russia; Russian State
Research Center – Burnasyan Federal Medical Biophysical
Center of Federal Medical Biological Agency, Moscow,
Russia*

13.30-13.45 **Dr. E.Yu. Ladilina, S.A. Lermontova,
N.S. Zakharycheva, T.S. Lyubova, I.S. Grigoryev,
L.G. Klapshina**
Water-soluble polyfunctional siloxane nanoparticles for the

biomedical applications

G.A. Razuvaev Institute of Organometallic Chemistry of Russian Academy of Sciences, Nizhny Novgorod, Russia

13.45-14.00

Dr. A.R. Ivanov

Study of possibility of application of external magnetic field for synthesis of hiral selective silicate sorbent

Saint-Petersburg State University of Industrial Technologies and Design, Saint-Petersburg, Russia

14.00-14.15

Graduate student A.N. Dran'kov, E.K. Papynov, I.A. Tkachenko, V.A. Avramenko, I.G. Tananaev

Template sol-gel synthesis of magnetic sorbents based on iron oxides for the removal of U(VI) from aqueous media

Far Eastern Federal University, Vladivostok, Russia; Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia

SECTION 7.

«APPLICATIONS OF SOL-GEL SCIENCE AND TECHNOLOGY»

(Showroom of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons:

Dr. V.V. Vinogradov, Dr. G.V. Mamontov

13.00-13.15

Dr., young specialist V.V. Vinogradov

Sol-gel synthesis of thrombolytic drugs

ITMO University, Saint-Petersburg, Russia

13.15-13.30

Dr., young specialist G.V.Mamontov, M.V. Grabchenko, V.V. Dutov, A.S. Gorbunova, T.S. Mikheeva, T.S. Kharlamova, M.A. Salaev, V.I. Zaikovskii, O.V. Magaev, O.V. Vodyankina

New Ag/SiO₂ catalysts for environmental protection and synthesis of valuable organic compounds

Tomsk State University, Tomsk, Russia; Boreskov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia

13.30-13.45

Dr. A.A. Ponomareva, A.M. Triguba, K.A. Tsoy

Fabrication of sol-gel catalytic coatings on external and

internal surfaces of porous microcanal burners
Far Eastern Federal University, Vladivostok, Russia

13.45-14.00 **Graduate student E.V. Zelenina, O.Yu. Golubeva, N.G. Firsin**

Variants of application the framework structured porous aluminosilicates for development the solid-state tritium light sources

V.G. Khlopin Radium Institute, Saint-Petersburg, Russia; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

14.00-14.15 **A.A. Akatov, A.V. Osipov, V.A. Doilnitsyn**

Chemical stability of ceramic matrices based on nanosized REE phosphates intended for high-level radwaste immobilization

Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

14.15-15.15 **Lunch**

SECTION REPORTS

SECTION 5.

«XEROGELS, GLASS AND BULK CERAMIC MATERIALS SYNTHESIZED BY SOL-GEL METHOD»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof. E.P. Simonenko, Dr. L.P. Mezentseva**

15.15-15.30 **A.V. Sokolov**

Concise report “Determination of the coefficient of thermal expansion, classification and application of dilatometers”
INTERTECH Corporation, Moscow Representative Office, Moscow, Russia

15.30-15.45 **Dr. S.G. Mamontova, S.Z. Zelentsov**

Thermodynamic characteristics of phases that make a beryllian indialite by the process of sol-gel

Vinogradov Institute of Geochemistry Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia; National Technical University “Kharkiv Polytechnic Institute”, Kharkiv, Ukraine

15.45-16.00

Dr. L.P. Mezentseva, A.V. Osipov, V.L. Ugolkov, I.Yu. Kruchinina

Ceramic composites based on nanosized REE orthophosphates and their properties

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

16.00-16.15

Dr., young specialist I.Yu. Skvortsov, L.A. Varfolomeeva, V.G. Kulichikhin

A novel method of preparing the carbon/silicon-carbide precursors for hybrid polymer composites

A.V. Topchiev Institute of Petrochemical Synthesis of Russian Academy of Sciences, Moscow, Russia

16.15-16.30

Dr., young specialist A.S. Drozdov, Y.I. Andreeva, O.E. Shapovalova, V.V. Vinogradov

Magnetite-based enzymatic sol-gel composites

ITMO University, Saint-Petersburg, Russia

16.30-16.45

Graduate student O.O. Shichalin, A.A. Belov, I.O. Evdokimov, E.K. Papynov, V.A. Avremenko

Development and research of modern biocompatible ceramics for regenerative bone surgery with the use of combination methods of inorganic synthesis

Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia; Far Eastern Federal University, Vladivostok, Russia; Pacific State Medical University of the Ministry of Healthcare of the Russian Federation, Vladivostok, Russia

16.45-17.00

Coffee break

POSTER SESSION

(Conference hall and Ground floor of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Prof. I.B. Ban'kovskaya, Dr. T.V. Khamova**

17.00-19.00 **Poster session No. 2 (Sections 4, 5, 6, 7) with preliminary non-stop presentation of posters**

FRIDAY, AUGUST 31, 2018

SECTION REPORTS

SECTION 2.

«SOL-GEL SYNTHESIS AND RESEARCH OF NANOPARTICLES»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

Chairpersons: Prof.V.V. Kozik, Dr. O.V. Dement'eva

10.00.-10.15 Dr. O.V. Dement'eva, M.E. Kartseva, N.A. Salavatov, A.V. Zaitseva, V.M. Rudoy

Sol-gel synthesis of organosilica particles using γ -mercaptopropyltrimethoxysilane and novel plasmonic core/shell nanostructures

A.N. Frumkin Institute of Physical chemistry and Electrochemistry of Russian Academy of Sciences, Moscow, Russia

10.15-10.30 Dr. V.A. Krut'ko, M.G. Komova, D.V. Pominova

Sol-gel synthesis of UP-conversion oxide phosphors
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia

10.30-10.45 Dr. E.V. Saenko, V.A. Valtsifer

Synthesis of stable manganese oxides (III, IV) by sol-gel method

Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia

10.45-11.00 Young specialist V.E. Kutuzova, L.I. Podzorova, A.A. Il'icheva, A.A. Konovalov, N.A. Michailina, O.I. Pen'kova, M.A. Kaplan

Sol-gel synthesis of $ZrO_2-CeO_2-Al_2O_3$ powders modified by trivalent cations

A.A. Baikov Institute of Metallurgy and Material Science of Russian Academy of Sciences, Moscow, Russia

11.00-11.15 **Graduate student L.V. Yafarova, I.A. Zvereva,**
I.V. Chislova, T.F. Sheshko
Sol-gel synthesis and investigation of catalysts on the basis of
perovskite-type oxides $GdMO_3$ (M = Mn, Fe, Co)
Saint-Petersburg State University, Saint-Petersburg, Russia;
Peoples' Friendship University of Russia, Moscow, Russia

11.15-11.30 **Coffee break**

SECTIONS 3, 4.

