Program of the Russia-Japan Joint Seminar
"Non-equilibrium processing of materials: experiments and modeling"

October 1, 2018, NIIC SB RAS

09-00	Session I: Opening Address & Keynote Lectures
10-50	Conference Photo, Coffee break
11-20	Session II: Keynote + Invited Lectures
13-00	Lunch
14-30	Session III: Oral presentations A (P01_01 – P01_22)
16-30	Coffee break
16-40	Session IV: Poster presentations A (P01_01 – P01_22)

October 2, 2018, NIIC SB RAS

09-00	Session V: Keynote Lectures
11-00	Coffee break
11-20	Session VI: Keynote & Invited Lectures
13-00	Lunch
14-30	Session VII: Oral presentations B (P02_23 – P02_43)
16-30	Coffee break
16-40	Session VIII: Poster presentations B (P02_23 – P02_43)

October 3, 2018, NSU

09-00	Session IX: Keynote Lectures
11-00	Coffee break
11-20	Session X: Keynote and Invited Lectures
13-00	Lunch
14-30	Session XI: Invited Lectures
16-00	Coffee break
16-20	Session XII: Invited Lectures, Closing ceremony

NIIC SB RAS – Nikolaev Institute of Inorganic Chemistry SB RAS,
3, Acad. Lavrentiev Ave., Novosibirsk

NSU – Novosibirsk State University, 2, Pirogova Str., Novosibirsk

October 1, 2018, NIIC SB RAS

Opening Ceremony

Chair: Prof. V.P. Fedin (*Nikolaev Institute of Inorganic Chemistry SB RAS*)

09:00—09:20 **Opening Address and Welcome Speech**

S.V. Golovin (*Lavrentyev Institute of Hydrodynamics SB RAS*)
H. Kato (*Tohoku University*)
T. Goto (*Tohoku University*)
V.P. Fedin (*Nikolaev Institute of Inorganic Chemistry SB RAS*)

Session I
Chair: Prof. S.V. Golovin (*Lavrentyev Institute of Hydrodynamics SB RAS*)

Keynote Lectures

09-20 – 09-50 T. Goto, Li Ying, H. Katsui
Tohoku University, Japan
"Spinodal decomposition of TiCN-ZrCN composite prepared by SPS"

09:50—10:20 V.P. Fedin
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"Metal-Organic Framework Materials with High Proton Conductivity"

10:20—10:50 H. Miyasaka
Tohoku University, Japan
"Charge-Transfer Engineering for Porous Magnets"

10:50—11:20 ***Conference Photo, Coffee Break***

Session II
Chair: Prof. T. Goto (*Tohoku University*)

Keynote Lectures

11:20—11:50 H. Kato, S. H. Joo, R. V. Belosludov, M. Tsuda, S. Nakamura
Tohoku University, Japan
"Effect of minor dopant on ligament growth of porous metals prepared by liquid metal dealloying"

11-50 – 12-20 A. Shtertser, B. Zlobin
Lavrentyev Institute of Hydrodynamics SB RAS, Russia
"Pulse Technologies of Material Processing"

Invited Lectures

12-20 – 12-40 K. Maeda, S. Uda, K. Fujiwara
Tohoku University, Japan
"Fabrication of periodically-twinned borate crystal for optical wavelength conversion"

12-40 – 13-00 A.A. Matvienko, A.S. Skrypnik, S.A. Chizhik, A.A. Sidelnikov
Institute of Solid State Chemistry SB RAS, Novosibirsk State University, Russia
"The mechanism of porosity formation during chemical reactions"

13-00 – 14-30 ***Lunch***

Session III: Oral presentations A (P01_01 – P01_22)
(14-30 – 16-30)

16-30 – 16-40 ***Coffee Break***

Session IV: Poster presentations A (P01_01 – P01_22)
(16-40 – 17-40)

