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- **St. Petersburg Nuclear Physics Institute**, Russia
- **National Research Center "Kurchatov Institute"**, Moscow, Russia
- **St. Petersburg State Institute of Technology (Technical University)**, Russia

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- **Department of General Physics and Astronomy of the Russian Academy of Sciences**
- **Fund for Infrastructure and Educational Programs**
- **Government of Saint-Petersburg**

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<b>I.V. Vorobyova</b> (Chair)	Ioffe Institute, St. Petersburg, Russia
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<b>K.N. Guliaeva</b>	Ioffe Institute, St. Petersburg, Russia

in association with Agency for Science and Technology "Intellect"

## **Location and date**

The ACNS`2013 and Conference/School of Young Scientists will be held on July 1-5, 2013 in St Petersburg at the St Petersburg Academic University - Nanotechnology Research and Education Centre of the Russian Academy of Sciences (the Academic University) (8 Khlopina St ) near the Ioffe Physical-Technical Institute (26 Polytechnicheskaya st).

## **Language**

The conference official language is English except the event “Conference/School for young scientists” where lectures and short-form presentations of young scientists will be given in Russian. Work language on Poster Session 2 & School Poster Session is English

## **Social Program**

The Social program includes by tradition: a Welcome party (July 2), an excursion around the city, an excursion to the, Pushkin (Tsarskoe selo) and/or Pavlosk. The Organizing Committee hopes that you will enjoy the Conference and your stay in St Petersburg.

## **Publication**

In the concern to broadening of the scope after establishing the Joint Conference it was taken the decision to choose new journal for publication of the Proceedings. The title of the journal is Nanosystems: physics, chemistry, mathematics (NANO. F & H & M, <http://nanojournal.ifmo.ru/en>).

## **The Third International School - Conference for Young Scientists “Advanced Carbon Nanostructures and Methods of their Diagnostics”**

The third International School - Conference will be held on Wednesday **July 3, 2013** in St Petersburg, Russia (in the frame of the Joint International Conference "Advanced Carbon Nanostructures").

The program of the School - Conference includes invited lectures, poster and oral sessions (short talks 1-2 minutes in Russian), where the reports of young scientists (up to 28 years old), devoted to the carbon nanostructures diagnostic techniques, will be presented. The participants of the School - Conference will be supplied by the tutorial materials in English.

## Timetable

<b>Monday</b> July 1	<b>8.30-17.00</b>	<b>Registration</b>
	9.00-9.20	<i>Opening</i>
	9.20-10.40	Oral session <b>The Prospectives of Carbon Nanostructures</b>
	<b>10.40-11.00</b>	<b>Coffee Break</b>
	11.00-13.00	Oral session <b>Graphene 1</b>
	<b>13.00-15.00</b>	<b>Lunch</b>
	15.00-16.40	Oral session <b>Graphene 2</b>
	<b>16.40-17.00</b>	<b>Coffee Break</b>
	17.00-18.00	Oral session <b>Carbon nanotubes</b>
18.00-19.30	Poster session 1: <b>Graphene, Carbon Nanotubes</b>	
<b>Tuesday</b> July 2	9.00-11.00	Oral session <b>Fullerenes 1</b>
	<b>11.00-11.20</b>	<b>Coffee Break</b>
	11.20-13.00	Oral session <b>Electronic properties of nanocarbons 1</b>
	<b>13.00-15.00</b>	<b>Lunch</b>
	15.00-16.40	Oral session <b>Nanodiamonds 1</b>
	<b>16.40-17.00</b>	<b>Coffee Break</b>
	17.00-18.00	Oral session <b>Nanocomposites</b>
	17.00-18.30	Round Table <b>Theory and modeling</b> . Small Hall (4 <sup>th</sup> floor)
<b>19.00-21.00</b>	<b>Welcome Party</b>	
<b>Wednesday</b> July 3	9.00-10.50	Conference/School of Young Scientists (in Russian)
	<b>10.50-11.10</b>	<b>Coffee Break</b>
	11.10-13.00	Conference/School of Young Scientists (in Russian)
	<b>13.00-15.00</b>	<b>Lunch</b>
	15.00-17.10	Conference/School of Young Scientists (in Russian)
	<b>17.10-17.30</b>	<b>Coffee Break</b>
17.30-19.00	<b>School poster session &amp; Poster session 2: Fullerenes</b>	
<b>Thursday</b> July 4	9.00-11.00	Oral session <b>Nanodiamonds 2</b>
	<b>11.00-11.20</b>	<b>Coffee Break</b>
	11.20-13.00	Oral session <b>Electronic properties of nanocarbons 2</b>
	<b>13.00-15.00</b>	<b>Lunch</b>
	15.00-16.40	Oral session <b>Fullerenes 2</b>
	<b>16.40-17.00</b>	<b>Coffee Break</b>
	17.00-18.00	Oral session <b>Biological applications of nanocarbons</b>
18.00-19.30	Poster session 3: <b>Nanodiamonds, Carbon Onions, Nanographite, Nanoporos Carbon and Other</b>	
<b>Friday</b> July 5	9.00-10.40	Oral session <b>Applications of nanocarbons 1</b>
	<b>10.40-11.00</b>	<b>Coffee Break</b>
	11.00-13.00	Oral session <b>Applications of nanocarbons 2</b>
	<b>13.00-13.20</b>	<b>Coffee Break</b>
	13.20-14.20	Round Table <b>Applications of Nanocarbons</b>
	14.20-14.40	<b>Closing</b>

# Scientific Program

## July 1, Monday

8<sup>30</sup>-17<sup>00</sup> Registration  
9<sup>00</sup>-9<sup>20</sup> Opening

### Oral session *The Prospectives of Carbon Nanostructures*

**Chairmen:** J. Haruyama, A.Ya. Vul'

9<sup>20</sup>-10<sup>00</sup> **Maurizio Prato**, *Dipartimento di Scienze Chimiche e Farmaceutiche, Università degli Studi di Trieste, Trieste, Italy*  
Synthesis and applications of functionalized carbon nanotubes (*invited*)

10<sup>00</sup>-10<sup>40</sup> **Morinobu Endo**, *Shinshu University, Nagano, Japan*  
The state-of-the-art science and applications of the carbon nanotubes (*invited*)

10<sup>40</sup>-11<sup>00</sup> *Coffee break*

### Oral session *Graphene 1*

**Chairmen:** M. Prato, M. Endo

11<sup>00</sup>-11<sup>40</sup> **Petra Rudolf**, *Zernike Institute for Advanced Materials, University of Groningen, Groningen, The Netherlands*  
Excited charge carriers in graphene on metal substrates (*invited*)

11<sup>40</sup>-12<sup>20</sup> **Ester Vázquez**, *Facultad de Ciencias y Tecnologías Químicas, IRICA. Universidad de Castilla-La Mancha, Ciudad Real, Spain*  
Modification of Carbon Nanoforms under non-conventional techniques (*invited*)

