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# Workshop on Trends in Nanoscience: Theory, Experiment, Technology | (smr 2078)

## Sunday 23 August 2009

### **Registration (at the workshop desk, Aula Magna, Lucian Blaga Univ.) (08:30-09:00)**

time	title	presenter
08:30	Registration (at the workshop desk, Aula Magna, Lucian Blaga Univ.)	

### **Opening Session (09:00-09:45)**

time	title	presenter
09:00	Opening Session	

### **Introductory lecture (09:45-10:30)**

time	title	presenter
09:45	Introductory lecture	OLGUN GUVEN

### **Coffee break (10:30-11:00)**

time	title	presenter
10:30	Coffee break	

### **i) Radiation effects on polymers , ii) Radiation-induced polymerization for the formation of nanoparticles (11:00-12:15)**

time	title	presenter
11:00	i) Radiation effects on polymers , ii) Radiation-induced polymerization for the formation of nanoparticles	OLGUN GUVEN

### **Mossbauer spectroscopy as a tool for the study of nanostructured materials (12:15-13:00)**

time	title	presenter
12:15	Mossbauer spectroscopy as a tool for the study of nanostructured materials	ZOLTAN KLENC SAR

### **Lunch (13:00-15:00)**

time	title	presenter
13:00	Lunch	

### **Magnetic configuration and magnetic relaxation of nanoparticles: a Mossbauer approach (15:00-15:30)**

time	title	presenter
15:00	Magnetic configuration and magnetic relaxation of nanoparticles: a Mossbauer approach	VICTOR KUNCSE

### **EPR of transition ions in (nano)crystalline materials (15:30-16:15)**

time	title	presenter
15:30	EPR of transition ions in (nano)crystalline materials	SERGIU NISTOR

### **Coffee break (16:15-16:45)**

time	title	presenter
16:15	Coffee break	

### **Localization of Mn<sup>2+</sup> impurity ions in cubic ZnS quantum dots (16:45-17:15)**

time	title	presenter
16:45	Localization of Mn <sup>2+</sup> impurity ions in cubic ZnS quantum dots	SERGIU NISTOR

### **New trends in X ray line profiles analysis using various mathematical distributions – a comparative study (17:15-18:00)**

time	title	presenter
17:15	New trends in X ray line profiles analysis using various mathematical distributions – a comparative study	NICOLAE ALDEA

# Monday 24 August 2009

## **i) Radiation-induced degradation for the preparation of ion-track membranes, ii) Radiation-induced crosslinking for the formation of nanocomposites, nanogels and nanovoids (09:00-10:30)**

time	title	presenter
09:00	i) Radiation-induced degradation for the preparation of ion-track membranes, ii) Radiation-induced crosslinking for the formation of nanocomposites, nanogels and nanovoids	OLGUN GUVEN

## **Coffee break (10:30-11:00)**

time	title	presenter
10:30	Coffee break	

## **Radiation-induced grafting for nanostructuring of surfaces (11:00-11:30)**

time	title	presenter
11:00	Radiation-induced grafting for nanostructuring of surfaces	OLGUN GUVEN

## **Magnetoresistive materials with intrinsic nanoscale magnetism (11:30-12:15)**

time	title	presenter
11:30	Magnetoresistive materials with intrinsic nanoscale magnetism	ZOLTAN KLENC SAR

## **Core-shell magnetic nanoparticles covered with Au and Pt: synthesis, characterization, properties and functionalization (12:15-13:00)**

time	title	presenter
12:15	Core-shell magnetic nanoparticles covered with Au and Pt: synthesis, characterization, properties and functionalization	OVIDIU PANA

## **Lunch (13:00-15:00)**

time	title	presenter
13:00	Lunch	

## **Magnetic nanoparticles, nanofluids and hybrid structures: synthesis, structure and some applications (15:00-15:45)**

time	title	presenter
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15:00	Magnetic nanoparticles, nanofluids and hybrid structures: synthesis, structure and some applications	VLAD SOCOLIUC
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### **Functionalized polymer based magnetic nanostructures (15:45-16:15)**

time	title	presenter
15:45	Functionalized polymer based magnetic nanostructures	RODICA TURCU