Speakers List of Session III & IV

P01_01	A.V. Alekseev, M.A. Esikov, V.I. Mali, A.A. Khasin, M.R. Predtechensky *Kuteteladze Institute of Thermophysics SB RAS, Lavrentyev Institute of Hydrodynamics SB RAS, Russia* "The influence of carbon nanotubes and oxide nanofibers on the mechanical properties of aluminum matrix composites"
P01_02	D.V. Alekseev, Yu. G. Mateyshina *Novosibirsk State University, Institute of Solid State Chemistry and Mechanochemistry, Russia* "Functionalization of nanodiamonds and investigation of transport properties of composites on their basis"
P01_03	V.E. Anikeeva, O.E Tereshchenko, O.I. Semenova *Novosibirsk State University, Rzhanov Institute of Semiconductor Physics SB RAS, Russia* "Structure and optoelectronic properties of methyl ammonium lead iodide perovskite"
P01_04	I.S. Batraev, V.Yu. Ulianitsky, A.A. Shtertser *Lavrentyev Institute of Hydrodynamics, Russia* "The influence of O_2/C_2H_2 ratio of a gas explosive mixture on the properties of ceramic detonation coatings"
P01_05	V. Belyavin, M. Kozlova, V. Fedorov *Novosibirsk State University, Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Synthesis and properties of molybdenum and niobium sesquichalcogenides"
P01_06	V.A. Blinov, M.A. Legan *Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk State Technical University, Russia* "Hydraulic fracturing of cylindrical bodies of brittle materials in an non-uniform stress field"
P01_07	M. Datekyu, W. Yashiro, H. Kato *Tohoku University, Japan* "Experiment and Theory of Buckling Failure of Si Grating for Imprinting Mold"
P01_08	S.I. Dorovskikh, E.S. Vikulova, D.B. Kal'nui, V.V. Kokovkin, N.B. Morozova *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Formation of mono- and bimetallic platinum based coatings on medical electrodes by MOCVD"
P01_09	M. A. Esikov, M. A. Korchagin, A. V. Ukhina, I. S. Batraev *Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk State Technical University, Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia* "YSZ/$MoSi_2$ composites Spark Plasma Sintered from mechanically milled powders"
P01_10	N.V. Fedorova, M.A. Legan *Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk State Technical University, Russia* "Determining the contact stresses of the ball indentation in glass specimens with the actual conditions of their support"
P01_11	E.O. Fedorovskaya, L.G. Bulusheva, A.V. Okotrub *Novosibirsk State University, Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Carbon and hybrid nanomaterials for electrochemical supercapasitor applications"
P01_12	A.A.Gaydamaka, V.G. Ponomareva, I.N. Bagryantseva *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk State University, Russia* "Investigation of solid acids of rubidium as proton conductors"
P01_13	V. D. Grigorieva

	Nikolaev Institute of Inorganic Chemistry SB RAS, Russia "First results of Na2Mo207 crystal growth by low-thermal-gradient Czochralki technique"
P01_14	A.A. Iurchenkova, E.O. Fedorovskaya, L.G. Bulusheva, A.V. Okotrub *Novosibirsk State University, Nikolaev Institute of Inorganic Chemistry, SB RAS, Russia* "Synthesis and electrochemical properties of halogen functionalized reduced graphite oxide"
P01_15	D.D. Klyamer, T.V. Basova, A.S. Sukhikh *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia* "Films of fluorosubstituted vanadyl phthalocyanines: preparation, structural features and sensor properties"
P01_16	A.A. Kobets, E.O. Fedorovskaya, L.G. Bulusheva, A.V. Okotrub *Novosibirsk State University, Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Structure, kinetic and electrochemical properties of the reduced graphite oxide and functionalized reduced graphite oxide"
P01_17	A.N. Kolodin *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Surface phenomena on textured substrates: wettability, evaporation and spreading"
P01_18	V.V. Krizhanovskiy *Lavrentev Institute of Hydrodynamics SB RAS, Russia* "Numerical study of evolution of thermal and electrical properties of materials during Spark Plasma Sintering"
P01_19	K.V. Kubrak, A.K. Rebrov, T.T. Bieiadovskii *Kutateladze Institute of Thermophysics SB RAS, Russia* "Synthesis of diamond coatings using high-velocity gas flow activated in heated tungsten channels"
P01_20	N.M. Kuprikova, T.V. Basova, D.D. Klyamer, A.S. Sukhikh *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia* "Influence of fluorine substituents on the structure and sensor properties of lead phthalocyanine films"
P01_21	L.L. Lapteva, Yu.V. Fedoseeva, E.V. Shlyakhova, L.G. Bulusheva, A.V. Okotrub *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia* "Influence of the porous carbon materials structure on their lithium storage capacity"
P01_22	V.V. Lozanov, N.I. Baklanova *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia* "The formation of intermetallic phases in the ternary Hf(Ta) – C – Ir systems"