12<sup>20</sup>-12<sup>40</sup> **Irina V. Antonova**, *A.V.Rzhanov Institute of Semiconductor Physics SB RAS, Russia*  
Few-layer graphene quantum dots in insulated matrix: fabrication and study of electronic structure

12<sup>40</sup>-13<sup>00</sup> **Kazuyuki Takai**, *Department of Chemistry, Tokyo Institute of Technology, Tokyo, Japan*  
Structure and the electronic structure of step part on the epitaxial graphene surface

13<sup>00</sup>-15<sup>00</sup> *Lunch*

**Chairmen:** P. Rudolf, O. Shenderova

15<sup>00</sup>-15<sup>20</sup> **Yurii E. Lozovik**, *Institute of Spectroscopy RAS, Troitsk, Moscow Region, Russia*  
Graphene for plasmonics and nanophotonics

- 15<sup>20</sup>-15<sup>40</sup> **Zoran Markovic**, *Vinca Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia*  
Nickel catalyzed transformation of C<sub>60</sub> and amorphous carbon to graphene
- 15<sup>40</sup>-16<sup>00</sup> **Chiara Cavallari**, *Institut Laue Langevin, Grenoble, France; University of Parma, Physics Department, Italy*  
Hydrogen on graphene investigated by inelastic neutron scattering
- 16<sup>00</sup>-16<sup>20</sup> **Igor A. Kotin**, *A.V. Rzhanov Institute of Semiconductor Physics, Novosibirsk, Russia*  
Atomically flat high-resistivity substrates for high carrier mobility in graphene
- 16<sup>20</sup>-16<sup>40</sup> **Elena Sheka**, *Peoples' Friendship University of Russia, Moscow, Russia*  
Molecular theory about underwater stones in graphene material science
- 16<sup>40</sup>-17<sup>00</sup> *Coffee break*

#### Oral session **Carbon Nanotubes**

**Chairmen:** E. Vazgues, A.V. Eletskii

- 17<sup>00</sup>-17<sup>20</sup> **Alexander Okotrub**, *Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk, Russia*  
Hybrid materials from carbon nanotube arrays and semiconductor nanoparticles
- 17<sup>20</sup>-17<sup>40</sup> **Christian Kramberger**, *University of Vienna, Vienna, Austria*  
One-dimensional N<sub>2</sub> phase inside single-walled carbon nanotubes
- 17<sup>40</sup>-18<sup>00</sup> **Marianna Kharlamova** *Lomonosov Moscow State University, Moscow, Russia*  
Comparison of 3d-, 4d- and 4f- metal halogenide doping effects on the single-walled carbon nanotubes
- 18<sup>00</sup>-19<sup>30</sup> Poster session 1 **Graphene, Carbon Nanotubes**

## July 2, Tuesday

#### Oral session **Fullerenes 1**

**Chairmen:** S.I. Troyanov, A. Okotrub

- 9<sup>00</sup>-9<sup>40</sup> **Hisanori Shinohara**, *Department of Chemistry & Institute for Advanced Research, Nagoya University, Japan*  
Putting atomic nanowires into carbon nanotubes (*invited*)
- 9<sup>40</sup>-10<sup>20</sup> **Su-Yuan Xie**, *State Key Lab for Physical Chemistry of Solid Surfaces & Department of Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China*  
Structures and properties of non-IPR fullerenes captured by chlorination/hydrogenation (*invited*)
- 10<sup>20</sup>-10<sup>40</sup> **Shangfeng Yang**, *Hefei National Laboratory for Physical Science at Microscale, CAS Key Laboratory of Materials for Energy Conversion &*

*Department of Materials Science and Engineering, University of Science and Technology of China (USTC), Hefei, China*

Novel endohedral clusterfullerenes: Putting metal clusters into fullerenes

10<sup>40</sup>-11<sup>00</sup>

**Dmitri V. Konarev**, *Institute of Problems of Chemical Physics RAS, Chernogolovka, Russia*

Optical and magnetic properties of monomeric and polymeric fullerene C<sub>60</sub>(2-) and C<sub>70</sub>(2- dianions)

11<sup>00</sup>-11<sup>20</sup>

*Coffee break*

### Oral session *Electronic Properties of Nanocarbons 1*

**Chairmen:** H. Shinohara, S.Y. Xie

11<sup>20</sup>-12<sup>00</sup>

**Junji Haruyama**, *Aoyama Gakuin University, 5-10-1 Fuchinobe, Sagamihara, Kanagawa, Japan*

Graphene edge spins; Spintronics and magnetism in graphene nanomeshes (*invited*)

12<sup>00</sup>-12<sup>40</sup>

**Kirill Bolotin**, *Physics Department, Vanderbilt University, Nashville, USA*  
Optoelectronics of graphene and graphene-based heterostructures (*invited*)

12<sup>40</sup>-13<sup>00</sup>

**Toshiaki Enoki**, *Tokyo Institute of Technology, Tokyo, Japan*

Nanographene; edge geometry and chemical structure effect on its electronic structure

13<sup>00</sup>-15<sup>00</sup>

*Lunch*

### Oral session *Nanodiamonds 1*

**Chairmen:** N. Rozhkova, M. V. Avdeev

15<sup>00</sup>-15<sup>40</sup>

**Amanda Barnard**, *CSIRO Materials Science and Engineering, Parkville, Australia*

Modelling the surface chemistry of nanodiamond (*invited*)

15<sup>40</sup>-16<sup>20</sup>

**Vincent Pichot**, *French-German Research Institute of Saint-Louis, Saint-Louis, France*

Research on detonation nanodiamond at the French-German Research Institute of Saint-Louis (*invited*)

16<sup>20</sup>-16<sup>40</sup>

**Masaki Ozawa**, *Meijo University, Aichi, Japan*

Spontaneous fibre formation of detonation nanodiamonds in polyacrylamide aqueous solutions

16<sup>40</sup>-17<sup>00</sup>

*Coffee break*

Oral session *Nanocomposites*

**Chairmen:** T. Enoki, M. Ozawa

17<sup>00</sup>-17<sup>20</sup> **Dmitry Yu. Usachev**, *St. Petersburg State University, St. Petersburg, Russia*  
Controlled interface formation and electronic structure of novel graphene-based systems

17<sup>20</sup>-17<sup>40</sup> **Oleg Kononenko**, *Institute of Microelectronics Technology and High Purity Materials RAS, Chernogolovka, Russia*  
Synthesis of graphene/CNT hybrid nanostructures and the FET on its basis

17<sup>40</sup>-18<sup>00</sup> **Oleg Yu. Vilkov**, *St. Petersburg State University, St. Petersburg, Russia*  
Assembly of graphene-capped nickel, cobalt and iron silicides

Round Table *Theory and Modelling* (Small Hall on 4th floor)

**Chairmen:** A. Barnard, E. Sheka

17<sup>00</sup>-17<sup>15</sup> **Leonid Chernozatonskii**, *Emanuel Institute of Biochemical Physics, RAS, Moscow, Russia*  
Buky-corn: van der Waals composite of carbon nanotube coated by by close-packed C60 fullerenes

