

Universitatea
Ștefan cel Mare
Suceava

Current Research Interests in Nanotechnology in *Ștefan cel Mare University, Suceava*

Dr. Aurelian ROTARU

Faculty of Electrical Engineering and Computer Science



Faculty of Electrical Engineering and Computer Science

Nanoelectronics and Photonics Group

Dr. Mihai Dimian – Associate Professor

Ph.D. in Electrical/Electronics Engineering, 2005
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University of Maryland, College Park , USA

Dr. Aurelian Rotaru – Lecturer

Ph.D. in Physics, 2009
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University of Versailles, France.



Nanoelectronics and Photonics Group

Human Resource:

4 Ph.D students, 4 Master students, 10 – undergrad. students

MAIN COLLABORATIONS

Florida State University (USA)

University of Versailles (France)

Catholic University of Leuven (Belgium)

Max Planck Institute (Germany)

Institute for Metrology (Italy)

Al. I. Cuza University (Romania)

KaHo University Gent (Belgium)

University College Cork (Ireland)

University of Naples (Italy)

University of Maryland (USA)

Howard University (USA)

University of New Orleans (USA)

IFT Iasi (Romania)



Research interests and dissemination

Dr. Mihai Dimian

- Data Storage Nanotechnology
- Noise in spintronics and semiconductor devices
- Multiscale analysis, modeling, and computation
- Stochastic aspects of hysteresis
- Smart lighting systems
- Bioelectromagnetics
- Phase transitions in spin-crossover compounds



Research interests and dissemination

Dr. Aurelian Rotaru

- Spin crossover phenomena
- Phase transitions in spin-crossover compounds
- Piezo-, photo- and thermo-switchable coordination compounds
- Molecular switches, molecular bistability
- Ferromagnetic nanostructures
- Thermoelectric materials
- Novel High T_c Superconductors



Research interests and dissemination

Dr. Mihai Dimian

Research Dissemination (2008 – 2011)

- 12 ISI journal articles with a total impact factor of 16.28
- 10 conference proceedings
- 25 conference presentations



Research interests and dissemination

Dr. Aurelian Rotaru

Research Dissemination (2007 – 2011)

- 16 (2 at Suceava) ISI journal articles with a total impact factor of **79.6** (*Nature Materials, Angewandte Chemie Int. Ed., Phys. Rev. B, Inorg. Chem., J. Appl. Phys., ...*)
- 5 (1 at Suceava) conference proceedings
- 25 (11 at Suceava) conference presentations

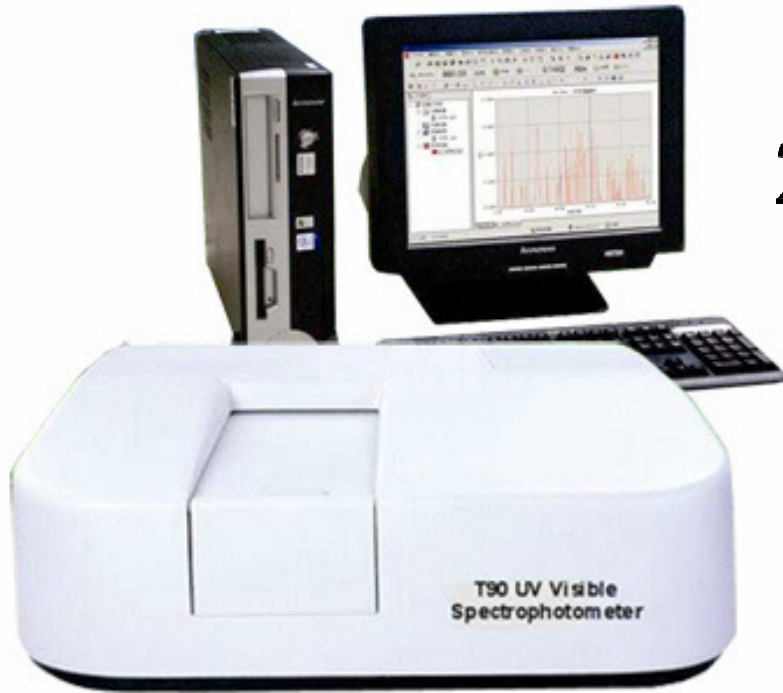
Main Laboratory Equipment



- Scanning tunneling microscope
- Atomic force microscope
- Diode-Pumped Solid-State Laser Kit
- Antenna Training and Measurement
- Microwave Technology Training
- Signal and noise generators
- Oscilloscopes and spectrum analyzers
- Data Analysis Software
- 14 computer workstations
- 10 portable computers



Main Laboratory Equipment



2011



- UV-VIS Spectrophotometer
- Wavelength Range: 190-900 nm
- Peltier Kit (5-70C)
- Integrating sphere (Reflectance)

- Optical Cryostat
- Temperature Range: 77-500 K

Complementary Infrastructure



High Performance Computer Lab
IBM BladeCenter Cluster cu 96 de
procesoare, ajungând la o putere
de calcul de 6.45 Tflops.



Electromagnetic Compatibility Lab
includes a TDK semi-anechoic chamber
accredited RENAR



Research Funding (2008 – 2011)

Framework Program 7

- *Constructive and disruptive effects of noise in nonlinear systems with hysteresis*, contract no. 224904/ 1.05.2008, Budget: 100 000 Euro, Period: 05.2008–04.2012, Director: Dr. Mihai Dimian;

National Program II

- *Analiza fenomenelor induse de zgomot și fluctuații în nanodispozitive spintronice și semiconductoare*, Contract Tinere Echipe nr. 107/06.08.2010, Buget: 547 000 RON, Perioada: 1.07.2011 – 30.06.2014, Director : Dr. Mihai Dimian;
- *Analiza dinamică și stocastică a sistemelor neliniare histeretice cu aplicații în nanotehnologia stocării datelor și design-ul nanomaterialelor inteligente*, Contract Reintegrare no. 13/1.10.2007, Budget: 510 000 RON, Period: 1.10.2007-30.09.2009, Director : Dr. Mihai Dimian

FSE -POSDRU

- *Provocarile cunoașterii și dezvoltare prin cercetare doctorală-PRO-DOCT*, Contract nr. POSDRU/88/1.5/S/52946, Perioada: 03.2010 – 02.2013, Buget: 7,431,168 RON, Director: Dr: Valentin Popa
- *Progres și dezvoltare prin cercetare și inovare post-doctorală în inginerie și științe aplicate*, Contract nr. POSDRU/89/1.5/S/57083, Perioada: 04.2010 – 03.2013, Buget: 13,414,188 RON, Director: Dr. Adrian Graur