October 2, 2018, NIIC SB RAS

Session V
Chair: Prof. A. Shtertser (*Lavrentyev Institute of Hydrodynamics SB RAS*)

Keynote Lectures

09-00 – 9-30 A. Nemudry
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia
"Oxygen transport membranes: new materials, new approaches"

09:30—10:00 V.L. Kuznetsov
Boreskov Institute of Catalysis, Russia
"Reactive interfaces in oxide matrix composites containing carbon nanotubes"

10:00—10:30 N.V. Kosova
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia
"Multi-electron redox electrode materials for Li- and Na-ion batteries"

10-30 – 11-00 T. Basova
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"Metal phthalocyanines and their hybrid materials with carbon nanotubes as active layers of chemical sensors"

11:00—11:20 ***Coffee Break***

Session VI
Chair: Prof. H. Kato (*Tohoku University*)

Keynote Lectures

11:20—11:50 V. De Zotti, P.-P. Cortet, L. Vanel, S. Santucci
Université de Lyon, Université Paris-Sud, France
Lavrentyev Institute of Hydrodynamics, Novosibirsk, Russia
"New insights into high-speed adhesive tape peeling: Inertial effects on the multi-scale stick-slip dynamics"

11-50 – 12-20 S.N. Korobeynikov, V.V. Alyokhin, A.V. Babichev
Lavrentyev Institute of Hydrodynamics SB RAS, Sobolev Institute of Geology and Mineralogy SB RAS, Russia
"On mechanical moduli of single layer graphene sheets"

Invited Lectures

12-20 – 12-40 S.A. Chizhik, A.A. Matvienko, A.A. Sidelnikov
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk State University, Russia
"Spatially ordered fracture front induced by dehydration of $CuCl_2 \times 2H_2O$"

12-40 – 13-00 R. Belosludov
Tohoku University, Japan
"Theoretical aspects in realization of functional nanomaterials for energy and medical applications"

13-00 – 14-30 ***Lunch***

Session VII: Oral presentations B (P02_23 – P02_43)
(14-30 – 16-30)

16-30 – 16-40 ***Coffee Break***

Session VIII: Poster presentations B (P02_23 – P02_43)
(16-40 – 17-40)

Speakers List of Session VII & VIII

P02_23	S.V. Makarova, N.V. Bulina, M.V.Chaikina *Novosibirsk state university, Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia* "Crystal structure of lantanum-silicate co-substituted apatite obtained by mechanochemical synthesis"
P02_24	D.V. Maslennikov, A.A. Matvienko, S.A. Chizhik, M.P. Popov, A.A. Sidelnikov, A.P. Nemudry *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk State University, Russia* "Morphological design of doped cerium oxide during the thermal decomposition of an oxalate precursor and its application for creation a gas-tight electrolytic layer in the MT SOFC"
P02_25	I.S. Merenkov, Y. Li, M.N. Khomyakov, H. Katsui, M.L. Kosinova, T. Goto *Nikolaev Institute of Inorganic Chemistry SB RAS, Institute of Laser Physics SB RAS, Russia, Tohoku University, Japan* "High-Speed Deposition of Hard SiBCN Coatings by Laser CVD"
P02_26	N.S. Nikolaeva, A.D. Shushanyan, E.A. Maksimovsky, A.S. Sukhikh, N.B. Morozova *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Co-deposition features of Pd-Cu, Pd-Au films under non-equilibrium CVD conditions"
P02_27	A.D. Nishchakova, L.G. Bulusheva, E.V. Shlyakhova, I.P. Asanov, K.A. Kovalenko, K.I. Baskakova, A.V. Okotrub *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia* "Template synthesis of nitrogen doped porous carbon on CaO particles"
P02_28	Won-Young Park, Takeshi Wada, Soo-Hyun Joo, Hidemi Kato *Tohoku University, Japan* "Influence of dealloying media metal on microstructure and properties of porous product by liquid metal dealloying"
P02_29	A.G. Plekhanov, N.I. Fainer, E.A. Maksimovskii, Yu.M. Rumyantsev *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Plasma-chemical synthesis of thin films of silicon oxycarbonitride from the gas mixture methyltris(diethylamino)silane, nitrogen and oxygen"
P02_30	M.S. Polyakov, T.V. Basova *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "3D Carbon nanomaterials with pyrene and coumarin linkers: synthesis, structure and sensor properties"
P02_31	K.M. Popov, V.E. Arkhipov, D.V. Gorodetskiy, A.A. Tsygankov, A.V. Guselnikov, L.G. Bulusheva, A.V. Okotrub *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia* "Electrophysical properties and electronic structure of nitrogen-doped graphene films"
P02_32	M.P. Popov, S.F. Bychkov, S.A. Chizhik, A.P. Nemudry *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk State University, Russia* "Kinetic of oxygen release from grossly nonstoichiometric BSCF perovskite"