17<sup>15</sup>-17<sup>30</sup> **Sergey A. Kitorov**, *Ioffe Physical Technical Institute RAS, Russia*  
Nonlinear transport in monolayer graphene

17<sup>30</sup>-17<sup>45</sup> **Peter Vancso**, *Institute of Technical Physics and Materials Science, Research Centre for Natural Sciences, Budapest, Hungary; Korean-Hungarian Joint Laboratory for Nanosciences, Budapest, Hungary*  
Transport properties of ordered and disordered grain boundaries in CVD produced graphene

17<sup>45</sup>-18<sup>00</sup> **Denis Sabirov**, *Institute of Petrochemistry and Catalysis RAS, Ufa, Russia*  
Polarizability of fullerene derivatives: theoretical study and the use in the design of nanodevices and fullerene-based organic solar cells

18<sup>00</sup>-18<sup>15</sup> **Sergey Pyrlin**, *Institute for Nanostructures, Nanomodeling and Nanofabrication, University of Minho, Guimaraes, Portugal; University of Minho, Braga, Portugal; Bauman Moscow State Technical University, Moscow, Russia*  
The impact of CNT/CNF non-uniform distribution on the polymer composites' conductivity by Monte Carlo modeling on GPU

18<sup>15</sup>-18<sup>30</sup> Discussion

19<sup>00</sup>-21<sup>00</sup> **Welcome Party**



**July 3, Wednesday**

**Conference/School of Young Scientists (in Russian)**

***Advanced Carbon Nanostructures and Methods of Their Diagnostic***

**Chairmen:** V.V. Afrosimov, M.V. Kovalchuk

- 9<sup>00</sup>-9<sup>55</sup> Lecture 1  
**Alexander V. Eletsii**, *National Research Center “Kurchatov Institute”, Moscow, Russia*  
Physical problems in CNT-based electron field emitters
- 9<sup>55</sup>-10<sup>50</sup> Lecture 2  
**Levon B. Piotrovskiy**, *Institute of experimental medicine NWB RAMS, Saint-Petersburg, Russia*  
The biological potential of carbon nanostructures
- 10<sup>50</sup>-11<sup>10</sup> *Coffee break*
- 11<sup>10</sup>-12<sup>05</sup> Lecture 3  
**Evgeni Katz**, *J. Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sede Boqer, Israel*  
Fullerenes, nanoclusters and nanotubes: forms and structures (from mathematics to physics, biology and architecture)
- 12<sup>05</sup>-13<sup>00</sup> Lecture 4  
**Vladimir Yu. Osipov**, *Ioffe Physical-Technical Institute RAS, Russia*  
Nanographites: edge-localized states and their unconventional electronic properties
- 13<sup>00</sup>-15<sup>00</sup> *Lunch*
- 15<sup>00</sup>-15<sup>55</sup> Lecture 5  
**Evgeny D Eydelman**, *Ioffe Physical Technical Institute RAS, Russia; St. Petersburg Academic University–Nanotechnology Research and Education Centre RAS, St. Petersburg State Chemical–Pharmaceutical Academy, St. Petersburg, Russia*  
Thermoelectric effects in carbon nanostructures
- 15<sup>55</sup>-16<sup>50</sup> Lecture 6  
**V.A. Bykov**, *Research Institute of Physical Problems & NT-MDT Companies Group, Moscow, Russia*  
Technologies of atomic force microscopy and scanning spectroscopy for carbon nanostructures investigations
- 16<sup>50</sup>-17<sup>10</sup> **Short oral young scientists presentations (1 minute)**
- 17<sup>10</sup>-17<sup>30</sup> *Coffee break*
- 17<sup>30</sup>-19<sup>00</sup> **School poster session & Poster session 2: Fullerenes**

## July 4, Thursday

### Oral session *Nanodiamonds 2*

**Chairmen:** M. L. Terranova, R. Kalish

- 9<sup>00</sup>-9<sup>20</sup> **Pavel N. Nesterenko**, *Australian Centre for Research on Separation Science (ACROSS), University of Tasmania, Hobart, Australia*  
New look on a problem of the purity and purification of detonation nanodiamonds
- 9<sup>20</sup>-9<sup>40</sup> **Maria L. Terranova**, *Dip.to Scienze e Tecnologie Chimiche & MinimaLab, Università degli Studi di Roma "Tor Vergata", Via della Ricerca Scientifica, Roma, Italy; Nanoshare Srl*  
Nanodiamond/Conducting Polymers: in search of best suited systems for energetic applications
- 9<sup>40</sup>-10<sup>00</sup> **Olga Shenderova**, *International Technology Center, Raleigh, North Carolina, USA*  
Nanodiamond-polymer nanocomposites with improved resistance to ionizing radiation
- 10<sup>00</sup>-10<sup>20</sup> **Mikhail V. Korobov**, *Lomonosov Moscow State University, Moscow, Russia*  
New analytical tool to monitor the dispersity of detonation nanodiamonds
- 10<sup>20</sup>-10<sup>40</sup> **Mikhail V. Avdeev**, *Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia*  
Specific features of sp<sup>3</sup>-sp<sup>2</sup> spatial transition in detonation nanodiamond by small-angle neutron scattering
- 10<sup>40</sup>-11<sup>00</sup> **Vitaly Korepanov**, *National Chiao Tung University, Hsinchu, Taiwan*  
A new three-dimensional phonon confinement model applied to nanodiamond: Raman band shape and particle size distribution
- 11<sup>00</sup>-11<sup>20</sup> *Coffee break*

### Oral session *Electronic Properties of Nanocarbons 2*

**Chairmen:** K. Bolotin, Yu.E. Lozovik

- 11<sup>20</sup>-11<sup>40</sup> **Alexander I. Shames**, *Ben-Gurion University of the Negev, Be'er-Sheva, Israel*  
Spin-spin interactions between pi-electronic edge-localized spins and molecular oxygen in defective carbon nano-onions
- 11<sup>40</sup>-12<sup>00</sup> **Igor Vlasov**, *General Physics Institute RAS, Moscow, Russia*  
Color centers in nanodiamonds: luminescent properties and application
- 12<sup>00</sup>-12<sup>20</sup> **Vladimir Yu. Osipov**, *Ioffe Physical Technical Institute RAS, Russia*  
Spin S=1 centers: a universal type of paramagnetic defects with unique signature in nanodiamonds of dynamic synthesis

- 12<sup>20</sup>-12<sup>40</sup> **Natalia N. Rozhkova**, *Institute of Geology Karelian Research Centre RAS, Petrozavodsk, Russia*  
New carbon allotrope shungite as loosely packed fractal nets of graphene-base quantum dots
- 12<sup>40</sup>-13<sup>00</sup> **Alexey Verkhovtsev**, *Frankfurt Institute for Advanced Studies, Goethe-Universität, Frankfurt am Main, Germany; St. Petersburg State Polytechnic University, St. Petersburg, Russia*  
Electron excitations in photo- and electron impact ionization of fullerenes
- 13<sup>00</sup>-15<sup>00</sup> *Lunch*