«SOL-GEL FILMS, COATINGS AND MEMEBRANES»,
«HYBRID INORGANIC AND ORGANIC-INORGANIC SOL-GEL
MATERIALS»

(Conference hall of the Institute of Silicate Chemistry of Russian Academy of
Sciences, Makarova naberezhnaya, 2)

Chairpersons: **Dr. A.G. Ivanova, N.N. Gubanova**

11.30-11.45 **Dr., young specialist A.V. Zdravkov, M.A. Listratenko,**
S.A. Gorbachev, I.I. Osovskaya, N.N. Khimich
Organo-inorganic hybrids in the cellulose-titanium oxide
system
Institute of Silicate Chemistry of Russian Academy of
Sciences, Saint-Petersburg, Russia; Military Medical
Academy named after S.M. Kirov of the Ministry of Defence of
the Russian Federation, Saint-Petersburg, Russia; Saint-
Petersburg State University of Industrial Technologies and
Design, Saint-Petersburg, Russia

11.45-12.00 **Graduate student Kh.E. Yorov, S.Yu. Kottsov,**
A.E. Baranchikov, S.A. Lermontov, V.K. Ivanov
Metal-oxide aerogels functionalized by coordination
compounds of metals
Lomonosov Moscow State University, Moscow, Russia;
D. Mendeleev University of Chemical Technology of Russia,
Moscow, Russia; Kurnakov Institute of General and Inorganic
Chemistry of the Russian Academy of Sciences, Moscow,
Russia; Institute of Physiologically Active Substances Russian
Academy of Sciences, Chernogolovka, Moscow region, Russia

- 12.00-12.15** **Young specialist I.I. Lebedeva, I.P. Sizeneva**
 Synthesis and photocatalytic properties of Fe₃O₄-TiO₂ core-shell composites
Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia
- 12.15-12.30** **Graduate student N.N. Mikheeva, M.V. Sadlivskaya, V.I. Zaikovskii, G.V. Mamontov**
 Design of Ag-containing catalysts based on SBA-15 for deep oxidation of volatile organic compounds
Tomsk State University, Tomsk, Russia; Borekov Institute of Catalysis of Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia
- 12.30-12.45** **E.A. Dmitrieva, D.M. Muhamedshina, K.A. Mit', I.A. Lebedev, Young specialist E.A. Grushevskaja, A.I. Fedosimova**
 Investigation of the optical and electrical properties of thourghen filters of SnO₂ deposited by fluorine
Almaty Institute of Physics and Technology, Kazakh National Research Technical University after K.I. Satpaev, Almaty, Kazakhstan
- 12.45-13.00** **N.N. Gubanova, O.A. Shilova, A.G. Ivanova, V.A. Matveev, I.Y. Kruchinina**
 Bimetallic Pt/Pd nanoparticles in silica ‘spin-on glass’ films as catalyst for electrodes for fuel cells
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Gatchina, Leningradskaya oblast, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia
- 13.00-14.00** **CLOSING CEREMONY**
 (Conference hall of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)
Statement by of the deputy chairman of the organizing committee of the conference, acting director of Institute of

*Silicate Chemistry of Russian Academy of Sciences, Prof.
I.Yu. Kruchinina*

*Awarding of students, Graduate students and young
specialists for the best oral and poster presentations*

Participants' speeches. Adoption of the conference decision.

MEETING OF THE ESTIMATION COMMISSION ON THE STAGE OF THE "UMNIK"-CONTEST

(Showroom of the Institute of Silicate Chemistry of Russian Academy of
Sciences, Makarova naberezhnaya, 2)

**Chairman: Acting Deputy Director for Sciences of the Institute of
Silicate Chemistry of Russian Academy of Sciences,
Dr. N.G. Tyurnina**

10.00-13.00 On the last working day of the conference, in parallel with the
work of the sections, there will be meetings of the "UMNIK"
contest and the evaluation commission on the stage of the
"UMNIK" contest.

POSTER SESSIONS

TUESDAY, AUGUST 28, 2018

POSTER SESSION No. 1 (SECTIONS 1, 2, 3)

(Ground floor of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

- P-1 Mahu E., Dr. Ignat M., Samoila P., Sacarescu L., Harabagiu V.**
Modified sol-gel synthesis of doped TiO₂ with rare earth elements
"Alexandru Ioan Cuza" University, Iasi, Romania; "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania
- P-2 Dr. Alexeenko A.A., Alexeenko Yu.A., Sobolev E.V.**
Features of the reduction of metals and semiconductors in the structure of high-silica sol-gel matrices
Sukhoi State Technical University of Gomel, Gomel, Belarus
- P-3 Afanaseva N.V., Gubanova G.N., Cristea M., Korytkova E.N., Maslennikova T.P., Kononova S.V.**
Influence of hydrosilicate nanoparticles morphology on dielectric and mechanical properties of thermally stable polyamidoimides
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; "Petru Poni" Institute of Macromolecular Chemistry, the Romanian Academy, Iasi, Romania; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-4 Kolosov V.Yu., Zhigalina O.M., Khmelenin D.N., Graduate student Bokuniaeva A.O.**
Studying of PZT thin films with 10% and 8% La by transmission electron microscopy
Ural Federal University named after the first President of Russia B.N. Yeltsin, Ekaterinburg, Russia; A.V. Shubnikov Institute of Crystallography of the Russian Academy of Sciences, Federal Research Center "Crystallography and Photonics" of the Russian Academy of Sciences, Moscow, Russia
- P-5 Young specialist Vaskevich V.V., Kovalenko D.L., Gaishun V.E., Mhin S.**
Composite sol-gel coatings for protection of metal constructions

Francysk Skaryna Gomel State University, Gomel, Belarus; Korea Institute of Industrial Technology, Siheung, Republic of Korea

P-6 Student Voshikov V.I., Glebova I.B., Shilova O.A.

Protective dielectric epoxy-titanate coatings for piezoelectric elements operated in seawater

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia

P-7 Student Vishegorodtseva E.V., Gorbunova A.S., Mamontov G.V.

