



St Petersburg Electrotechnical University "LETI"
Nanotechnology Research Educational Centre

ENF2009

Facilitating the Russian Universities NanoNetwork entry into the European Research Area in Nanoscience and Nanotechnology

Alexey Ivanov, Victor Luchinin, Mark Morrison

Nanotechnology Research Educational Centre
St Petersburg Electrotechnical University "LETI"

asivanov@mail.eltech.ru



ETU – ST. PETERSBURG

**St Petersburg Electrotechnical University
(ETU) – the leading Russian universities in
Electronics and Nanotechnology**

Prof. Alexander Popov, Radio Inventor
Prof. Jores Alferov, Nobel Prize Winner



- 2006** Russian Information Point for FP6/FP7 (4 RIPs)
- 2007** The member of RU Nanotechnology Research Educational Network (25)
- 2008** Grant (10 M€) for nanotechnology facilities:
Nanotechnology, Nanoelectronics, Photonics,
Nano and Micro Systems
- ETU** The Partner in FP6: NoE METAMORPHOSE, STREP
NANOSTAR, FP7: CP NANOINTERFACE, ICPCNANONET





OUTLINE

- ❑ **Russian Nanotechnology Network (RNN)**
- ❑ **Russian Universities NN (RUNN)**
strength & weakness
- ❑ **ICPCNanoNet: database, Nanoarchive, statistics**
- ❑ **RUNN entering into ERA**





RNN.RU

**2007 Federal Targeted Programme Nanoindustry
Infrastructure Development for 2008 – 2010
(800 M€)**

Goal: Russian Nanotechnology Network (RNN)

	Total	2008	2009	2010
Equipment	500 M€	200	170	130
IT Structure	170 M€	45	65	60
Metrology	130 M€	40	45	55
Management	20 M€	5	6	9

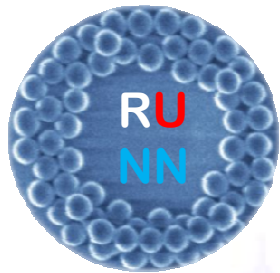




Russian Nanotechnology Network (RNN)
Thematic Areas (8)

- Nanoelectronics**
- Nanoengineering**
- Functional materials for energy**
- Functional materials for space**
- Nanobiotechnologies**
- Construction nanomaterials**
- Composite nanomaterials**
- Nanotechnologies for safety**

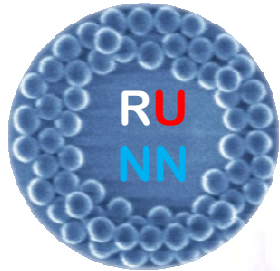




Russian Universities Nanotechnology Network

31 Nanotechnology Research Educational Centres





Russian **Universitis** Nanotechnology Network

Strength

**Government investment to technological and analytical equipment updating
200 M€ (4-10 M€ per university)**

Weakness

- Need for reliable EU-RU link**
- A few presented in Nanoforum.org**
- The most publications in Russian**





FP7 ICPC NANONET

"A web-based repository of nanoscience and nanotechnology publications, database of researchers and online forum, to inform and facilitate networking between EU and ICPC RTD" started in June 2008

Consortium:

- Institute of Nanotechnology – IoN (UK), coordinator*
- Chinese Society of Micro-Nano Technology (China)*
- Jawaharlal Nehru Centre for Advanced Scientific Research (India)*
- Malsh TechnoValuation (Netherlands)*
- Sociedade Portuguesa de Inovação, (Portugal)*
- St Petersburg Electrotechnical University – ETU (Russia)***
- United Nations University-MERIT (Netherlands)*