#### Oral session *Fullerenes 2*

- Chairmen:** D.V. Konarev, I. Vlasov
- 15<sup>00</sup>-15<sup>20</sup> **Sergey I. Troyanov**, *Lomonosov Moscow State University, Moscow Russia*  
The first cage isomers of C104 structurally confirmed in C104(258)C116 and C104(812)C124
- 15<sup>20</sup>-15<sup>40</sup> **Daniele Pontiroli**, *Dipartimento di Fisica e Scienze della Terra, Università Parma, Parma, Italy*  
Ionic conductivity in light metal intercalated fullerenes
- 15<sup>40</sup>-16<sup>00</sup> **Matteo Aramini**, *Dipartimento di Fisica e Scienze della Terra, Università Parma, Parma, Italy*  
MuSR reveals H<sub>2</sub> storage mechanism in light alkali metal fullerides
- 16<sup>00</sup>-16<sup>40</sup> **Vasily T. Lebedev**, *St. Petersburg Nuclear Physics Institute, Gatchina, Leningrad distr., Russia*  
Star-shaped fullerene(C60)-containing polystyrenes in solutions: structural aspects
- 16<sup>40</sup>-17<sup>00</sup> *Coffee break*

#### Oral session *Biological Applications of Nanocarbons*

- Chairmen:** L.B. Piotrovskiy, J.M. Rosenholm
- 17<sup>00</sup>-17<sup>20</sup> **Yuri Mackeyev**, *Department of Chemistry and The Smalley Institute for Nanoscale Science & Technology, Rice University, Houston, USA*  
Toward paclitaxel-[60]fullerene Immunoconjugates as a targeted prodrug against cancer
- 17<sup>20</sup>-17<sup>40</sup> **Yulia P. Buchatskaya**, *Lomonosov Moscow State University, Moscow Russia*  
Detonation nanodiamonds as a sorbent for cations of radionuclides
- 17<sup>40</sup>-18<sup>00</sup> **Ruslan Yu. Yakovlev**, *Pavlov Ryazan State Medical University, Ryazan, Russia; Lomonosov Moscow State University, Moscow, Russia*  
Ex vivo study of nanodiamond particles biodistribution using ICP-MS
- 18<sup>00</sup>-19<sup>30</sup> Poster session 3 *Nanodiamonds, Carbon Onions, Nanographite, Nanoporos Carbon and Other*

## July 5, Friday

### Oral session *Applications of Nanocarbons 1*

**Chairmen:** E. Katz, I. Shames

9<sup>00</sup>-9<sup>40</sup>

**Rafi Kalish**, *Physics Dept. and Solid State Inst. Technion-Haifa, Israel*  
Ultra nano crystalline diamond: low dimensional quantum and fascinating electronic properties (*invited*)

9<sup>40</sup>-10<sup>20</sup>

**Alexander Tzalenchuk**, *National Physical Laboratory, Teddington, UK*  
Graphene and new horizons of quantum metrology (*invited*)

10<sup>20</sup>-10<sup>40</sup>

**Sergey A. Grudinkin**, *Ioffe Physical Technical Institute RAS, Russia*  
Spherical and semispherical CVD diamond microparticles with controllably embedded luminescent silicon-vacancy color centers

10<sup>40</sup>-11<sup>00</sup>

*Coffee break*

### Oral session *Applications of Nanocarbons 2*

**Chairmen:** A. Tzalenchuk, M. Korobov

11<sup>00</sup>-11<sup>20</sup>

**Albert Nasibulin**, *Aalto University School of Science, Espoo, Finland*  
Flexible and transparent single-walled carbon nanotube networks for ethanol vapor sensing application

11<sup>20</sup>-11<sup>40</sup>

**Aleksandr Pyryaev**, *Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia*  
Hierarchically porous graphene in natural graphitic globules from silicate magmatic rocks.

11<sup>40</sup>-12<sup>00</sup>

**Govind R. Kovummal**, *CSIR-National Chemical Laboratory, Pune, India*  
Magnetism in amorphous carbon as a function of the extent of graphitization

12<sup>00</sup>-12<sup>20</sup>

**Olga Levinson**, *Ray Techniques Ltd., Jerusalem, Israel*  
Characterization of nanodiamonds obtained by laser ablation

12<sup>20</sup>-12<sup>40</sup>

**Jessica M. Rosenholm**, *Laboratory of Physical Chemistry, Åbo Akademi University, Turku, Finland*  
Carbon nanostructures and their composites for diagnostic nanomedicine

12<sup>40</sup>-13<sup>00</sup>

**Rustem E. Uzbekov**, *Faculté de Médecine, Université François Rabelais, Tours, France*  
Interaction of iron carbide nanoparticles protected by carbon shell onion- like structure with living cells

13<sup>00</sup>-13<sup>20</sup>

*Coffee break*

### Special session *Applications of Nanocarbons*

**Chairmen:** S.V. Kalyuzhniy, A. Vul'

13<sup>20</sup>-14<sup>20</sup>

Round Table *Applications of Nanocarbons*

14<sup>20</sup>-14<sup>30</sup>

**Closing**

## **Poster session 1 (01 July)**

### **Topic 1: Graphene**

- P1.00 **Elena Sheka**  
Water dynamics in shungite with inelastic neutron scattering
- P1.01 **Elena Sheka**  
Spectral properties of shungite quantum dots
- P1.02 **Vladimir Yakovlevich Davydov**  
Estimation of adsorption isotherms and heats of compounds adsorption on graphene
- P1.03 **Victor Demin**  
Theoretical investigation of graphene-graphane nanoribbons magnetic properties
- P1.04 **Mattia Gaboardi**  
Metal Decorated Graphenes: Synthesis and Characterization
- P1.05 **Konstantin Alekseevich Simonov**  
Iodine p-doping of graphene on Ni(111) by thermal CuI overlayer decomposition
- P1.06 **Mikhail Katkov**  
Selective gas sensor on the basis of fluorinated graphene
- P1.07 **Ilya Klimovskikh**  
Electronic and spin structure of graphene on Pt(111)
- P1.08 **Oleg Kononenko**  
Investigation of structure and transport properties of graphene grown by low-pressure no flow CVD on polycrystalline Ni films
- P1.09 **Mikhail V Korobov**  
Interaction of graphite oxide with the solvents
- P1.10 **Yury Krivosenko**  
New hard x-ray photoelectron spectroscopic probe of chemical bonding in graphene-on-substrate
- P1.11 **Yulia Vladimirovna Kudashova**  
Monolayer graphene oxide films on silicon surface
- P1.12 **Dmitry Gennadievich Kvashnin**  
Investigation of the strong influence of the edges and dopants to the work function of graphene-based nanostructures
- P1.13 **Alexander Alexandrovich Lebedev**  
Grapheme and multigraphene layers grown on 6H-SiC low temperature transport properties investigations.
- P1.14 **Alexander Alexandrovich Lebedev**  
Energy gaps in graphene induced by the silicon carbide substrate
- P1.15 **Denis Dmitrievich Levin**