Synthesis of MCM-41 from sodium silicate

Tomsk State University, Tomsk, Russia

P-8 Dr. Gaishun V.E., Kosenok Y.A., Kovalenko D.L., Vaskevich V.V., Shilova O.A.

Investigation of the surface structure of photochromic sol-gel coatings by AFM

Francysk Skaryna Gomel State University, Gomel, Belarus; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

P-9 Glebova I.B., Ugolkov V.V., Shilova O.A.

Structural transformations of sol-gel derived epoxy-titanate films modified by DNA under various gelation condition

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

P-10 Prof. Grishina E.P., Kudryakova N.O., Ramenskaya L.M., Malova A.A., Belyaev S.V.

Singularity formation of aluminum oxide films on iron by sol-gel method
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia; Ivanovo State University of Chemistry and Technology, Ivanovo, Russia; Ivanovo Fire Rescue Academy of State Firefighting Service of Ministry of Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters, Ivanovo, Russia

P-11 Student Gurenko V.E., Tolstoy V.P., Gulina L.B., Vladimirova N.I.

Sol-gel-xerogel transformations in thin layer at the salt solution-gaseous

reagent interface and the synthesis of new materials with microtubular morphology

Saint-Petersburg State University, Saint-Petersburg, Russia

- P-12** **Dr. Evdokimov Yu.M., Sulimenko V.A., Komrakov P.V., Gerasimova I.N., Akentieva N.P., Dremova N.N., Torbov V.I.**
Obtain of graphene by burning of gas-air mixtures
The State Fire Academy of the Ministry of Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters, Moscow, Russia; Institute of Problems of Chemical Physics of Russian Academy of Sciences, Chernogolovka, Moscow region, Russia
- P-13** **Dr., young specialist Zhuravlev O.E., Travnikov Yu.N., Voronchikhina L.I.**
Synthesis sol of zinc sulfide quantum dots by ionic liquids
Tver State University, Tver, Russia
- P-14** **Dr., young specialist Ivanets A.I., Roshchina M.Yu., Kutuzova A.S., Prozorovich V.G., Dontsova T.A., Astrelin I.M., Pankov V.V.**
Catalytic activity of MgFe_2O_4 in the UV- and visible regions of the spectrum in the reaction of oxidation of methylene blue
Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine; Belarusian State University, Minsk, Belarus
- P-15** **Dr. Ivanova A.G., Masalovich M.S., Zagrebelnyy O.A., Khamova T.V., Kopitsa G.P., Shilova O.A., Kruchinina I.Yu.**
Development of composite electrodes based on MnO_2 , $\text{MnO}_2\text{-C}$ and $\text{MnO}_2\text{-C@SiO}_2$ for electrochemical devices
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Gatchina, Leningradskaya region, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia
- P-16** **Student Ivanova V.M., Gorobtsov Ph.Yu., Simonenko N.P., Simonenko E.P., Sevastyanov V.G., Kuznetsov N.T.**
Sol-gel synthesis of nanomaterials of various type on the basis of nickel oxide with use of heteroligand complexes $[\text{Ni}(\text{C}_5\text{H}_7\text{O}_2)_{2-x}(\text{OR})_x]$ as precursors

Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Institute of Fine Chemical Technologies, MIREA - Russian Technological University, Moscow, Russia

- P-17** **Graduate student Kirillova N.I., Suleimanov E.V.**
Features of the formation of nanostructures of lanthanum manganite doped with strontium in conditions of sol-gel synthesis
National Research Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia
- P-18** **Kosenok Y.A., Gaishun V.E., Kovalenko D.L., Vaskevich V.V., Shilova O.A.**
Investigation of hydrophobic properties of functional sol-gel coatings for protection and modification of surface of polycarbonate and organic glasses
Francysk Skaryna Gomel State University, Gomel, Belarus; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-19** **Young specialist Kudryashova Yu.S., Koptelova L.A., Zdravkov A.V.**
Solvothermal synthesis of nanosized particles of titanium dioxide doped by oxides of rare-earth elements
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-20** **Aparnev A.I., Young specialist Loginov A.V., Mateyshina Yu.G., Vasilyeva T.A., Mikhailova M.A.**
Synthesis of functional nanocomposite materials based on magnesium and barium stannates
Novosibirsk State Technical University, Novosibirsk, Russia; ФГБВН Институт твердотельной химии и механохимии Сибирского филиала Российской академии наук, Новосибирск, Россия
- P-21** **Dr., young specialist Lyutova E.S., Borilo L.P., Izosimova E.A.**
Synthesis of spherical calcium-phosphate materials using the sol-gel method
Tomsk State University, Tomsk, Russia
- P-22** **Graduate student Musaev Kh.B., Ruzimuradov O.N., Akbarov Kh.I., Nurmonov S.E.**
Ways of preparing nanoporous titanium dioxide by sol-gel technology

National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan

P-23 Graduate student Musaev Kh.B., Ruzimuradov O.N., Akbarov Kh.I., Mirkhamitova D.Kh., Parmanov A.B.

Preparation of nanostructured aluminum oxide matrices

National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan

P-24 Student Nagornov I.A., Simonenko E.P., Simonenko N.P., Mokrushin A.S., Gorobtsov Ph.Yu., Vlasov I.S., Volkov I.A., Maeder T., Sevastyanov V.G., Kuznetsov N.T.

Obtaining the sol-gel method of thin nanostructured films of zinc oxide

Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia; Higher Chemical College of the Russian Academy of Sciences, Moscow, Russia; Moscow Institute of Physics and Technology (State University), Dolgoprudny, Moscow Region, Russia; École Polytechnique Fédérale de Lausanne, EPFLSTIIMTLMIS1, Lausanne, Switzerland

P-25 Dr., young specialist Nazarova E.A., Krivoshapkina E.F., Mosina K.S., Paramonova A.P., Krivoshapkin P.V.

Application prospects of ceramic membranes with immobilized enzyme in biotechnology

ITMO University, Saint-Petersburg, Russia; Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia

P-26 Graduate student Nikolaev A.N., Ban'kovskaya I.B., Kolovertnov D.V.

Application of solvent-gel technology for obtaining nonporous heat-resistant coatings

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

P-27 Graduate student Parmanov A.B., Nurmonov S.E., Atamurodova S.I., Ibragimov T.

