1st International School on Surface Science "Technologies and Measurements on Atomic Scale"

(28 Sept. – 2 October 2011, Veliky Novgorod, Russia)

Lecture Program

September 28, 2011

9.00 – 9.30	**Registration**
9.30 – 9.50	**Welcome & Introductory Remarks**
9.50 – 10.50	**Lecture 1.** *M. Morgernstern* "Spin detection by scanning tunneling microscopy"
10.50 – 11.10	Coffee break
11.10 – 13.00	**Lecture 2.** *T. Cren* "Confinement effects in nanosized superconductors"
13.00 – 15.00	Lunch
15.00 – 16.00	**Lecture 3**. *G. Herzog* "Spin mapping and manipulation at the nanoscale"
16.00 – 16.20	Coffee break
16.20 – 17.40	**Lecture 4.** *A. Pyatakov* "Magnetoelectric phenomena on surface and interfaces in magnetic heterostructures"
19.00 – 22.00	**Welcome party**

September 29, 2011

9.00 – 10.50	**Lecture 5.** *K. Morgenstern* "Single molecule manipulation"
10.50 – 11.10	Coffee break
11.10 – 13.00	**Lecture 6.** *A.A. Saranin* "Atom dynamics on reconstructed silicon surfaces"
13.00 – 15.00	Lunch
15.00 – 16.00	**Lecture 7.** *S.N. Molotkov* "Symmetry Based Classification of 1D, 2D Electron Spectra"
16.00 – 17.00	**Lecture 8.** *S.V. Zaitsev-Zotov* "Electronic properties of quasi-one-dimensional systems in 3D, 2D and 1D"
17.00 – 17.20	Coffee break
17.20 – 19.00	**Poster session**

September 30, 2011

9.00 – 10.50	**Lecture 9.** *G.M. Zhidomirov* "Charge states on surfaces"
10.50 – 11.10	Coffee break
11.10 – 13.10	**Lecture 10.** *B.V. Andryushechkin* "Structural phase transitions in chemisorbed layers of halogens"
13.10 – 14.30	Lunch
15.00 – 19.00	**Excursion**

October 1, 2011

9.00 – 10.50	**Lecture 11.** *S.G. Tikhodeev* "Inelastic Tunneling Current-Driven Motions of Single Adsorbates"
10.50 – 11.10	Coffee break
11.10 – 12.10	**Lecture 12.** *D. Vyalikh* «Electron f-d hybridization and fine structure of "f-bands" in rare-earth heavy-fermion materials»
12.10 – 13.10	**Lecture 13.** *S.N. Molotkov* "Relativistic Quantum Cryptography"
13.10 – 14.30	Lunch
14.30 – 16.30	**Lecture 14.** *S.P. Kulik* "Quantum information and entangled states"
17.00 – 20.00	**Conference dinner**

October 2, 2011

9.00 – 11.00	**Lecture 15.** *E.D. Obraztsova* "Nanophotonics based on SWNT and graphene"
11.00 – 11.20	Coffee break
11.20 – 12.30	**Lecture 16.** *M. Morgernstern* "Graphene on the nanoscale probed by STM"
12.30 – 12.50	**SPECS Presentation.** *T. Stempel* "Bridging the Pressure Gap - Developments and Challenges for Ambient Pressure Photoelectron Spectroscopy"
12.50 – 13.30	**Closing remarks**
13.30 – 14.30	Lunch

Poster Session

P1. E.A. Obraztsova[1,2], D.V. Klinov[1], R.R. Ismagilov[3], A.N.Obraztsov[3] ([1]*M.M. Shemyakin & Yu.A. Ovchinnikov Institute of bioorganic chemistry, RAS;* [2]*A.M. Prokhorov General physics institute, RAS;* [3]*M.V. Lomonosov Moscow state university, Moscow, Russia*) **"Diamond probes for atomic force microscopy".**

P2. P.F. Bessarab, V.M. Uzdin (*St. Petersburg State University, St. Petersburg, Russia*) **"Magnetization reversal of nanoscale islands: statistical approach".**

P3. Yuri Salamatov and Yuri Babanov *(Institute of Metal Physics UB RAS, Ekaterinburg, Russia)* **"A new effective method of determining the selective atomic concentration profile for low contrast systems: application to multilayer nanostructures".**

P4. D.V. Lebedev, L.P. Myasnikova, V.A. Marikhin (*Ioffe Physical-Technical Institute, Russian Academy of Sciences, St. Petersburg, Russia*) **"Molecular mobility in pre-surface layers of polyethylene investigated by Nanoluminograph".**