ICPC-NANONET.ORG



Contact Us Links Home

Home	Russia
About ICPCNanoNet	A.F. Ioffe Physical-Technical Institute of RAS
Organizations	Belgorod State University
ICPC NanoNet Reports	Incorporated Centre of Researches and Designs
ICPC News & Events	Institute for Physics of Microstructures, RAS (IPMRAS)
Nano Archive	Institute of Chemistry of Silicates, RAS
Workshops & Networking	Institute of Crystallography V. Shubnikova
N&I News	Institute of Microelectronics Technology, RAS
Links	Institute of Physics of Durability and Materials Technology, Siberian Branch
Contact Us	Institute of Physics of Semiconductors Siberian Branch RAS
Researchers	Kazan Physicotechnical Institute of E.K. Zavoiskogo, RAS
 	M.V. Lomonosov Moscow State University
User Menu	Moscow State Institute of Steel and Alloys
Your Details	Moscow State Technical University of N.E. Bauman
Upload Organization	Nanotechnology-Mdt Co.
Update Organization record	Natural Sciences Center of A.M. Prokhorov General Physics Institute, RAS
Project Documents	North Caucasian State Technical University
Logout	Novosibirsk State Technical University
	NTVP "Poverkhnost" OOO (Surface Phenomena Researches Group LLC)
	Physicotechnical Institute, Ural RAS
	Rusnano: Russian Cooperation of Nanotechnology
	Russian Research Center 'Kurchatov Institute'
	Shernyakin-Ovchinnikov Institute of Bioorganic Chemistry, RAS
	Southern Centre of Science of the RAS
	Southern Federal University

43

Russian research entities advanced in nanotechnology are presented in organisations database

31 from RUNN



NANOARCHIVE.ORG

The screenshot shows the Nano Archive website with the following elements:

- Header: Nano Archive, ICPNANONET logo, navigation menu (Home, About, Archive User Guide, Browse by Year, Browse by Subject, Browse by Author), and user login information (Logged in as Prof. Alexey Ivanov).
- Buttons: Manage deposits, New Item, Import Items.
- Search: Search bar.
- Table of publications:

Item ID	Title	Creators	Journal or Publication Title	Date	Volume	Number	Page Range	Official URL	Date Deposited
196	Single-walled carbon nanotube-superconductor entangler: noise correlations and Einstein-Podolsky-Rosen states	Bouchiat, V and Chtchelkatchev, N and Feinberg, D and Lesovik, G B and Martin, T and Torres, J	Nanotechnology	20 December 2002	14	UNSPECIFIED	pp. 77-85	http://dx.doi.org/10.1088/0957-4484/14/1/318	17 Nov 2008 08:05
623	Effect of proton irradiation on photoluminescent properties of PDMS‐nanodiamond composites	Borjanovic, Vesna and Lawrence, William G and Hens, Suzanne and Jaksic, Milko and Zamboni, Ivana and Edson, Clark and Vlasov, Igor and Shenderova, Olga and McGuire, Gary E	Nanotechnology	2008	19	45	455701 (10pp)	http://stacks.iop.org/0957-4484/19/4/45701	16 Mar 2009 10:42
624	Enhanced solid-phase immunoassay using gold nanoshells: effect of nanoparticle optical properties	Khlebtsov, Boris and Khlebtsov, Nikolai	Nanotechnology	2008	19	43	435703 (10pp)	http://stacks.iop.org/0957-4484/19/4/35703	16 Mar 2009 10:42
625	Electric field imprinting of sub-micron patterns in	Lipovskii, A A and Kuitinen, M and Karvinen, P and Leinonen, K and	Nanotechnology	2008	19	41	415304	http://stacks.iop.org/0957-4484/19/4/415304	16 Mar 2009 10:42

This block shows magnified views of specific interface elements:

- A circular magnification of the top navigation bar showing "About" and "Archive User Guide".
- A circular magnification of the user profile area showing "Prof. Alexey Ivanov | M".
- A circular magnification of the "Import Items" button.
- A circular magnification of the pagination controls showing "results 1 to 10 of 364." and page numbers "6 | 7 | 8 | 9 | 10 | 11 |".
- A circular magnification of the "Review" and "Live Archi" checkboxes.

Russian publications – 364



STATISTICS

ICPC-NanoNet.org

Indicator	March	April
Hits	34891	53551
Visits	1794	2733
Unique IPs	3279	5140

Representatives
of **94** countries
visited web-site

Domain	Hits	Share, %
Commercial (.com)	27144	50,69
unresolved	8059	15,05
Network (.net)	3503	6,54
Netherlands	1480	2,76
Germany	1013	1,89
Russia	1003	1,87
Italy	984	1,84
France	752	1,40
United Kingdom	575	1,07
USA (.edu)	443	0,83

April 2009





CONCLUSION

Through **ICPCNanoNet** Project **ETU**

1. Connects **RUNN** and **ERA**
2. Promoted **RUNN** Components to **ERA**
3. Improves awareness in **ERA** promoting
RUNN publications





St Petersburg Electrotechnical University "LETI"
Nanotechnology Research Educational Centre

ENF2009

THANKS

FOR YOUR TIME

asivanov@mail.eltech.ru



ICPC NANONET

June 5, 2009

Prague

Slide 13