Homogeneously catalytic vinylation of 2-hydroxy-2-phenylethanoic acid

National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan

- P-28 Ivanets A.I., Milyutin V.V., Young specialist Prozorovich V.G.,
Kouznetsova T.F., Kaptakov V.O.**
Sol-gel synthesis of manganese oxides in aqueous-ethanol medium for selective ^{90}Sr sorption
Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus; A.N. Frumkin Institute of Physical chemistry and Electrochemistry of Russian Academy of Sciences, Moscow, Russia
- P-29 Khripunov A.K., Tkachenko A.A., Dr. Romanov D.P.,
Astapenko E.P., Bezrukova M.A., Saprykina N.N.**
To morphology of nano-gel-film of cellulose *Gluconacetobacter xylinus*
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Saint-Petersburg State University, Saint-Petersburg, Russia; Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-30 Kouznetsova T.F., Ivanets A.I., Ignat M., Young specialist Savka Yu.D.,
Samoila P., Sidorenko A.Yu.**
Sol-gel synthesis and structure of titania-silica sorbents
Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus; "Al.I. Cuza" University of Iasi, Iasi, Romania; Institute of Chemistry of New Materials of the National Academy of Sciences of Belarus, Minsk, Belarus
- P-31 Prof. Safonova L.P., Gerasimova T.V., Gruzdev M.S., Shmukler L.E.**
Synthesis and properties of proton-conducting hybrid membrane based on PVdF-HFP doped by ion liquid and modified SiO_2
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia
- P-32 Dr. Semchenko A.V., Sidsky V.V., Zalesskiy V.B.,
Malyutina-Bronskaya V.V., Monarhovich N.D., Lutsenko E.V.,
Vainilovich A.G., Rzhetski M.V.**
Synthesis of sol-gel by scintillation materials for use as ionizing radiation detectors
Francysk Skaryna Gomel State University, Gomel, Belarus; State Scientific and Production Association "Optics, Optoelectronics and Laser Technology" of the National Academy of Sciences of Belarus, Minsk,

Belarus; B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Minsk, Belarus

P-33 Dr. Sidsky V.V., Semchenko A.V., Tyulenkova O.I.

Influence of sol-gel synthesis conditions on the porous structure of silica materials

Francysk Skaryna Gomel State University, Gomel, Belarus

P-34 Student Silant'eva Yu.V., Il'yasova R.R., Massalimov I.A.

Synthesis and study of sorption properties of nanosized goethite FeO(OH) for ions As (III), Cd (II), Hg (II)

Bashkir State University, Ufa, Russia

P-35 Dr. Sinelschikova O.Yu., Maslennikova T.P., Besprosvannykh N.V., Postnov A.Yu., Shurshilin A.V.

Synthesis and investigation of the catalytic activity of nanomaterials in the system $\text{Li}_2\text{O} - \text{Cr}_2\text{O}_3 - \text{TiO}_2 - \text{H}_2\text{O}$

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia

P-36 Dr. Sokhovitch E.V., Mjakin S.V., Lebedev S.O., Rubin K.M., Semenova A.A., Zemko V.S.

Optimization of tungsten oxide layer-electrolyte system in electrochromic devices

Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia

P-37 Dr. Strelnikova S.S., Andrianov N.T., Anokhin A.S., Adrshina E.A.

Sol-gel synthesis of powders of compositions LaNiO_3

A.A. Baikov Institute of Metallurgy and Material Science of Russian Academy of Sciences, Moscow, Russia

P-38 Student Sychev D.Yu., Novikova N.A., Golikova E.V., Volkova A.V., Ermakova L.E.

Estimation method of extent of water boundary layers at the silica particles surface at various pH and concentration of 1:1 electrolyte

Saint-Petersburg State University, Saint-Petersburg, Russia

P-39 Graduate student Tarasenko E.A., Peters G.S., Smalchenko D.E., Lebedeva O.E.

Specific features of gel formation during acid-catalyzed hydrolysis of

tetraethoxysilane in the presence of different metal cations

Belgorod State National Research University, Belgorod, Russia; National Research Center «Kurchatov Institute», Moscow, Russia

P-40 Dr. Ulyanova N.Yu.

Synthesis, study of catalytic and biological activity of zeolites, modified by nanoparticles and clusters of silver

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

P-41 Krutko N.P., Dr. Ulyanova T.M., Ovseenko L.V., Titova L.V.

Formation and evolution of spinel nanograins in Al₂O₃ – MgO system

Institute of General and Inorganic Chemistry of the National Academy of Sciences of Belarus, Minsk, Belarus

P-42 Young specialist Filonenko E.M., Lupitskaya Yu.A., Kalganov D.A.

Synthesis of ceramic materials based on barium cerate

Chelyabinsk State University, Chelyabinsk, Russia

P-43 Student Yugai Y.A., Krivoshapkin P.V., Krivoshapkina E.F.

Na₂SiO₃ -based asymmetric membranes for CO₂ capture

ITMO University, Saint-Petersburg, Russia; Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia

THURSDAY, AUGUST 30, 2018

POSTER SESSION No. 2 (SECTIONS 4, 5, 6, 7)

(Ground floor of the Institute of Silicate Chemistry of Russian Academy of Sciences, Makarova naberezhnaya, 2)

- P-1** **Prof. Abdrakhmanova L.A., Chutaev B.R., Khantimirov A.G., Nizamov R.K., Khozin V.G.**
Silicon sols in the processing of polyvinylchloride based building materials
Kazan State University of Architecture and Engineering, Kazan, Russia
- P-2** **Musaev Kh.B., Mamatov J.K., Ruzimuradov O.N., Yunusov F.U., Prof. Akbarov Kh.I.**
Kinetics of the sol-gel process for the preparation of polyacrylonitrile-silica nanocomposites by various ways
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan; Turin polytechnic university in Tashkent, Tashkent, Uzbekistan
- P-3** **Yunusov F.U., Ruzimuradov O.N., Prof. Akbarov Kh.I., Musaev Kh.B., Mamatov J.K.**
Immobilization of enzymes on various substrates in the process of nanocompositions sol-gel synthesis
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan; Turin polytechnic university in Tashkent, Tashkent, Uzbekistan
- P-4** **Dr. Bogdanov A.N., Abdrakhmanova L.A.**
Ways of modification of construction ceramics
Kazan State University of Architecture and Engineering, Kazan, Russia
- P-5** **Graduate student Brazovskaya E.Yu., Alikina Ju.A., Dyachenko S.V., Golubeva O.Yu.**
Development and design of magnetic nanocomposites based on Beta zeolite and magnetite nanoparticles
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia

- P-6** **Dr. Bugaeva A.Yu., Loukhina I.V., Dudkin B.N., Zainullin G.G.**
Ceramic composite production on the stabilized zirconium oxide basis
using sol-gel synthesis of initial components
*Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the
Russian Academy of Sciences, Syktyvkar, Russia*
- P-7** **Student Varfolomeeva L.A., Skvortsov I.Yu., Kulichikhin V.G.**
Sol-gel synthesis in the polyacrylonitrile solutions with tetraethoxysilane
additives for carbon/silicon-carbide precursors preparation
*A.V. Topchiev Institute of Petrochemical Synthesis of Russian Academy
of Sciences, Moscow, Russia*
- P-8** **Gorbunova A.S., Dr., young specialist Mamontov G.V.**
Adsorption of volatile organic compounds by SiO₂ with different porous
structure
Tomsk State University, Tomsk, Russia
- P-9** **Student Gordeev A.A., Dr. Kuznetsova S.A., Brichkov A.S.,
Kozik V.V.**
Preparation and optical properties of CeO₂ sols stabilized with polyvinyl
alcohol
Tomsk State University, Tomsk, Russia
- P-10** **Student Ilatovskii D.A., Vinogradov V.V.**
Holographic sol-gel monoliths based on SiO₂, TiO₂xerogels and aerogels
ITMO University, Saint-Petersburg, Russia
- P-11** **Dr., young specialist Kamanina O.A., Rybochkin P.V.,
Denisova A.V.**
Development and investigation of sol-gel materials based on silane
precursors, polyvinyl alcohol and microorganisms for obtaining stable
biological films
Tula State University, Tula, Russia
- P-12** **Student Kiselev G.O., Paramonova A.P., Krivoschapkina E.F.,
Vinogradov V.V., Krivoschapkin P.V.**
Synthesis of hafnium dioxide nanoparticles doped with rare-earth metals
for theranostics purposes
ITMO University, Saint-Petersburg, Russia

- P-13 Graduate student Kovalenko A.S., Nikolaev A.M., Kopitsa G.P., Yorov K.E., Shilova O.A., Tsvigun N.V.**
Features of synthesis of composite nanoparticles Fe₃O₄/SiO₂ are promising as the black pigment electronic ink for electrophoretic displays
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Gatchina, Leningradskaya region, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Federal Research Center "Crystallography and Photonics" of the Russian Academy of Sciences, Moscow, Russia
- P-14 Graduate student Koshevaya E.D., Krivoschapkina E.F., Korobanova A.O., Krivoschapkin P.V.**
Synthesis and colloid-chemical properties of tantalum (V) oxide hydrosols
Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia; ITMO University, Saint-Petersburg, Russia; Pitirim Sorokin Syktyvkar State University, Syktyvkar, Russia
- P-15 Dr. Kudina H.F.**
Obtaining and properties of hybrid nanostructured composite materials
V.A. Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, Gomel, Belarus
- P-16 Dr. Kuznetsova S.A., Petrovskaya T.S., Kozik V.V.**
The stability of sols on the basis of tetraethoxysilane and phosphoric acid
Tomsk State University, Tomsk, Russia; National Research Tomsk Polytechnic University, Tomsk, Russia
- P-17 Student Kuznetsova T.O., Sybachin A.V., Kulyabko L.S., Shershneva I.N., Shershnev V.A., Kydralieva K.A.**
Colloid properties of hydrosols of magnetite nanoparticles functionalized by humic acids and alcoxysilanes
Moscow Aviation Institute (National Research University), Moscow, Russia; Lomonosov Moscow State University, Moscow, Russia; Institute of Problems of Chemical Physics of Russian Academy of Sciences, Chernogolovka, Moscow region, Russia

P-18 Graduate student Kulyabko L.S., Ratnikov A.V., Malyutin M.S., Dzhardimalieva G.I., Kydralieva K.A.

Sorption properties of alcoxysilanes-grafted magnetite nanoparticles conjugated with humic acids for adsorption of copper (II) ions

Moscow Aviation Institute (National Research University), Moscow, Russia

P-19 Turnina Z.G., Turnina N.G., student Kurenkova N.A.

Formation of new glass-ceramic materials with controlled ferroelectric and magnetic properties

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

P-20 Student Lavrenov D.A., Pet'kov V.I.

Synthesis and phase formation of phosphates $Mn_{0.5+2x}Zr_{2-x}(PO_4)_3$

National Research Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia

P-21 Graduate student Lavrova D.G., Lantsova E.A., Kamanina O.A.

Creating biomaterials of microorganisms and organosilane compounds with the availability of polyethylene glycols in conditions of sol-gel synthesis

Tula State University, Tula, Russia

P-22 Dr. Loukhina I.V., Startseva O.M., Khudyaeva I.S., Bugaeva A.Yu., Dudkin B.N., Belykh D.V.

Modification of layered silicates by chlorine E6 derivatives

Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia

P-23 Dr., young specialist Medvedev D.A., Lyagaeva Yu.G., Danilov N.A., Vdovin G.K., Demin A.K.

Formation of thin-layer electrolytes for developing the high efficient solid oxide electrochemical devices

Institute of High Temperature Electrochemistry of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia; Ural Federal University named after the first President of Russia B.N. Yeltsin, Ekaterinburg, Russia

- P-24** Student Miroshnichenko A.S., Krivoshapkina E.F., Krivoshapkin P.V.
Synthesis and characterization of biocompatible metal oxides nanoparticles for the production of functional materials based on biological objects
ITMO University, Saint-Petersburg, Russia
- P-25** Dr. Mishenina L.N., Selyunina L.A., Belyaninova T.V.
Sol-gel synthesis of aluminates of alkaline-earth metals and luminophores based on them
Tomsk State University, Tomsk, Russia
- P-26** Student Navrotskaya A.G., Krivoshapkina E.F., Perovskii I.A., Krivoshapkin P.V.
Synthesis and characterization of carbon/metal oxides nanocomposites
ITMO University, Saint-Petersburg, Russia; Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia; Institute of Geology of the Komi Science Center of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia
- P-27** Graduate student Osipenko A.A., Polyakova I.V., Borovikova L.N., Pisarev O.A.
Surface imprinted granular organo-inorganic sorbents for selective sorption of cholesterol
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia
- P-28** Osipov A.V., Popova V.F., Kuchaeva S.K., Koptelova L.A.
Preparation of nanosized composites based on $\text{LaPO}_4\text{-Y}_2\text{O}_3$ and $\text{LaPO}_4\text{-ZrO}_2$ systems
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-29** Student Paramonova A.P., Krivoshapkina E.F., Seisenbaeva G.A., Vinogradov V.V., Kessler V.G., Krivoshapkin P.V.
Synthesis of the inorganic nanoparticles for nanobioarchitectonics purposes
ITMO University, Saint-Petersburg, Russia; Swedish University of Agricultural Sciences, Uppsala, Sweden