Formation and investigation of graphene films produced by different methods

- P1.16 **Natalia Lvova**  
The adsorption properties of polycrystalline graphene: quantum-chemical simulation
- P1.17 **Valery Michailovich Mikushkin**  
X-ray induced graphene oxide reduction studied by photoelectron spectroscopy
- P1.18 **Valery Michailovich Mikushkin**  
Size confinement effect in bilayer graphene grown on 6H-SiC (0001) substrate
- P1.19 **Valery Michailovich Mikushkin**  
Few-layer graphene hydrogenation by H<sub>2</sub><sup>+</sup> ion beam of the keV-energy range
- P1.20 **Nadezhda Aleksandrovna Nebogatikova**  
The mechanism of fluorination processes for few-layer graphene in the aqueous solution of hydrofluoric acid
- P1.21 **Anastasia Pak**  
The evolution of few cycles optical pulses in a double-layer graphene - boron nitride, taking into account medium nonlinearity
- P1.22 **Nadezhda Anatolievna Popova**  
Molecular theory of graphene oxide
- P1.23 **Nadezhda Anatolievna Popova**  
Topological mechanochemistry of graphene
- P1.24 **Mauro Ricco**  
Muons probe hydrogen interaction with graphene
- P1.25 **Vladimir Sakharov**  
Utilizing of the Medium-Energy Ion Scattering Spectrometry for the Composition Investigation of Graphene Oxide Films on Silicon Surface
- P1.26 **Vasil Saroka**  
Slow plasmon-polaritons in carbon nanostructures for Cherenkov-type generators
- P1.27 **Daria Sedlovets**  
The influence of the ambient conditions on the electrical resistance of graphene-like films
- P1.28 **Vladimir Shnitov**  
Unusual momentum dependence of pi-plasmon energy and halfwidth in epitaxial bilayer graphene
- P1.29 **Alexander Sergeevich Sinita**  
Theoretical Study of Graphene Nucleation on Nickel Surface
- P1.30 **NYAN-HWA TAI**  
Influences of graphene on the viability of colon cancer cells under near infrared irradiation

- P1.31 **Kazuyuki Takai**  
Calorimetric Study of Multi-Shell Nanographite derived from Nanodiamond
- P1.32 **Galina Vladimirovna Tikhomirova**  
Comparative studies of transport and phase transitions in graphene and graphite at high pressures
- P1.33 **I-SHOU TSAI**  
Preparation of Multi-layer Graphene Sheets by Electrochemical Exfoliation
- P1.34 **Viacheslav Andreevich Tur**  
Synthesis and characterization of few-layered graphene for supercapacitors
- P1.35 **Evgeny Vladimirovich Zhizhin**  
Modification of induced spin-orbit splitting of  $\pi$  - states of graphene under joint intercalation of Bi and Au
- P1.36 **Eugenii Vyacheslavovich Skokan**  
Density functional-tight binding study of graphene fluorination

## **Topic 2: Carbon Nanotubes**

- P2.01 **Maxim Sergeevich Barabashko**  
Low temperature heat capacity of 1D chains of adsorbates (Xe, N<sub>2</sub>) in outer grooves of c-SWNT bundles.
- P2.02 **Sergey Vladimirovich Boroznin**  
Migration processes on the surface of carbon nanotubes with substitute boron atoms
- P2.03 **Vladimir Y. Butko**  
Interfacial and dimensional effects in graphene based nanostructures
- P2.04 **Olessya Aleksandrovna Davletova**  
The study of the adsorption of biologically active diketones containing diphenyloxide fragment on the outer surface of carbon nanotubes.
- P2.05 **Lusine Elbakyan**  
THE POLYMERS WITH CARBON NANOTUBES AS NEW MATERIALS IN STOMATOLOGY
- P2.06 **Alexander Valentinovich Eletsii**  
Effect of the thermal motion of the residual gas molecules onto the degradation of carbon nanotube-based electron field emission cathode
- P2.07 **Georgy Fedorov**  
Carbon Nanotube Sensors: Interplay between Schottky Barrier and Gas Adsorption
- P2.08 **Ekaterina Olegovna Fedorovskaya**  
Electrochemical and electronic properties of polyaniline/graphene composites
- P2.09 **Levan Ichkitidze**  
Electrically-Conductive Layers of Composite Nanomaterial with Multiwalled Carbon Nanotubes

- P2.10 **Levan Ichkitidze**  
The Use of Composite Nanobiomaterials based on Carbon Nanotubes for Compounds Biological Tissues
- P2.11 **Nadiia Kolomiets**  
Fast-response chemical sensor based on CNT
- P2.12 **Natalia Konobeeva**  
Propagation of attosecond pulses in carbon nanotubes
- P2.13 **German Germanovich Kosakovskii**  
The mechanism of field emission in nanodiode with nanotube cathode
- P2.14 **German Germanovich Kosakovskii**  
The study of emission mechanism from carbon nanotube at a small anode-cathode distance
- P2.15 **Kirill Vladimirovich Kremlev**  
Synthesis and characterization of MWCNTs decorated with rhenium nanoparticles
- P2.16 **Kirill Vladimirovich Kremlev**  
NEXAFS studies of the composite MWCNT's-pyrolitic Cr by synchrotron radiation
- P2.17 **Aleksey Andreevich Krutoyarov**  
About adsorption of the polyethylene monomer unit on the single-walled carbon nanotubes surface
- P2.18 **Natalia Pavlovna Polikarpova**  
SENSOR ACTIVITY OF CARBON NANOTUBES WITH MODIFICATION OF CARBOXYL GROUP
- P2.19 **Aleksandr Prikhodko**  
Percolation Mechanism and Specific Features of Nanosecond Current–Voltage Characteristics of an Array of Carbon Nanotubes
- P2.20 **Roman Rozanov**  
Formation of a memristor-based structures of metal oxides with carbon nanotube electrode pads
- P2.21 **Artem Viktorovich Rukhov**  
Macrokinetics of production processes of carbon fibrous nanomaterials
- P2.22 **Kerstin Schneider**  
CVD growth of carbon nanotubes with a Ni catalyst in a polyimide trench
- P2.23 **Sergey Urvanov**  
Carbon fibers modified with carbon nanotubes and fullerenes
- P2.24 **Nadzeya Igorevna Valynets**  
Electromagnetic interference shielding of carbon nanotube buckypaper in Ka-band
- P2.25 **Aleksei Vladimirovich Yemelyanov**  
Field control conductivity of a channel made of carbon nanotubes coated with organic molecules



