# IMT-BUCHAREST CAN BE VIEWED AS A: CENTRE FOR SCIENTIFIC SERVICES

- · Multi-disciplinary research, with working points in universities (departments of electronics, physics and chemistry) and mixed teams (departments of electronics, mechanics, physics, chemistry, biology, mathematics);
- · Access to fabrication technologies and characterization techniques for (post)Ph.D. studies and R&D projects. The institute offers access to the only clean room in Romania available for the university and research media;
- More than 30 Ph. D. students are employed by the institute;
  Examples of scientific services:
- · Simulation, analysis, modeling and design of electro-opto-mechanical microstructures and microsystems (microfluidics included) with ConventorWare 2001.1 software packages (at the latest level reached in the world); 5.4 Ansys simulation (mechanical). Contact Victor Moagar-Poladian (victorm@imt.ro).
- $\cdot$  IE3D three-dimensional electromagnetic simulation and design (vers.7, with FIDELITY) and experience in designing microwave and millimeter wave structures and circuits;
- · Atomic force microscopy (AFM) and image processing software and scanning microscopy (SEM).
- · Spectrophotometry (in infrared included) and spectroellipsometry etc.

## ...IT CAN BE ALSO CONSIDERED A CENTRE FOR INDUSTRIAL SERVICES

- · Interaction with the local semiconductor industry (exchange of technological services);
- · Development of new technologies and products (e.g. MOS power devices, integrated circuits);
- · Partnership with R&D institutes in various fields (communications, automation, aeronautics, physics, chemistry, fine mechanics):
- Examples of technological and design services:
- · Mask-shop;
- · Technological workshop: a) thermal processes (oxidation, (B, P) pre-diffusion/diffusion, sintering, etc); b) (B, P) ion implantation processes; c) vacuum metallic deposition processes; d) photolithographic processes; e) chemical vapor deposition processes (APCVD, LPCVD); f) various chemical processes (cleanings, selective isotropic and anisotropic etchings);
- Microelectronics design workshop (in co-operation with University "Politehnica" Bucharest);
- · Reliability and quality management, consulting and laboratory for mechanical-climatic testing etc.

## ...AS WELL AS A CENTRE FOR INFORMATION TECHNOLOGY SERVICES

- · Computer network and high speed connection to Internet;
- · The first operating Intranet system in the institutes of this country (since 1997);
- · Services in networks, web-sites, database developments etc.





#### IMT-BUCHAREST IS A PLACE FOR CENTRES OF EXCELLENCE

The centres of excellence accredited at the national level are:

- · Laboratory of Microphotonics (in co-operation with PUB), headed by Ph.D Dana Cristea (danac@imt.ro);
- · Laboratory (centre) of Nanotechnologies (under the aegis of the Romanian Academy), Ph. D. Irina Kleps (irinak@imt.ro);
- · Laboratory of Micromachined Microwave Microstructures and Circuits headed by Ph. D. Alexandru Muller (alexm@imt.ro).

#### **EDUCATIONAL ACTIVITIES ORGANISED BY IMT-BUCHAREST**

High-level education (Ph. D., M. Sc., postgraduate courses) in co-operation with the University "Politehnica" Bucharest. Contact Carmen Moldovan (cmoldovan@imt.ro);

Courses / training organised in co-operation with its partners from national networks.

#### **CONFERENCES ORGANIZED BY IMT-BUCHAREST**

- · The "Euronet" Workshop "European networking in micro- and nanotechnologies a bridge between East and West", Monday, Sept.29, 2003, Sinaia, Romania
- · CAS- Annual International Semiconductor Conference -IEEE event
- $\cdot$  1st NanoForum Workshop: Nanomaterials and Applications, October 5-7, 2003
- · Micromechanics Europe Workshop (MME' 02) for the first time in East Europe was organized jointly with CAS' 02

### **PUBLISHING ACTIVITY**

- · Micro and Nanotechnologies Bulletin (quarterly, since 2000)
- · Romanian Journal for Information Science and Technology (Romanian Academy)
- · Volumes in a "Series of Micro and Nanoengineering" (Romanian Academy)

### IMT-BUCHAREST IS INVOLVED IN INTERNATIONAL COOPERATIONS

- Participation in research project funded by EC, among which: the ESIS II Romania project (European Survey of the Information Society), co-ordinated by IMT-Bucharest; INCO-COPERNICUS projects (the MESWAVE project co-ordinated by IMT-Bucharest); projects in FP 5: REASON, IMPACT, EMERGE; projects in FP6: AMICOM (NoE, IST), PATENT (NoE, IST), NANOFUNPOLY (NoE, NMP), NANO2LIFE (NoE, NMP, associate partner), 4M (NoE, NMP), ASSEMIC (RTN, Marie Curie), ROMNET-ERA (SSA, ACC, general, under negociation).
- · NATO project and grants;
- · Project within bilateral agreements with EU countries: Belgium, Germany, France (BRANCUSI), Greece, Italy, the Netherlands, Spain, Sweden; projects in co-operation with other countries (Switzerland, Hungary etc.);
- · Co-operation with CERN-Geneva to manufacture radiation detectors;
- · Participation in networks: co-ordinator of the national network MICRONANOTECH, acknowledged by the European Union and a National Contact Point for Romania of the European Network NEXUS (Network of Excellence in Multifunctional Microelectronics) etc;