P02_33	R. V. Pushkarev, N.I. Fainer, H. Katsui, P.O. Tolstova *Nikolaev Institute of Inorganic Chemistry SBRAS, Russia* "Structural features of epitaxial α-$FeSi_2$ films deposited by CVD on Si(100)"
P02_34	D.O. Rezepova, N.V. Kosova *Institute of Solid State Chemistry and Mechanochemistry SB RAS Russia* *"In situ* formation of the conductive networks in the $Na_3V_2(PO_4)_2F_3$-based cathode materials for Na- and Li-ion batteries"
P02_35	D. Rieder, Yu.V. Rudneva, Yu.I. Bauman, I.V. Mishakov, P.E. Plyusnin, Yu.V. Shubin, A.A. Vedyagin *Karlsruhe Institute of Technology, Germany, Boreskov Institute of Catalysis, Novosibirsk State University, Nikolaev Institute of Inorganic Chemistry, National Research Tomsk Polytechnic University, Russia* "Nanostructured Carbon Materials from 1,2-dichloroethane: synthesis and properties"
P02_36	D.K. Rybin, H. Kato, A.A. Shtertser *Lavrentyev Institute of Hydrodynamics SB RAS, Russia, Tohoku University, Japan* "Structural investigation of nanoscale detonation carbon obtained using a pulse gas-detonation device"
P02_37	O.V. Sedelnikova, L.G. Bulusheva, A.L. Chuvilin, A.V. Okotrub *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia, CIC NanoGUNE, Spain* "Plasmon fingerprint of Moiré pattern in twisted bilayer graphene"
P02_38	A.S. Skrypnik, A.A. Matvienko *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia* "The study of the formation of porous nickel in the reduction of nickel oxide by hydrogen"
P02_39	S.G. Stolyarova, A.V. Okotrub, L.G. Bulusheva *Nikolaev Institute of Inorganic Chemistry SBRAS, Russia* "Component coupling in MoS_2/holey graphene hybrids"
P02_40	T. Suga, P.-A. Geslin, T. Wada, H. Kato *Tohoku University, Japan, University Lyon, France* "Analysis of liquid metal dealloying reaction by ternary phase diagram"
P02_41	A.S. Sukhikh, D.D. Klyamer, S.A. Gromilov, T.V. Basova *Nikolaev Institute of Inorganic Chemistry SB RAS, Russia* "Phase transitions in metal phthalocyanine thin films, studied by 2D GIXD"
P02_42	M. Syrokvashin, E. Korotaev, I. Filatova, A. Kalinkin, N. Kruchkova *Institute of Inorganic Chemistry SB RAS, Russia* "Manganese sulfides crystals doped with rare-earth elements prepared using induction heating: thermoelectric properties and XPS study"
P02_43	A.V. Ukhina, D.V. Dudina, B.B. Bokhonov *Institute of Solid State Chemistry and Mechanochemistry SB RAS, Lavrentyev Institute of Hydrodynamics SB RAS, Russia* "Deposition of tungsten-containing films on the surface of synthetic diamond crystals during hot pressing and Spark Plasma Sintering"
P02_44	Parshin D.V, Kuianova Iu.O. *Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk State University* 3D-modeling of cerebral vessels with an aneurysm and virtual stent
P02_45	O.N. Sidelnikova *Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia* "Estimation of the specific surface area of the frame bulk porous material (with/without surface nanolayer) having the strict ordered geometrical parameters"

October 3, 2018, NSU

Session IX
Chair: Prof. R. Belosludov (*Tohoku University, Japan*)

Keynote Lectures

09-00 – 09-30 Y. Kawazoe
Tohoku University, Japan, SRM Institute of Science and Technology, India
"Materials Informatics based on Reliable Materials Database"

