

**XVIII Symposium of Condensed Matter Physics, SFKM-2011
18 – 22 April 2011, Belgrade, Serbia**

**Monday, 18 April 2011
Serbian Academy of Sciences and Arts**

09:00 – 10:00 Registration
10:00 – 10:15 Opening ceremony

**Mini-symposium: 100 years of superconductivity,
25 years of high T_c**

Session Chair Y. Kopaev

10:15 – 10:45 **Vsevolod Gantmakher:** Localized pairs and pseudogap near the superconductor-insulator transition in amorphous superconductors
10:45 – 11:15 **Ivan Bozovic:** Deciphering the enigma of high- T_c superconductivity in cuprates one atomic layer at a time
11:15 – 11:45 **Valery Ryazanov:** Phase and DOS inversions in superconductor/ferromagnet structures

Coffee break (15 min)

12:00 – 12:30 **Vladimir Pudalov:** Multiple Andreev reflection spectroscopy of FeAs-based high- T_c superconductors
12:30 – 13:00 **Cedomir Petrovic:** Magnetism and superconductivity in iron chalcogenide superconductors
13:00 – 13:30 **Efthymios Liarokapis:** Lattice anomalies in iron pnictides

Lunch

Session Chair I. Herbut

15:00 – 15:30 **Dragana Popovic:** Evidence for dynamic charge inhomogeneities in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ in the pseudogap regime
15:30 – 16:00 **Helene Raffy:** The electronic properties of $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$: an electron-doped cuprate.
16:00 – 16:30 **Miodrag Kubic:** 100 Years of superconductivity: Experimental facts and theoretical ingredients for the pairing mechanism of high-temperature superconductors

Coffee break (15 min)

16:45 – 17:15 **Laszlo Forro:** Infrared study of correlated systems
17:15 – 17:45 **Zoran Radovic:** Long-range spin-triplet proximity effect in Josephson junctions with multilayered ferromagnets
18:15 – 18:45 **Milica Milovanovic:** p-wave superconductivity on honeycomb lattice

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Tuesday, 19 April 2011
Ilija M. Kolarac Foundation

Session Chair H. Raffy

- 10:00 – 10:30 **Marija Drndic:** Graphene nanopores: Structure, properties and function
- 10:30 – 11:00 **Yuriy Kopaev:** Zero-field quantum Hall effect in two-dimensional toroics
- 11:00 – 11:30 **Igor Herbut:** Zero-modes and the structure of Dirac's vortex core in graphene

Coffee break (15 min)

- 11:45 – 12:15 **Branislav Nikolic:** Spin pumping in magnetic tunnel junctions and topological insulators: Theory and experiment
- 12:15 – 12:45 **Djordje Spasojevic:** Numerical study of critical behavior of two-dimensional nonequilibrium zero-temperature random field Ising model
- 12:45 – 13:00 **Stevan Nadj-Perge:** Single spins in InAs nanowires

Lunch

Session Chair L. Golubovic

- 15:00 – 15:30 **Ivanka Milosevic:** Helically coiled carbon nanotubes: Symmetry based study
- 15:30 – 15:45 **Tatjana Vukovic:** Diffraction intensities from nanotubes: Fingerprints of symmetry
- 15:45 – 16:15 **Zeljko Sljivancanin:** Tuning electronic properties of graphene-based nanostructures by the hydrogenation
- 16.15 – 16:30 **Patrick May:** Double-resonant Raman scattering in graphene

Coffee break (15 min)

- 16:45 – 17:00 **Mihajlo Vanevic:** Effects of metallic contacts on electron transport in graphene
- 17:00 – 17:15 **Vladimir Juricic:** Quantum criticality in graphene
- 17:15 – 17:30 **Ivana Petkovic:** High frequency high magnetic field response of graphene monolayers
- 17:30 – 17:45 **Zorica Konstantinovic:** Directed self-assembly in manganite thin films
- 18:00 – 19:30 Poster session for sections 1, 2, 3, 4 (max poster dimension 90x90)

Coffee will be available during the poster sessions

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**Wednesday, 20 April 2011
Ilija M. Kolarac Foundation**