## Poster session 2 (03 July)

### Topic 3: Fullerenes

- P3.01 **Arslan Rifkhatovich Akhmetov**  
The reaction of [60]fullerene with halogen azides
- P3.02 **Arslan Rifkhatovich Akhmetov**  
The reaction of [60]fullerene with aluminum azides
- P3.03 **Sergey Andreev**  
Facile preparation of aqueous fullerene nanodispersions
- P3.04 **Marina Apenova**  
Bingel-Hirsch mechanism of dichlorocarbene addition to C<sub>60</sub>/70: experimental evidence
- P3.05 **Shafolat Aqnazarova**  
Investigation of the structure and physical properties of fullerene-containing polymers
- P3.06 **Elena Bashkatova**  
Attenuation of allergic inflammation by treatment with water-soluble forms of fullerene C<sub>60</sub>
- P3.07 **Victor Andreevich Brotsman**  
Regioselective functionalization of homofullerene C<sub>60</sub>CF<sub>2</sub> for organic photovoltaic applications
- P3.08 **Grigory Nikolaevich Churilov**  
The influence of helium pressure on the formation process of carbon nanodispersed substances in the plasma of high-frequency arc
- P3.09 **Grigory Nikolaevich Churilov**  
The formation of higher and endohedral fullerenes in the plasma of high-frequency arc with low-frequency modulation under elevated helium pressure
- P3.10 **Ruslan Rashidovich Gazizov**  
Formation of stable radicals in the photochemical reaction of C<sub>60</sub> with C<sub>4</sub>F<sub>8</sub>I<sub>2</sub>
- P3.11 **Ayrat Khamatgalimov**  
Stabilization of higher IPR fullerenes C<sub>74</sub> (D<sub>3h</sub>) and C<sub>76</sub> (T<sub>d</sub>) with open shell in radical addition reactions
- P3.12 **Dmitri Valentinovich Konarev**  
Preparation of mononuclear and dinuclear transition metal-fullerene compounds by the reduction method
- P3.13 **Valerii Ignatyevich Kovalenko**  
Isolated Pentagon Rule – what's new?
- P3.14 **Kirill Vladimirovich Kremlev**  
Quenching of the phthalocyanine and porphyrine luminescence by C<sub>60</sub> in toluene solution

- P3.15 **Vasily T. Lebedev**  
Supramolecular structures in aqueous solutions of fullerene-containing propylene oxide oligomers
- P3.16 **Vasily T. Lebedev**  
Polymer membranes modified by hybrid star-shaped macromolecules with fullerene C<sub>60</sub> branching center
- P3.17 **Olga Nikolaevna Mazaleva**  
Computational study of formation pathway of the heptagon-containing C<sub>88</sub>C<sub>122</sub>
- P3.18 **Konstantin Pavlovich Meletov**  
Phase transitions at high pressure in the neutral state donor-acceptor complexes {Pt(dbdtc)<sub>2</sub>}<sub>2</sub>C<sub>60</sub>, {Cd(dedtc)<sub>2</sub>}<sub>2</sub>C<sub>60</sub> and {Hg(dedtc)<sub>2</sub>}<sub>2</sub>C<sub>60</sub>.
- P3.19 **Konstantin Pavlovich Meletov**  
Raman study of the neutral state donor-acceptor complexes of the fullerene C<sub>70</sub> {Cd(dtc)<sub>2</sub>}<sub>2</sub>C<sub>70</sub>, {NiII(dcp)<sub>2</sub>}(C<sub>70</sub>)<sub>2</sub> and (CuSeEt)C<sub>70</sub> at high pressure.
- P3.20 **Ivan Mikheev**  
Preparation and characterization of a new clustered {N<sub>70</sub>}<sub>n</sub> fullerene material
- P3.21 **Ievgenii Alexandrovich Petrenko**  
Simulation of photon and secondary electron transport in thin metal and fullerite films
- P3.22 **Levon Borisovich Piotrovskiy**  
Characterization of fullerene derivatives by MALDI LIFT-TOF/TOF mass spectrometry
- P3.23 **Roman Polozkov**  
Structured pseudopotential correction to the jellium model for fullerenes
- P3.24 **Iraida Nikolaevna Potapova**  
Structure and properties of fullerene-derived carbon particles after heating under pressure in the temperature range of fullerene molecule stability limit
- P3.25 **Aleksei Pozdnyakov**  
NEXAFS spectra of PMMA-C<sub>60</sub> and PMMA-MWNT nanocomposites
- P3.26 **Aleksei Pozdnyakov**  
UV-Vis diagnostics of the PMMA-C<sub>60</sub> composite system and the kinetics of its thermal decomposition
- P3.27 **Natalia Andreevna Romanova**  
Synthesis, structure and theoretical study of trifluoromethylated derivatives of C<sub>84</sub>(23) fullerene
- P3.28 **Alexey Vladimirovich Rybalchenko**  
Spectroelectrochemical and theoretical studies of C<sub>60</sub>(CF<sub>2</sub>)H<sub>2</sub>

- P3.29 **Denis Sabirov**  
Metal complexes in the synthesis of oxygen-containing C60 and C70 fullerene derivatives
- P3.30 **Vladimir Shnitov**  
Peculiarity of electron beam induced modification of C60/C70 composite film
- P3.31 **Eugenii Vyacheslavovich Skokan**  
XPS studies of several trifluoromethyl and dihalomethylene derivatives of fullerenes C60 and C70
- P3.32 **Gennadi Girshevitch Sominski**  
Field emitters made of fullerene and indium nano-layers with greatly differing work functions.
- P3.33 **Gennadi Girshevitch Sominski**  
Operation of tip field emitters with activated fullerene coatings in technical vacuum conditions.
- P3.34 **Sergey Igorevich Troyanov**  
New trifluoromethylated C90 fullerenes: C90(30)(CF3)18 and C90(35)(CF3)14
- P3.35 **Ayrat Khamatgalimov**  
Trifluoromethyl mono and diadducts of fullerene C84 (isomers 22 and 4): theoretical analysis of the electronic structure
- P3.36 **Airat Tuktarov**  
A new synthesis of fullerenyl ketones catalyzed by Ti(Oi-Pr)4
- P3.37 **Irina B. Zakharova**  
Fullerene films with suppressed polymerizing ability
- P3.38 **Irina B. Zakharova**  
Structure, composition and optical properties of C60 thin films

### **Poster session 3: Nanodiamonds, Carbon Onions, Nanographite, Nanoporos Carbon and Other (04 July)**

#### **Topic 4: Nanodiamond particles**

- Valeriy Aleksandrovich Davydov**
- P4.01 Synergistic influence of fluorine and hydrogen on processes of thermal transformations of carbon-containing systems under high pressures
- P4.02 **Valeriy Aleksandrovich Davydov**  
Synthesis of diamond with silicon-vacancy defects at high static pressures
- P4.03 **Tatiana Dolenko**  
Diamond-water coupling effects in Raman and photoluminescence spectra of nanodiamond colloidal suspensions
- P4.04 **Valery Dolmatov**  
Radioactive nanodiamonds