09:30—10:00 N.I. Baklanova
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia
"Iridium-Based Intermetallics as a New Platform for Ultra High-Temperature Materials"

10:00—10:30 A.V. Okotrub, V.I. Sysoev, L.G. Bulusheva
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"Micro-supercapacitors based on laser-treated fluorinated graphene films"

10-30 – 11-00 K.A. Brylev
Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia
"Hexamolybdenum and hexarhenium cluster luminophores: On the way from synthesis to applications"

11:00—11:20 ***Coffee Break***

Session X
Chair: Prof. H. Miyasaka (*Tohoku University, Japan*)

Keynote Lectures

11:20—11:50 A.V. Shutov
Lavrentyev Institute of Hydrodynamics, Novosibirsk State University, Russia
"Simulation on different length scales of the grain refinement in metallic materials caused by severe plastic deformation"

11-50 – 12-20 S.P. Kiselev, V.P. Kiselev
Khristianovich Institute of Theoretical and Applied Mechanics SB RAS, Russia
"Numerical modeling of the synthesis and failure of Ti-Al intermetallic by molecular dynamics method"

Invited Lectures

12-20 – 12-40 S. Semboshi
Tohoku University, Japan
"Recent study on high-strength and high-electrical conductive Cu alloys"

12-40 – 13-00 E.S. Vikulova, K.V Zherikova, S.V. Zabuslaev, I.G. Vasilyeva
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"In the Search of Enhanced Secondary Electron Emission: Is There Any Component Interaction in MgO-RuO_2 System?"

13-00 – 14-30 ***Lunch***

Session XI
Chair: Dr. D. Dudina (*Lavrentyev Institute of Hydrodynamics, Russia*)

Invited Lectures

14-30 – 14-50 A.I. Safonov, V.S. Sulyaeva, S.V. Starinskiy, A.L. Bogoslovtseva, E.Ya. Gatapova, N.I. Timoshenko
Kutateladze Institute of Thermophysics SB RAS, Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk State University, Russia

"Deposition features and wettability behavior of fluoropolymer films from hexafluoropropylene oxide activated by NiCr wire in HW CVD"

14-50 – 15-10 S.V. Starinskiy, Yu.G. Shukhov, A.A. Rodionov, A.V. Bulgakov
Kutateladze Institute of Thermophysics SB RAS, Novosibirsk State University, Russia, Institute of Physics CAS, Czech Republic
"Investigation of laser ablation of tin in the regimes of thin film deposition"

15-10 – 15-30 E.S. Vikulova, S.I. Dorovskikh, I.Yu. Ilyin, N.B. Morozova, I.K. Igumenov
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"MOCVD of platinum metal coatings for medical application: reality and progress"

15-30 – 15-45 I.Yu. Prosanov
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Russia
"Template synthesis of inorganic polymers"

15-45 – 16-00 O.A. Shkoda, O.V. Lapshin
Tomsk Scientific Center SB RAS, Russia
"High temperature synthesis of titanium nickelide from mechanically activated powder mixture"

16-00 – 16-20 ***Coffee Break***

Session XII
Chair: Prof. Y. Kawazoe (*Tohoku University, Japan*)

Invited Lectures

16-20 – 16-35 I.N. Bagryantseva, N.P. Lazareva., V.G. Ponomareva
Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk State University, Russia
"New proton medium temperature polymer membranes based on CsH_2PO_4"

16:35 – 16:50 N.D. Shmakova, S.F.A. Santucci, E.V. Ermanyuk
Lavrentyev Institute of Hydrodynamics SB RAS, Russia, University Lyon, CNRS, France
"Foam flows over local construction"

16:50 – 17:05 O.N. Sidelnikova, A.N. Salanov, D.A. Jatzenko, A.N. Serkova
Institute of Solid State Chemistry and Mechanochemistry, Boreskov Institute of Catalysis SB RAS, Russia
"Influence of the glass substrate treatment by surface ion exchange and chemical etching on structural features of the gold nanolayer"

17-05 – 17-20 V. Shayapov, L. Yakovkina
Nikolaev Institute of Inorganic Chemistry SB RAS, Russia
"Mechanical stresses in vanadium dioxide thin films"

17:20 – 17:35 A. G. Anisimov, V. I. Mali
Lavrentyev Institute of Hydrodynamics SB RAS, Russia
"Magnetic pulse welding of different metal sheets"

17:40 ***Closing ceremony***