### **Coffee break (16:15-16:45)**

time	title	presenter
16:15	Coffee break	

### **Semiconductor nanocrystals with biomedical applications (16:45-17:15)**

time	title	presenter
16:45	Semiconductor nanocrystals with biomedical applications	OTILIA CINTEZA

### **Bio-oriented nano-sized polymeric materials (17:15-17:45)**

time	title	presenter
17:15	Bio-oriented nano-sized polymeric materials	MIHAELA OLARU

### **Theoretical and experimental aspects on the bionanoactuation of the magnetic bacterium (17:45-18:15)**

time	title	presenter
17:45	Theoretical and experimental aspects on the bionanoactuation of the magnetic bacterium	MIRCEA IGNAT

### **Conference dinner (19:00-19:00)**

time	title	presenter
19:00	Conference dinner	

## Tuesday 25 August 2009

### **Thin-film metamaterials (09:00-09:45)**

time	title	presenter
09:00	Thin-film metamaterials	AKHLESH LAKHTAKIA

### **Micro and nanoengineering of Electromagnetic Energy: Applications to sensors, communications, scavenger (09:45-10:30)**

time	title	presenter
09:45	Micro and nanoengineering of Electromagnetic Energy: Applications to sensors, communications, scavenger	ROBERT PLANA

### **Coffee break (10:30-10:45)**

time	title	presenter
10:30	Coffee break	

### **GaN and InN nanowires: growth and properties (10:45-11:30)**

time	title	presenter
10:45	GaN and InN nanowires: growth and properties	TOMA STOICA

### **Photovoltaic cells based on organic thin films and organic/inorganic hybrid structures (11:30-12:15)**

time	title	presenter
11:30	Photovoltaic cells based on organic thin films and organic/inorganic hybrid structures	STEFAN ANTOHE

### **Conducting polymers based solar energy conversion (12:15-13:00)**

time	title	presenter
12:15	Conducting polymers based solar energy conversion	TEKETEL YOHANNES

### **Lunch (13:00-15:00)**

time	title	presenter
13:00	Lunch	

### **Digital lithography for nanostructure fabrication (15:00-15:30)**

time	title	presenter
15:00	Digital lithography for nanostructure fabrication	MARIUS BOAMFA

### **Main Chain Rotaxane Polymers for Opto-electronics (15:30-16:00)**

time	title	presenter
15:30	Main Chain Rotaxane Polymers for Opto-electronics	VALERIA HARABAGIU

### **Fabrication of localized nanowire arrays: a step forward in higly-sensitive detecting applications (16:00-16:30)**

time	title	presenter
16:00	Fabrication of localized nanowire arrays: a step forward in higly-sensitive detecting applications	VLAD ANTOHE

### **Coffee break (16:30-17:00)**

time	title	presenter
16:30	Coffee break	

### **Structural modelling of low-dimensional structures (17:00-17:45)**

time	title	presenter
17:00	Structural modelling of low-dimensional structures	ADAM LORINCZI

### **Changes induced by the heat treatment in the global and local structure of the Ni/Al<sub>2</sub>O<sub>3</sub> and Ni/Cr<sub>2</sub>O<sub>3</sub> catalysts (17:45-18:15)**

time	title	presenter
17:45	Changes induced by the heat treatment in the global and local structure of the Ni/Al <sub>2</sub> O <sub>3</sub> and Ni/Cr <sub>2</sub> O <sub>3</sub> catalysts	STELIAN PINTEA

### **Round table: meeting with physics teachers in Sibiu. (with the participation of Ioana Groza, Bogdan Dragnea, Traian Dumitrica) (18:15-19:15)**

time	title	presenter
18:15	Round table: meeting with physics teachers in Sibiu. (with the participation of Ioana Groza, Bogdan Dragnea, Traian Dumitrica)	



## Wednesday 26 August 2009

### **Graphene: electrical transport and theoretical challenges (09:00-09:45)**

time	title	presenter
09:00	Graphene: electrical transport and theoretical challenges	DANIELA DRAGOMAN