- P-30 Graduate student Ryzhkov N.V., Skorb E.V.**
 Light-induced physicochemical processes occurring at the interfaces of semiconductor-polyelectrolyte-lipid heterostructures
ITMO University, Saint-Petersburg, Russia
- P-31 Student Savicheva A.D., Agafonov A.V.**
 Synthesis and stabilization of Prussian blue nanoparticles in sol-gel matrix
Ivanovo State University of Chemistry and Technology, Ivanovo, Russia; G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia
- P-32 Turnina Z.G., Turnina N.G., Student Sazhina A.A.**
 Creation of biomaterials on the basis of porous silicate glasses
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- P-33 Dr. Simonenko E.P., Simonenko N.P., Gordeev A.N., Kolesnikov A.F., Sevastyanov V.G., Kuznetsov N.T.**
 Study of behavior in the stream of dissociated air of UHTC samples of HfB₂-SiC composition (30 vol.% SiC) manufactured with application of sol-gel technology
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Ishlinsky Institute for Problems in Mechanics of the Russian Academy of Sciences, Moscow, Russia
- P-34 Simonenko E.P., Dr., young specialist Simonenko N.P., Gordeev A.N., Kolesnikov A.F., Sevastyanov V.G., Kuznetsov N.T.**
 The role of doping by nanodispersed tantalum oxide of UHTC on the basis of HfB₂-SiC obtained through sol-gel technology
Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Ishlinsky Institute for Problems in Mechanics of the Russian Academy of Sciences, Moscow, Russia
- P-35 Graduate student Simonenko T.L., Kalinina M.V., Simonenko N.P., Simonenko E.P., Glumov O.V., Mel'nikova N.A., Murin I.V., Shichalin O.O., Papynov E.K., Shilova O.A.**
 Synthesis of nanodispersed BaCe_{1-x}Zr_xY_{0.10}O_{3-δ} oxides and their consolidation by spark plasma sintering for the creation of proton-conducting electrolytes

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia; Saint-Petersburg State University, Saint-Petersburg, Russia; Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia; Far Eastern Federal University, Vladivostok, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia

P-36 Dr., young specialist Skorikova N.S., Lugovskaya L.A., Fofanov A.D., Kudina E.F.

Influence of cobalt chloride and synthesis conditions on the structure of xerogels on the basis of liquid glass

Petrozavodsk State University, Petrozavodsk, Russia; V.A. Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, Gomel, Belarus

P-37 Student Timoshenko R.V., Krivtsov G.G., Kulyabko L.S., Dzhardimalieva G.I., Kydralieva K.A.

Sorption of humic acids by modified chitosan-based nanocomposites

Moscow Aviation Institute (National Research University), Moscow, Russia; I. Mechnikov Research Institute of Vaccines and Sera, Moscow, Russia; Institute of Problems of Chemical Physics of Russian Academy of Sciences, Chernogolovka, Moscow region, Russia

P-38 Dr. Tsvetkova I.N., Khoroshavina Yu.V., Galushko A.S., Shilova O.A.

Weather-protective superhydrophobic compositions for wood protection

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; FSUE Scientific Research Institute for Synthetic Rubber, Saint-Petersburg, Russia; Agrophysical Research Institute, Saint-Petersburg, Russia

P-39 Student Shevchenko D.S.

Modification of porous glasses by bio-current silicon-molybdenum polyoxometallate

Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia

P-40 Prof. Shilova O.A., Khamova T.V., Panova G.G., Artemjeva A.M., Anikina L.M., Korniyukhin D.L., Udalova O.R., Gusakova L.P.,

Sinyavina N.G., Kopitsa G.P., Dolmatov V.Yu., Baranchikov A.E., Ivanov V.K.

Sol-gel derived 'skin-layers' on a seeds surface to improve their growth characteristics and protect against plant pathogens

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Agrophysical Research Institute, Saint-Petersburg, Russia; Federal Research Center N.I. Vavilov All-Russian Institute of Plant Genetic Resources, Saint-Petersburg, Russia; Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Gatchina, Leningradskaya region, Russia; Special Design Department (SKTB) "Tekhnolog", Saint-Petersburg, Russia; Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia

P-41 Dr. Shipovskaya A.B., Malinkina O.N., Khonina T.G., Zudina I.V.

A silicon-chitosan-containing composition with ultrafast sol-gel synthesis

Saratov State University, Saratov, Russia; I.Ya. Postovsky Institute of Organic Synthesis of the Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia

P-42 Dr. Shomakhov Z.V., Molokanov O.A., Karmokov A.M.

Dependence of the electrical conductivity on the structure transformations in glasses for microchannel plates

Kabardino-Balkar State University named after H.M. Berbekov, Nalchik, Russia

P-43 Young specialist Yakovlev A.V., Perevislov S.N.

Inkjet printing of nanostructural materials

Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia

DISTANCE PARTICIPATION

- 1 **Alauzun J.G., Wang Yanhui, Mutin P.H.**
Non-hydrolytic sol-gel processing of hybrids metal oxide phosphonates
Institute Charles Gerhardt Montpellier, Montpellier, France
- 2 **PhD. Kapusuz D.**
Sol-gel synthesis of silica-peg nanoparticles for oligonucleotide delivery
Department of Metallurgical and Materials Engineering, Gaziantep University, Gaziantep, Turkey
- 3 **PhD. Wu Linda Y.L., Yan W.J., Tan Y.T., Qian M., Koh C.Y., Wijesinghe S.**
A sol-gel based inhibitor encapsulation process for corrosion protection coating systems with smart release functionality
Singapore Institute of Manufacturing Technology, Singapore
- 4 **Student Alekseeva P.E., Valueva S.V., Kutin A.A., Vylegzhanina M.E., Sukhanova T.E.**
Complex study of nanosystems based on biogenic elements - selenium and silver
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia; FSUE Scientific Research Institute for Synthetic Rubber, Saint-Petersburg, Russia
- 5 **Prof. Alekseeva T.T., Tsebrienko T.V., Babkina N.V., Yaschenko L.N.**
Features of formation and properties of organo-inorganic IPNs in the presence of poly(titanium oxide) obtained by sol-gel synthesis
Institute of Macromolecular Chemistry of National Academy of Sciences of Ukraine, Kyiv, Ukraine
- 6 **Graduate student Antuseva A.V., Kudina E.F.**
Gel-forming materials based on powdered sodium silicate hydrate for enhanced oil recovery
State Production Association Belorusneft, Gomel, Belarus; V.A. Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, Gomel, Belarus
- 7 **Baklanova I.V., Krasil'nikov V.N., Gyrdasova O.I., Vladimirova E.V., Melkozerova M.A.**
Influence of the conditions of thermal processing $\text{Al}(\text{OH})(\text{HCOO})_2$ on the

formation of the γ -Al₂O₃ defect structure

Institute of Solid State Chemistry of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia

- 8 **Dr. Belova I.A., Krivoschepov A.F., Kienskaya K.I.**
Research of heterocoagulation in YOOH and SiO₂ sol
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia
- 9 **Borovikova L.N., Yakovlev I.V., Kipper A.I., Pisarev O.A.**
Synthesis of hybrid supromolecular nanocomposites of daunomycin with nanoparticles of selenium
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia
- 10 **Dr. Valueva S.V.**
Hybrid nanosystems based on mono- and bimetallic platinum and silver nanoparticles: synthesis and research
Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia
- 11 **Dr. Voit E.I., Ustinov A.Yu., Sushkov Yu.V., Zheleznov V.V.**
TiO₂-based nanostructured materials doped by Zr⁴⁺, Hf⁴⁺, Mo⁶⁺, Nb⁵⁺
Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia
- 12 **Dr., young specialist Gerasimova T.V., Agafonov A.V.**
Influence of synthesis conditions on photocatalytic and sorption characteristics of titania nanorods modified by iron nanoparticles
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia
- 13 **Dr. Golubeva O.Yu., Brazovskaya E.Yu., Ulyanova N.Yu.**
Hydrothermal synthesis of layered silicates with montmorillonite structures in different medium
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- 14 **Student Demina D.S.**
The study of adhesion of powders
The State Fire Academy of the Ministry of Russian Federation for Civil

Defence, Emergencies and Elimination of Consequences of Natural Disasters, Moscow, Russia

- 15 **Dr., young specialist Evdokimova O.L., Agafonov A.V., Seisenbaeva G.A., Kessler V.G.**
Hybrid nanostructured composites based on nanocellulose and titania nanoparticles for drug delivery application
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia; Swedish University of Agricultural Sciences, Uppsala, Sweden
- 16 **Student Ereemeeva E.A., Vinogradov A.V.**
Inkjet printing of cellulose nanocrystals suspension for security patterns
ITMO University, Saint-Petersburg, Russia
- 17 **Dr. Zhenzhurist I.A.**
Application by alumina sol for modification of silicate compositions in technology of ceramics
Kazan State University of Architecture and Engineering, Kazan, Russia
- 18 **Dr. Zemskova L.A., Egorin A.M., Tokar E.A., Misko D.S., Kalashnikova A.M.**
Chitosan-based hybrid sorbents for radionuclides removal
Institute of Chemistry of the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia; Far Eastern Federal University, Vladivostok, Russia
- 19 **Dr., young specialist Ivanov K.V., Alekseeva O.V., Agafonov A.V.**
Synthesis of mesoporous calcium titanium
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia
- 20 **Student Ivanova N.K., Zhilina O.V., Harlamova D.V., Shtynda A.O.**
Influence of the stabilizer on some colloid-chemical properties of CeO₂ hydrosols
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia
- 21 **Student Klenova A.O., Shchepkina M.M., Belova I.A., Makulova V.S., Derkacheva I.V.**
Obtaining and some properties of erbium oxygenates compounds hydrosols synthesized from erbium chloride

D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

- 22 **Young specialist Kovalko N.Yu., Shilova O.A., Khamova T.V., Arsent'ev M.Yu., Sychov M.M.**
Synthesis and investigation of α -Al₂O₃ powders with the modified surface of particles as perspective materials for 3D-printing
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia
- 23 **Young specialist Kovalko N.Yu., Kalinina M.V., Maslennikova T.P., Frank V.M., Myakin S.V., Shilova O.A.**
Liquid phase synthesis and investigation of xerogels and powders based on zirconium dioxide obtained by various methods
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia; Saint-Petersburg State Institute of Technology, Saint-Petersburg, Russia; Saint-Petersburg Electrotechnical University, Saint-Petersburg, Russia
- 24 **Dr. Kovalchuk I.A., Tobilko V.Yu., Kornilovych B.Yu.**
Sorbents on the base of modified montmorillonite and palygorskite for the removal of natural radionuclides from water
Institute for Sorption and Problems of Endoecology of National Academy of Sciences of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine
- 25 **Kondrashova N.B., Batueva T.D., Valtsifer V.A.**
Highly-dispersive magnetic systems γ -Fe₂O₃-SiO₂
Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia
- 26 **Corresponding Member of the National Academy of Sciences of Ukraine Kornilovych B.Yu.**
Sol-gel synthesis of the composite materials on the base of colloidal minerals for the environmental protection
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

- 27 **Dr. Kosolapova N.I., Miroshnichenko O.V., Belenky D.I.**
Static light scattering method applicability to determine the disperse components of peat hydrosol
Kursk State University, Kursk, Russia; All-Russian Scientific Research Institute of Physico-Technical and Radio--Technical Measurements, Mendeleevo, Moscow region, Russia
- 28 **Prof. Kochina T.A.**
Silicon in animate and inanimate nature
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
- 29 **Dr. Kraev A.S., Suprunovich D.A., Agafonov A.V.**
Sol-gel synthesis of spherical and rodlike TiO₂ particles and investigation of the influence of their shape on the size of electrorheological effect
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia; Ivanovo State University of Chemistry and Technology, Ivanovo, Russia
- 30 **Dr. Kunshina G.B., Bocharova I.V.**
Sol-gel synthesis of Li₇La₃Zr₂O₁₂ solid electrolyte
I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of the Russian Academy of Sciences Kola Science Center, Apatity, Murmansk region, Russia
- 31 **Dr. Kunshina G.B., Bocharova I.V., Kuznetsov V.Ja.**
Preparation of Li_{1.3}Al_{0.3}Ti_{1.7}(PO₄)₃ solid electrolyte submicron powders with lithium-ionic conductivity
I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of the Russian Academy of Sciences Kola Science Center, Apatity, Murmansk region, Russia
- 32 **Mikushina Y.V., Shishmakov A.B., Petrov L.A.**
Synthesis of xerogels TiO₂ by hydrolysis of tetrabutoxytitanium in the atmosphere of aqueous solutions of acetic acid
I.Ya. Postovsky Institute of Organic Synthesis of the Ural Branch of Russian Academy of Sciences, Ekaterinburg, Russia
- 33 **Dr. Mikhaylov V.I., Krivoshapkin P.V., Krivoshapkina E.F., Stalugin V.V.**
Multifunctional oxide-oxide and metal-oxide films with variable

characteristics

Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia; ITMO University, Saint-Petersburg, Russia; Piritim Sorokin Syktyvkar State University, Syktyvkar, Russia