Session Chair B. Nikolić

- 10:00 – 10:30 **Velimir Radmilovic:** Al₃(LiSc) core/shell ordered nanostructures embedded in solids
- 10:30 – 11:00 **Gyula Eres:** Bandgap narrowing in titanium oxide semiconductors by non-compensated anion-cation codoping for enhanced visible light photoactivity
- 11:00 – 11:30 **Natasa Bibic:** Ion beam induced modifications of metal (Fe or Co) thin films/Si bilayers

Coffee break (15 min)

- 11:45 – 12:15 **Zorka Papadopolos:** Testing the models of quasicrystals using their images in direct space
- 12:15 – 12:45 **Dragan Uskokovic:** Multi-scale molecular designing of nanoparticles and advanced materials
- 12:45 – 13:15 **Nebojsa Neskovic:** Rainbows with crystals and nanotubes

Lunch

- 15:00 – 18:00 **Excursion**

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Thursday, 21 April 2011
Ilija M. Kolarac Foundation

Session Chair D. Popović

- 10:00 – 10:30 **Leonardo Golubovic:** Localization-delocalization transitions of semi-flexible bio-polymers
- 10:30 – 11:00 **Bosiljka Tadic:** Theoretical concepts for dynamic force spectroscopy of molecular complexes
- 11:00 – 11:30 **Aleksandar Belic:** Numerical simulations of complex systems in quantum and classical physics
- Coffee break (15 min)
- 11:45 – 12:15 **Zoran Popovic:** Raman scattering on nanomaterials
- 12:15 – 12:45 **Diana Dulic:** Mechanical and electrostatic molecular orbital gating in a single Zn-porphyrin molecule
- 12:45 – 13:00 **Radmila Panajotovic:** XPS Study on effects of electron-beam irradiation of thin condensed DPPC films
- 13:00 – 13:15 **Ivan Belca:** AFM Indentation and electrolytical oxidation for production of nanopyramids
- Lunch

Session Chair M. Knežević

- 15:00 – 15:30 **Rados Gajic:** Optical spectroscopy of single and few-layer graphene
- 15:30 – 15:45 **Ivica Bradaric:** The experimental signatures of orbital liquid ground state in ferromagnetic metal SrRuO₃
- 15:45 – 16:00 **Ivana Vidanovic:** Nonlinear BEC dynamics induced by harmonic modulation of atomic s-wave length
- 16:00 – 16:15 **Darko Tanaskovic:** Phase diagram and energy scales in the Anderson lattice model
- 16:15 – 16:30 **Jacim Jacimovic:** Pressure dependence of the Kondo regime in Co_{1/3}NbS₂
- 16:30 – 16:45 **Viktor Cerovski:** Dependence of the mobility edge on the boundary hopping of the infinite-size Anderson model
- Coffee break (15 min)
- 17:00 – 17:15 **Mihailo Cubrovic:** Fermionic quantum criticality from AdS/CFT correspondence
- 17:15 – 17:30 **Nenad Lazarevic:** Raman scattering study of FeSb₂ single crystals
- 17:30 – 17:45 **Nenad Vukmirovic:** Charge transport in organic electronic materials
- 17:45 – 18:00 **Igor Stankovic:** Aggregation kinetics of short range attractive particle suspensions: brownian dynamics simulations vs. fractional Smoluchowski equation
- 18:00 – 19:30 Poster session for sections 5, 6, 7 (90x90)
- 20:30 – 24:00 Conference dinner at Hotel Palas

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**Friday, 22 April 2011
Ilija M. Kolarac Foundation**

Session Chair C. Petrovic

- 10:00 – 10:30 **Marco Aprili:** Microwave cooling of Josephson plasma oscillations
- 10:30 – 10:45 **Alberto Pomar:** Introduction of magnetic nanoparticles in $\text{YBa}_2\text{Cu}_3\text{O}_7$ films grown by chemical methods
- 10:45 – 11:00 **Milorad Milosevic:** Vortex interactions in two-band Ginzburg-Landau theory
- 11:00 – 11:15 **Milan Radovic:** When superconductivity meets magnetism: Electronic, magnetic and structural properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ / $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ heterostructures
- 11:15 – 11:30 **Vladimir Jovanovic:** Magnetic field dependence of anisotropy of In-plane angular magnetoresistance of electron-doped $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films
- 11:30 – 12:00 Closing

Lunch