### **Oscillations in suspended carbon nanotube structures (09:45-10:15)**

time	title	presenter
09:45	Oscillations in suspended carbon nanotube structures	MIRCEA DRAGOMAN

### **Electron beam lithography for CNT (10:15-10:45)**

time	title	presenter
10:15	Electron beam lithography for CNT	ADRIAN DINESCU

### **Coffee break (10:45-11:15)**

time	title	presenter
10:45	Coffee break	

### **Interaction of ion beams with carbon nano-structures (11:15-11:45)**

time	title	presenter
11:15	Interaction of ion beams with carbon nano-structures	ZORAN MISKOVIC

### **Synthesis of carbon nanowalls in a low pressure expanding plasma (11:45-12:15)**

time	title	presenter
11:45	Synthesis of carbon nanowalls in a low pressure expanding plasma	GEORGE DINESCU

### **Percolation phenomena in nanocrystalline Si (12:15-13:00)**

time	title	presenter
12:15	Percolation phenomena in nanocrystalline Si	MAGDALENA CIUREA

### **Lunch (13:00-15:00)**

time	title	presenter
13:00	Lunch	

**Fractional charge and statistics in Luttinger liquids (15:00-15:45)**

time	title	presenter
15:00	Fractional charge and statistics in Luttinger liquids	JON MAGNE LEINAAS

**1D anyons: Quantum mechanics and asymptotic behavior of correlation functions (15:45-16:15)**

time	title	presenter
15:45	1D anyons: Quantum mechanics and asymptotic behavior of correlation functions	OVIDIU PATU

**The basic properties of the exclusion statistics parameters in fractional exclusion statistics (16:15-16:45)**

time	title	presenter
16:15	The basic properties of the exclusion statistics parameters in fractional exclusion statistics	DRAGOS ANGHEL

**Coffee break (16:45-17:00)**

time	title	presenter
16:45	Coffee break	

**Oligothiophenes encapsulated in zigzag carbon nanotubes: electronic and optical properties from first principles (17:00-17:30)**

time	title	presenter
17:00	Oligothiophenes encapsulated in zigzag carbon nanotubes: electronic and optical properties from first principles	TAYEBEH MOVLAROOY

**Scattering in cylindrical nanowire heterostructures (17:30-18:00)**

time	title	presenter
17:30	Scattering in cylindrical nanowire heterostructures	PAUL RACEC

**Optical phonon modes and electron-optical phonon coupling in q-1D wurtzite-type nanostructures (18:00-18:30)**

time	title	presenter
18:00	Optical phonon modes and electron-optical phonon coupling in q-1D wurtzite-type nanostructures	ION LUCIAN

**Poster session (18:30-20:00)**

time	title	presenter
18:30	Poster session	

# Thursday 27 August 2009

## **Fabrication and characterization of ordered atomic-scale structures (09:00-09:45)**

time	title	presenter
09:00	Fabrication and characterization of ordered atomic-scale structures	WOLF-DIETER SCHNEIDER

## **Ab-initio simulations in nanoscience (09:45-10:30)**

time	title	presenter
09:45	Ab-initio simulations in nanoscience	SANDRO SCANDOLO

## **Understanding nanomechanical response via modelling and simulation (10:30-11:00)**

time	title	presenter
10:30	Understanding nanomechanical response via modelling and simulation	TRAIAN DUMITRICA

## **Coffee break (11:00-11:30)**

time	title	presenter
11:00	Coffee break	

## **Magnetic nanowires (11:30-12:00)**

time	title	presenter
11:30	Magnetic nanowires	H. CHIRIAC

## **Growth of anisotropic magnetic layers on atomically clean Si(001) by molecular beam epitaxy (12:00-12:30)**

time	title	presenter
12:00	Growth of anisotropic magnetic layers on atomically clean Si(001) by molecular beam epitaxy	CRISTIAN M. TEODORESCU