P5. D.A. Fokin[1,2,3,4], S.I. Bozhko[2], V. Dubost[1], F. Debontridder[1] , A.M. Ionov[2,3], T. Cren[1], D. Roditchev[1] *([1]Institute des Nanosciences de Paris, UMR 75 88 au C.N.R.S., University Paris 6 UPMC, Paris, France;* [2]*Institute of Solid States Physics, RAS, Chernogolovka, Russia;* [3]*Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS);* [4]*Lomonosov Moscow State University, Moscow, Russia)* **"Electronic growth of 3d Pb islands on the Si(7 7 10) surface".**

P6. V.S. Stolyarov[1,5], A.Yu. Rusanov[1], V.A. Oboznov[1], V.V. Ryazanov[1], T. Cren[2], F. Debontrdder[2], D. Roditchev[2], D.A. Fokin[1,4,5], M.D. Croitoru[3], A.I. Buzdin[3] *([1]Institute of Solid State Physics RAS, Chernogolovka, Russia;* [2]*Institute des Nanosciences de Paris, UMR 75 88 au C.N.R.S., University Paris 6 UPMC, Paris, France;* [3]*Condensed Matter Theory Group, CPMOH, University of Bordeaux I, France;* [4]*Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS);* [5]*Lomonosov Moscow State University, Moscow, Russia)* **"Local density of state investigations by low-temperature STM in superconductor-ferromagnet bilayers".**

P7. Alexei Yu. Aladyshkin *(Institute for Physics of Microstructures Russian Academy of Sciences, Nizhny Novgorod, Russia)* **"Surface-assisted superconductivity and domain-wall guided superconductivity in flux-coupled superconductor – ferromagnet hybrids".**

P8. Yu.I. Aliyev, N.A. Gasymova, G.G. Guseinov (*Institute of Physics, Azerbaijan National Academy of Science, Baku, Azerbaijan*) **"Structural phase transition in solid-solution crystals Cu4SeTe".**

P9. Z.V. Lavrukhina (*Lomonosov Moscow State University, Moscow, Russia*) **"Porous Si grown on <100> Si substrates and its behavior in THz range".**

P10. Y.E. Shchadilova, S.G. Tikhodeev (*A.M. Prokhorov General Physics Institute RAS, Moscow, Russia*) **"Single Molecule Lateral Hopping via Indirect Vibrational Mode Excitation".**

P11. A.V. Bystrova[1], E.V. Paramonova[2], Yu.D. Dekhtyar[3], V.S. Bystrov[2,4], E.I. Maevsky[1] ([1]*Institute of Theoretical and Experimental Biophysics RAS, Pushchino, Russia;* [2]*Institute of Mathematical Problems of Biology RAS, Pushchino, Russia;* [3]*Inst. of Biomedical Eng.&Nanotechnology, Riga Technical University, Riga, Latvia;* [4]*Dept.Cer.&Glass Eng.&CICECO, University of Aveiro, Aveiro, Portugal*) **"Modeling of Hydroxyapatite nano-particles properties and its interfacial interactions".**

P12. N.I. Fedotov, O.Yu. Lahmanskaia, A.B. Odobesko, S.V. Zaitsev-Zotov (*Kotel'nikov IRE RAS, Moscow, Russia*) **"Scanning tunneling microscopy and spectroscopy of In atomic chains on Si(001)".**

P13. V.A. Aleksandrov[1], I.V. Lysova[2], A.V. Stepanov[2] ([1]*Chuvash State University, Cheboksary, Russia;* [2]*Chuvash State Pedagogical University named after Yakovlev, Cheboksary, Russia*) **"Excitation of vibrational and rotational degrees of molecular particles at channelling in carbon nanotubes".**

P14. A. Chuklanov (*Zavoisky Physical-Technical Institute, Kazan, Russia*) **"Scanning probe microscopy of Co nanoparticles grows in ultra-high vacuum".**

P15. V.V. Zheltov, B.V. Andryushechkin, G.M. Zhidomirov, K.N. Eltsov (*A.M. Prokhorov General Physics Institute of Russian Academy of Sciences, Moscow, Russia*) **"Chlorine chains formation on Ag(111), Au(111) and Cu(111)".**

P16. B.V. Andryushechkin, V.V. Cherkez, E.V. Gladchenko, T.V. Pavlova, B. Kierren (*A.M. Prokhorov General Physics Institute of Russian Academy of Sciences, Moscow, Russia*) **"Chlorine induced structural transformation and reconstruction of Cu(110) at room temperature".**