

The coordinator of the MINAEAST-NET project - National Institute for R&D in Microtechnologies (IMT-Bucharest) (www.imt.ro)

National Institute for R&D in Microtechnologies, IMT-Bucharest was founded in 1993, as the Institute of Microtechnology and became a national institute in 1996. The main activities, **focused on micro and nanotechnologies**, include research projects and various services for SMEs (consulting, design, training, technology transfer). The research labs of IMT are active in the **priority areas 2 (IST) and 3 (NMP)**: namely microtechnologies and nanotechnologies for MOEMS and BioMEMS. Nanostructures and nanotechnologies are developed (quite often in cooperation with R&D centres from Germany, France, Italy, Greece) by **three national centres of excellence** (one in RF-MEMS, the second one in MOEMS and the third one of nanotechnologies) and a Centre for Microstructures and Microsystems for Bio-medical and Environmental application. IMT-Bucharest enjoys a rich experience in **international co-operation**, illustrated by its participation in the research projects financed from the European Commission. The institute is the **hub of a network of networks** on micro- and nanotechnologies, founded by the National RTD Programme for "New materials, micro- and nanotechnologies" MATNANTECH: CENOBITE (Centre of research in nanobiotechnologies) and NANOMATFAB (Centre of research in nanotechnologies for new materials and fabrication processes). **IMT founded in 2003 the Centre for Technology Transfer in Micro engineering (CTT-Baneasa)**, which will be the **core of the future scientific park in Micro and Nanotechnologies** and also a **Joint Lab with SAIT (Samsung Advanced Institute for Technology)**. The institute is part of the **MST-Design consortium**, providing services in micro-engineering, within the **EU system EUROPRACTICE**. The institute is involved as partner in two important European networks: **PHANTOMS: Nanotechnology Network for Information Processing and Storage** and **"Regional Network of Nanoscience and Nanotechnology - Advanced Nanostructured Materials and Devices"**. The institute has experience in **organizing international scientific conferences** (i.e. **Annual International Semiconductor Conference CAS**, an IEEE annual event; **"Micromechanics Europe 2002"** Sinaia, Romania); it was the local organizer of the **1st NanoForum (CMP-Cientifica et al. Sinaia, Romania, 5-7 October 2003)**. For participation to FP 6 see page 3.



Prof. Dan Dascalu (dascalu@imt.ro) is the **General Manager of National Institute for R&D in Microtechnologies (IMT-Bucharest)**. He is full professor at the "Politehnica" University of Bucharest, full member of the Romanian Academy of Sciences and Senior Member of IEEE (Electron Devices). Prof. Dascalu is the (co)author of about 170 papers and 4 monographs (two in English), is the promoter of national programmes in MNT area, as well as of a number of activities, developed for the first time in Romania using the European model (scientific networks, centres of services, virtual centres of excellence). Prof. D. Dascalu was in charge of various international projects, currently representing Romania in the EU projects REASON and MST-Systems. He is now in the Board of NEXUS and in the Steering Committee of MINANET. He is also the President of the Commission of "Science and technology of micro-nanosystems" of the Romanian Academy, Editor-en-chief of the "Romanian Journal for Information Science and Technology" (Romanian Academy), and coordinator of a series of books in "Micro and nanoengineering" (Romanian Academy). He was member of the Steering Committee of NEXUSPAN and (with IMT) National Contractor coordinator of the EU project ESIS (European Survey of the Information Society).

Dr. Carmen Moldovan (cmoldovan@imt.ro) is a **Deputy Director at the National Institute for Research and Development in Microtechnologies**, Head of the Centre of Microstructures and Microsystems for Biomedical Applications and Environment Monitoring and Associate Professor at the Faculty of Electronic and Telecommunications. The scientific activity is published in more than 44 articles and communications in Proceedings. She is IMT's contact person for NOSE (Network of Excellence on Artificial Olfactory Sensing), Leader of the Virtual Network of Centres for Research in nanotechnologies for new materials and new nanoprocesses (NANOMATFAB) coordinated by IMT, contact person for IMT in MST Design Consortium (EUROPRACTICE Provider) and REASON project (Research and Training for actions for System on Chip Design) - FP V project, member of IEEE and Science and Technology Commission of the Romanian Academy.



Techniques of Informatics and Microelectronics for computer Architecture - TIMA, France (<http://tima.imag.fr/>)

TIMA is one of the MINAEAST-NET partner, one of the 40 Laboratories of the UJF University and the 30 Laboratories of the Institut National Polytechnique de Grenoble INPG. The research activities are related to design, synthesis and test of complex electronic systems and microsystems. **TIMA** is hosting the French national chip fabrication service CMP for education and research centres. **TIMA** participated to several MEMS/MOEMS and nanotechnology EC projects (**BARMINT**, **TALENT**, and **FRACTURE**). **TIMA** has created the DTIP of MEMS/MOEMS Conference (Design, Test, Integration and Packaging of MEMS/MOEMS) and also participated to creation of 3 spin-off Companies including MEMSCAP.MEMS/MOEMS and also participated to creation of 3 spin-off Companies including MEMSCAP.

The **MNS group of TIMA -Micro and Nano Systems-** is the TIMA partner for MINAEAST. MNS is participating to VIBES, a IST 6th Framework project, and has many Industrial and Academic partners.

The Micro part of MNS is conducting research in the following topics :

- Microelectronics compatible manufacturing techniques of microsystems
- CMOS front side bulk micromachining
- Above IC technologies
- Vibration scavenging micro power generators for autonomous microsystems
- Bio-MEMS
- Fingerprint sensing
- Active biochips
- Thermal management of MEMS and IC's
- Electro-thermal simulation
- Imaging
- Test structures
- Infrared thermophile based sensor

MNS cooperates with other groups in TIMA on 2 multidisciplinary projects:

- SOCs including MEMS and MOEMS,
- WUCS for ambient intelligence.

The Nano part of MNS is conducting research in the following topics :

- Information coding for intramolecular integration
- CAD modelling of a carbon nanotube based sensor for sensing forces at the cellular scale
- CAD Framework for Nanotechnologies
- Architectures based on quantum effects
- Quantum computation on regular architectures
- Architectures for mixed classical/quantum computing
- Modeling of magnetic RAMs
- Nanopolis

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The key people are:
Skandar Basrour (1)
Bernard Courtois (2)
Benoit Charlot (3)
Khaldoun Torki (4)
Florin Ciontu