## **Neutron and muon spectroscopy for magnetic nanoparticles study. (12:30-13:00)**

time	title	presenter
12:30	Neutron and muon spectroscopy for magnetic nanoparticles study.	MARIA BALASOIU

## **Lunch (13:00-15:00)**

time	title	presenter
13:00	Lunch	

**Afternoon: trip to Cisnadioara (15:00-18:00)**

time	title	presenter
15:00	Afternoon: trip to Cisnadioara	

# Friday 28 August 2009

## **Plasmonics (09:00-09:45)**

time	title	presenter
09:00	Plasmonics	KEN CROZIER

## **Photonic force spectroscopy of motile structures of neuronal cells (09:45-10:30)**

time	title	presenter
09:45	Photonic force spectroscopy of motile structures of neuronal cells	DAN COJOC

## **Coffee break (10:30-11:00)**

time	title	presenter
10:30	Coffee break	

## **Nano-templated self-assembly of bioinspired cells metamaterials (11:00-11:45)**

time	title	presenter
11:00	Nano-templated self-assembly of bioinspired cells metamaterials	BOGDAN DRAGNEA

## **Nanopolymers for integrated optics (11:45-12:15)**

time	title	presenter
11:45	Nanopolymers for integrated optics	GEORGE FILOTI

## **-(12:15-12:45)**

time	title	presenter
12:15	-	

## **Lunch (12:45-15:00)**

time	title	presenter
12:45	Lunch	

## **Easy axis distribution and spin configuration (15:00-15:30)**

time	title	presenter
15:00	Easy axis distribution and spin configuration	VICTOR KUNCSEK

**Spin-electric coupling in molecular magnets (15:30-16:00)**

time	title	presenter
15:30	Spin-electric coupling in molecular magnets	MICEA TRIF

**In-situ preparation of multiferroic nanocomposites with core-shell structures (16:00-16:30)**

time	title	presenter
16:00	In-situ preparation of multiferroic nanocomposites with core-shell structures	LAVINIA CURECHERIU

**Coffee break (17:00-17:30)**

time	title	presenter
17:00	Coffee break	

**Magnetic nanocomposites for permanent magnets (17:30-18:00)**

time	title	presenter
17:30	Magnetic nanocomposites for permanent magnets	FELICIA TOLEA

**TEM characterization of ferromagnetic Co-implanted ZnO films (18:00-18:30)**

time	title	presenter
18:00	TEM characterization of ferromagnetic Co-implanted ZnO films	CORNEL GHICA

**REDOX presentation (18:30-19:00)**

time	title	presenter
18:30	REDOX presentation	

# Saturday 29 August 2009

## **Topics in molecular electronics and plasmonics: fast carbon nanotube memory, DNA origami as a nanobreadboard, and strong coupling with surface plasmon polaritons (09:00-09:45)**

time	title	presenter
09:00	Topics in molecular electronics and plasmonics: fast carbon nanotube memory, DNA origami as a nanobreadboard, and strong coupling with surface plasmon polaritons	PAIVI TORMA

## **Electronic transport in superconducting devices: from single-junction Josephson effects to quantum processing of information with superconducting circuits (09:45-10:30)**

time	title	presenter
09:45	Electronic transport in superconducting devices: from single-junction Josephson effects to quantum processing of information with superconducting circuits	SORIN PARAOANU

## **Coffee break (10:30-11:00)**

time	title	presenter
10:30	Coffee break	

## **Structural and optical properties of Ge nanocrystals obtained by ion implantation (11:00-11:30)**

time	title	presenter
11:00	Structural and optical properties of Ge nanocrystals obtained by ion implantation	E.C. MOREIRA

## **Features of classical and quantum fluid flows at micro- and nano-scale (11:30-12:15)**

time	title	presenter
11:30	Features of classical and quantum fluid flows at micro- and nano-scale	JOSEPH NIEMELA

## **Processing and physical properties at the nanoscale (12:15-13:00)**

time	title	presenter
12:15	Processing and physical properties at the nanoscale	JOANNA GROZA

## **Closing session (13:00-13:30)**

time	title	presenter
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13:00	Closing session	
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