- 34 **Morozov R.S., Krivtsov I.V., Avdin V.V., Bol'shakov O.I.**

Silica-titania and pure titania spheres prepared via the peroxo route, subjected for the surface activation and aminosilanes grafting

South Ural State University (National Research University), Chelyabinsk, Russia; University of Oviedo, Oviedo, Spain

- 35 **Student Mosina K.S., Krivoshapkin P.V., Vinogradov V.V., Vinogradov A.V., Krivoshapkina E.F.**

Sol-gel systems for fire prevention and firefighting

ITMO University, Saint-Petersburg, Russia; Institute of Chemistry of Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Syktyvkar, Russia

- 36 **Prof. Murashkevich A.N., Alisienok O.A., Shidlovskaja V.G., Novitskaja M.S., Zharskii I.M.**

Metal and silicon oxides sols - precursors in sol-gel technologies of multifunctional purpose composite materials

Belarusian State Technological University, Minsk, Belarus

- 37 **Dr. Pavliashvili T.I., Gelagutashvili E.S., Tutundjan A.A., Tsertsvadze G.I.**

Synthesis of gold nanoparticles from hydrochloric acid using sodium citrate and tannin

Micro and Nanoelectronics Institute, Tbilisi, Georgia; Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia; G. Eliava Institute of Bacteriophages, Microbiology and Virology, Tbilisi, Georgia

- 38 **Young specialist Plyushchenko A.V., Mitusova K.A., Borovikova L.N., Kipper A.I., Pisarev O.A.**

Dimensional characteristics of the silver sol stabilized by chymotrypsin

Institute of Macromolecular Compounds Russian Academy of Science, Saint-Petersburg, Russia; Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia

- 39 **Dr. Poddenezhny E.N., Pavlenok A.V., Davydova O.B., Boiko A.A., Drobyshevskaya N.E.**
Preparation of ultradisperse starch particles modified with curcumin using the microemulsion method and studying their properties
Sukhoi State Technical University of Gomel, Gomel, Belarus
- 40 **Dr. Poddenezhny E.N., Pavlenok A.V., Davydova O.B., Boiko A.A., Drobyshevskaya N.E.**
Synthesis of nanostructured powders of yttrium-aluminum garnet doped with cerium by the sol-gel-combustion method
Sukhoi State Technical University of Gomel, Gomel, Belarus
- 41 **Dr. Porozova S.E., Mishchinov B.P., Ziganshin I.R.**
Freezing as a way of porosity regulating for materials obtained by gel casting
Perm National Research Polytechnic University, Perm, Russia
- 42 **Graduate student Rogacheva A.O., Brichkov A.S., Kozik V.V.**
Production of disperse and thin film materials based on titanium, silicon and chromium oxides
Tomsk State University, Tomsk, Russia
- 43 **Rodionova A.N., Alekseeva O.V., Agafonov A.V.**
Synthesis, structure and properties of bentonite/magnetite composite
G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia
- 44 **Dr. Romanovskaya G.I., Koroleva M.V., Zuev B.K.**
Photochemical synthesis of silver nanoparticles of different morphology in aqueous solutions in the presence of sodium citrate
Vernadsky Institute of Geochemistry and Analytical Chemistry of Russian Academy of Sciences, Moscow, Russia
- 45 **Young specialist Seytenov R.A., Lipin V.A.**
Innovative technologies of the hydrogel separation in aluminum containing raw materials processing for aluminum and alkaline products
Outotec CIS, Saint-Petersburg, Russia; Higher School of Technology and Energy, Saint Petersburg State University of Industrial Technologies and Design, Saint-Petersburg, Russia

- 46 **Dr. Tarasyuk E.V., Shilova O.A., Hashkovsky S.V.**
Sol-gel processing thin-layer electric insulating coatings prepared on the basis of organic-inorganic hybrids
*Nosov Magnitogorsk State Technical University, Magnitogorsk, Russia;
Institute of Silicate Chemistry of Russian Academy of Sciences, Saint-Petersburg, Russia*
- 47 **Student Harlamova D.V., Zhilina O.V.**
Investigation of CeO₂ nanoparticles synthesized in alkaline medium
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia
- 48 **Dr. Tselishev Yu.G., Nechaev A.I., Ukhin K.O.**
Capillary forces of particle interaction and formation of porous material structure
Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia
- 49 **Dr. Tselishev Yu.G., Kondrashova N.B., Lebedeva I.I.**
Formation of textural and structural properties of mesoporous silica
Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia
- 50 **Dr. Chuppina S.V., Gromova S.L.**
Silica sols in the technologies of domestic non-stick coatings
JSC "Neva metal dishes", Saint-Petersburg, Russia
- 51 **Prof. Shabanova N.A.**
Reactivity and colloidal silica aggregative stability evolution
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia
- 52 **Graduate student Shamsutdinov A.Sh., Kondrashova N.B., Starostin A.S., Valtsifer I.V., Valtsifer V.A.**
Application of hydrophobized silica obtained via the Stober method as functional filler for fire-extinguishing powder composition
Institute of Technical Chemistry of Ural Branch of the Russian Academy of Sciences, Perm, Russia
- 53 **Artamonova O.V., Young specialist Shvedova M.A.**
Research kinetics of nanoparticles SiO₂ growth obtained in the presence

superplastifiers based on polycarboxylate esters
Voronezh State Technical University, Voronezh, Russia

- 54 **Dr. Yunusov F.U., Negmatov S.S., Akhundjanov K.A., Akbarov Kh.I., Krasikov V.D., Shpigun O.A.**

Hybrid polymer-silica nanocompositional materials obtained by the sol-gel method

GUP "Fan va tarrahiyot", Islom Karimov Tashkent State Technical University, Tashkent, Uzbekistan; National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan; Institute of Macromolecular Compounds of the Russian Academy of Sciences, Saint-Petersburg, Russia; Lomonosov Moscow State University, Moscow, Russia

- 55 **Graduate student Yamanovskaya I.A., Agafonov A.V.**

Application of modified mesoporous alumina as a catalyst in transesterification of vegetable oils

G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo, Russia