- P4.05 **Valery Dolmatov**  
A probable mechanism of formation of detonation nanodiamond
- P4.06 **Viktor Volodymyrovych Garashchenko**  
The vibrational spectra of ultradispersed diamond powders
- P4.07 **Farida Rafilevna Gareeva**  
Electrosurface Properties of Primary Particles of Deagglomerated Detonation Nanodiamond in Aqueous KCl Solutions
- P4.08 **Elena Golubina**  
Effect of nanodiamond surface composition on adsorption of metal ions and catalytic properties of supported metal particles
- P4.09 **Dmitriy Vladimirovich Gorodetskiy**  
PE CVD synthesis of carbon-carbon composites
- P4.10 **Michail Grigorievic Ivanov**  
Nanodiamond-based oil lubricants on steel-steel and stainless steel- hard alloy (WC) high load contact: investigation of friction surfaces
- P4.11 **Andrew Khomich**  
The origin of broadband photoluminescence and EPR signals in HPHT nanodiamonds
- P4.12 **Inna Ivanovna Kulakova**  
Active hydrogen accumulation on detonation nanodiamond surface in Ni-supported catalysts
- P4.13 **Tikhon Sergeevich Kurkin**  
Enhancing the interface strength in fiber-reinforced polymer composite materials via complex modification by strongly charged nanodiamond soot particles
- P4.14 **Ivan Alexandrovich Makarov**  
Controlled Oxidation of Detonation Blend
- P4.15 **Seira Morimune**  
Nanodiamond Reinforced Polymer Nanocomposites Prepared in Aqueous Media
- P4.16 **Vladimir Yurievich Osipov**  
Electron paramagnetic resonance studies of modified detonation nanodiamonds with low ash content
- P4.17 **Anna Panova**  
Oxidation of nanodiamond powders with different content of sp<sup>2</sup>-hybridized carbon
- P4.18 **Natalia Igorevna Petrova**  
Electrokinetic Properties of Nanodiamond Particles in Aqueous Electrolyte Solutions
- P4.19 **Vladimir A. Popov**  
Use of Liquid Stamping Method for Producing Metal Matrix Composites with Non-agglomerated Nanodiamond Reinforcing Particles

- P4.20 **Vladimir A. Popov**  
Electrochemical composite coatings with reinforcing non-agglomerated nanodiamond particles
- P4.21 **Konstantin Victorovich Reich**  
Optical Properties of Detonation Nanodiamond Hydrosols
- P4.22 **Jessica Marianne Rosenholm**  
Nanodiamond composite structures for inorganic nanomedicine II: Application
- P4.23 **Jessica Marianne Rosenholm**  
Nanodiamond composite structures for inorganic nanomedicine I: Fabrication
- P4.24 **Natalia Nikolaevna Rozhkova**  
Contribution of graphene shell to the stabilization of nanodiamond particles in aqueous dispersion
- P4.25 **Mikhail Dmitrievich Sharkov**  
Ultra-dispersed diamond structure characterization using the methods of x-ray diffractometry and small-angle x-ray scattering
- P4.26 **Mikhail Shestakov**  
The structure of nanodiamonds produced by laser shock-wave synthesis.
- P4.27 **Oleksandr Vasyliovych Tomchuk**  
Aggregation in modified aqueous dispersions of detonation nanodiamonds as revealed by small-angle neutron scattering
- P4.28 **Ekaterina Vasilyeva**  
Production and structure of metallic-nanodiamond composites by spray-dry technique
- P4.29 **Nikolay Nikolaevitsh Vershinin**  
Comparative study of nanodiamond and nanosized silicon carbide based catalysts for carbon monoxide oxidation
- P4.30 **Dmitry Sergeevich Volkov**  
Direct Elemental Analysis of Nanodiamonds with ICP-OES
- P4.31 **Sergey Voropaev**  
Synthesis of Diamondlike Nanoparticles under Cavitation
- P4.32 **Alexandr Voznyakovskii**  
Detonation nanodiamonds. Structure or surface
- P4.33 **Elena Zagrebina**  
NEXAFS study of surface fluorinated nanodiamonds

## **Topic 5: Carbon onions, Nanographite, Nanoporous carbon and Other**

- P5.01 **Karina Ahmadishina**  
Transparent conductive film of nanotubes for flexible electronics

- P5.02 **Alexander Victorovich Arkhipov**  
Role of substrate in facilitated field electron emission from nanocarbon films
- P5.03 **Alexander Victorovich Arkhipov**  
Field electron emission from a nickel-carbon nanocomposite
- P5.04 **Sergey sergeevich Bukalov**  
Structural changes in commercial glassy carbons as a function of heat-treatment temperature, according to Raman, X-ray diffraction and diamagnetic susceptibility data.
- P5.05 **Sergey Burikov**  
Using artificial neural networks for elaboration of fluorescence biosensors on the basis of nanoparticles
- P5.06 **Valerii Valer'evich Chernov**  
Nanocrystalline diamond films grown on flat and 3D configuration molybdenum substrates and their electron emission properties
- P5.07 **Olessya Aleksandrovna Davletova**  
About adsorption of simple gas molecules on a surface of acryle-nitrile nanopolymer
- P5.08 **Olessya Aleksandrovna Davletova**  
Research of hydrogenation of carbon nano-crystalline materials based on pyrolyzed polyacrylonitrile
- P5.09 **Olessya Aleksandrovna Davletova**  
Research of adsorption of carbon nanostructures on the base of pyrolyzed polyacrylonitrile
- P5.10 **Tran Thi Thuy Duong**  
MgO - doped alumina reinforced by carbon nanotubes
- P5.11 **Aleksey Victorovich Erokhin**  
Structural and catalytic properties of metal – carbon nanocomposites Fe@C and Ni@C in phenylacetylene hydrogenation
- P5.12 **Pavel V. Fursikov**  
Metal oxide – carbon nanofibers composites: synthesis, characterization, and electrophysical behavior
- P5.13 **Viktor Volodymyrovych Garashchenko**  
Optical limiting in polymer suspension of graphite submicron scale particles
- P5.14 **Ramil Ibragimov**  
SERS substrate development for advanced carbon nanostructures study
- P5.15 **Sergey Vasilievich Kozyrev**  
Carbon encapsulation of magnetic metal nanoparticles: correlation between nanoscale structure of carbon matrix and electromagnetic properties
- P5.16 **Yury Krivosenko**  
Resonances in photoemission from molecules confined in fullerene cages

- P5.17 **Yulia Alexandrovna Kvashnina**  
The prediction of the new promising superhard carbon allotropes
- P5.18 **Anton Malovichko**  
Sensitive properties of percolating networks of carbon nanotubes and ZnO nanorods investigation
- P5.19 **Svetlana Mikhailova**  
Optical properties peculiarity of platinum embedded diamond-like carbon films
- P5.20 **Kirill Victorovich Mironovich**  
Secondary nucleation on nanostructured carbon films grown in the plasma of direct current glow discharge
- P5.21 **Evgeny Nicholaevich Moos**  
CRYSTALLINE STATE ATOMIC- PURE SURFACE OF HIGHORIENTATION PYROLYTIC GRAPHITE
- P5.22 **Roza Muzafarovna Nikonova**  
Contact interaction of metal melts with nanocarbon materials
- P5.23 **Tatiana S Orlova**  
Structure-driven transition in behaviour of elastic and inelastic properties of wood-derived biocarbon
- P5.24 **Nail Rahmatullovich Sadykov**  
Calculation of electrical conductivity of polyynic and cumulenenic carbon chains
- P5.25 **Dmitry Ivanovich Savkin**  
SYNTHESIS AND CHARACTERISTICS OF X-RAY AMORPHOUS NANOCARBON PRODUCED BY SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS.
- P5.26 **Olga Sedelnikova**  
Electromagnetic screening effect in carbon nanostructures: ab initio and experimental study
- P5.27 **Fedor Shakhov**  
HPHT synthesis and properties of boron doped diamonds
- P5.28 **Tao Wei**  
Putting a non-group-III metal into fullerene cage via metal nitride formation
- P5.29 **Olga Anatoliivna Biloivan**  
Nanocomposite Amperometric Biosensor for Choline Determination in Infant Formula
- P5.30 **Uladimir Urbanovich**  
On the question of structure formation of amorphous-nanocrystalline composite with high hardness based on nanocarbon at high pressure
- P5.31 **Andrey Yakovlevich Vinogradov**  
Growth and characterization of DLC-(Ni-C) nanocomposite sandwich structures

- P5.32 **Andrey Yakovlevich Vinogradov**  
Effect of ion bombardment on phase composition and mechanical properties of thin diamond like carbon films
- P5.33 **Evgeniya Zharikova**  
New photoluminescent material on the basis of nanodiamonds and ions terbium(III)
- P5.34 **Mattia Gaboardi**  
Reversible hydrogen absorption in alkali metal intercalated fullerides
- P5.35 **Fupin Liu**  
A series of inorganic solid nitrogen sources for the synthesis of metal nitride clusterfullerenes: the dependence of production yield on the oxidation states of nitrogen and counter ion
- P5.36 **AKIHIRO OTSUKA**  
Various types of intermolecular interactions between C60 anion radicals

### **School Poster Session (03 July)**

- P6.01 **Maxim Sergeevich Barabashko**  
The low temperature heat capacity of the C60-CH4 solution
- P6.02 **Svetlana Vladimirovna Cherdyntseva**  
Processing and characterization of epoxy nanocomposites modified by multi-wall carbon nanotube Graphistrength® C S1-25
- P6.03 **Alexey Emelianov**  
Field electron emission from carbon films fabricated by magnetron sputtering
- P6.04 **Igor Vladimirovich Ershov**  
Ab initio study of atomic structure and surface states of graphene covered MnO polar (111) surfaces
- P6.05 **Ekaterina Olegovna Fedorovskaya**  
Biosensors based on composites of aligned carbon nanotubes and RNA
- P6.06 **Alina Ibatullina**  
Importance of detonation nanodiamonds post-synthetic processing.
- P6.07 **Arthur Alikovich Ibragimov**  
Electron field emission features of carbon nanostructured cathode
- P6.08 **Marianna Kharlamova**  
The filling of single-walled carbon nanotube channels is a method of directional modification of their electronic properties
- P6.09 **Sergei Koniakhin**  
The electron-phonon matrix element in the Dirac point of graphene
- P6.10 **Svyatoslav Igorevich Krel**  
Investigation of low-aspect-ratio carbonic field-emission nanostructures



- P6.11 **Yulia Vladimirovna Kudashova**  
Forming of monolayer graphene oxide films on silicon substrate
- P6.12 **Alexander Pavlovich Meylakhs**  
Heat Transport across the metal-nanodiamond interface
- P6.13 **Nguyen Nguyen**  
Influence of the edge and substrate effects of zigzag graphene nanoribbons on atomic and electronic structures of the 8-ZGNR/h-BN(0001) interface.
- P6.14 **Veranika Pack**  
Effect of BaTiO<sub>3</sub> modification by shungite carbon deposition on the dielectric properties of polymer based composites containing modified BaTiO<sub>3</sub> as a filler
- P6.15 **Veranika Pack**  
ZnS:Cu phosphors modified by shungite nanocarbon deposition
- P6.16 **Nikolai Romanov**  
Infrared absorption studies of chemically modified nanodiamonds of dynamic synthesis
- P6.17 **Valentina Anatolevna Shmatko**  
H-SWCNT: X-ray absorption spectroscopy and semiempirical calculations.
- P6.18 **Filipp Shumilov**  
Would it be possible to control a synthesis process of Detonation diamonds?
- P6.19 **Aleksander Shvidchenko**  
The features of applicability of dynamic light scattering method for the size analysis of carbon nanoparticles in sols
- P6.20 **Andrey Sergeevich Solomatin**  
Highly tritium labeled detonation nanodiamond
- P6.21 **Oleksandr Vasyliovych Tomchuk**  
Small-angle scattering from detonation nanodiamonds as polydisperse particles with diffusive surface
- P6.22 **Alina Alekseevna Tomchuk**  
Study of cluster reorganization in C<sub>60</sub>/NMP/H<sub>2</sub>O solutions by dynamic light scattering
- P6.23 **Kseniya Alekseevna Ustimenko**  
Structure and optical properties of fullerene C<sub>60</sub> complex with dipyridinated iron(II) phthalocyanine [Fe(II)Pc(C<sub>5</sub>H<sub>5</sub>N)<sub>2</sub>]•C<sub>60</sub>•4C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>
- P6.24 **Sofiya Piatrouna Varanovich**  
Anomalous absorption of ultra-thin pyrolytic carbon films
- P6.25 **Evgeny Vladimirovich Zhizhin**  
Photoelectron spectroscopy with angular and spin (SARPES) resolution for the study of systems based on graphene

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# Fund for Infrastructure and Educational Programs

The Fund for Infrastructure and Educational Programs was founded during the reorganization of the Russian Corporation of Nanotechnologies. Its purpose is to create infrastructure for innovation in the nanoindustry, including realizing projects and programs in education and infrastructure building that RUSNANO had previously begun. The Fund for Infrastructure and Educational Programs primarily focuses its work in these areas:

- Formation of manufacturing infrastructure
- Development of human resource potential for the sector
- Stimulation of demand for nanotechnology products
- Improvement of the legislative framework
- Standardization and certification of nanoproducts, and evaluation of their safety
- Refinements in metrology
- Popularization of nanotechnology and nano-enabled products

The highest governing body of the fund is its Supervisory Council, which is chaired by Dmitry Livanov, the Minister of Education and Science of the Russian Federation. In accordance with the charter of the fund, the Council determines priorities for its activities, establishes its strategies, and sets its budget.

The Management Committee is the fund's collegial executive body. It is chaired by RUSNANO CEO Anatoly Chubais. Andrey Svinarenko is CEO of the Fund for Infrastructure and Educational Programs.

Information: <http://en.rusnano.com/about/fiep/>