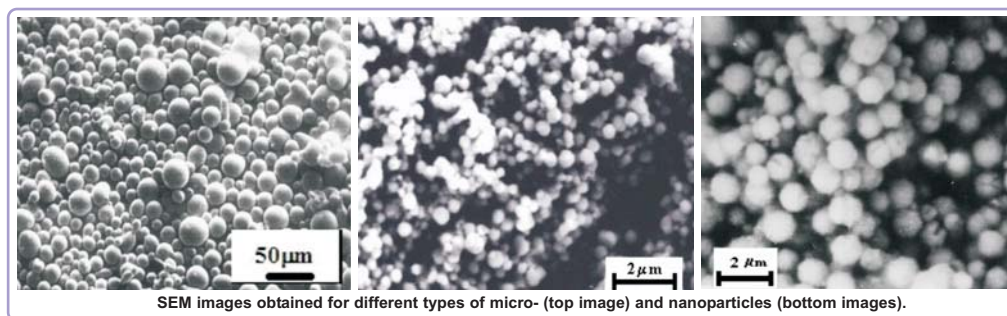
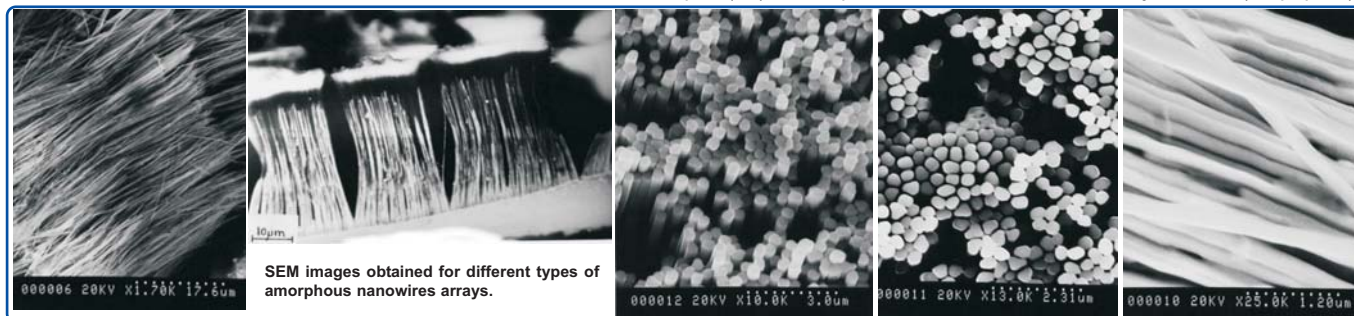


National Institute of R&D for Technical Physics – IFT Iasi  
Main activities and results in Micro- and Nanoscience (2)

• *magnetic nanowire arrays in Ni-P, Co-P, and Ni-Co-P systems, with amorphous structure, obtained by electrochemical deposition in Al<sub>2</sub>O<sub>3</sub> nanoporous membranes.* The magnetization processes and magneto-transport phenomena have been studied in detail, and used to understand the relationship preparation conditions – physical properties in order to design specific applications. The results have been communicated at national and international scientific conferences and workshops (20) and published in ISI scientific journals (6 papers).



• *magnetic micro- and nanoparticles (Co-Fe-Si-B, Ni, Co, Ni-Co, Ni-Fe, etc.) for biomedical application, obtained by gas-liquid atomization, chemical reduction and arc discharge methods.* The results obtained have been communicated at scientific national and international conferences and workshops (20), and published in scientific ISI journals (5);

Most of the research activities in the field of micro and nanomaterials and technologies, developed and performed at **MDM Department** – IFT Iasi, are included in numerous national (over 20 project in progress) and international (3 projects in partnership in the framework of the Sixth EU Programme for Research and Technological Development, and many other bilateral S&T collaboration projects) research projects, but make also the subject of the collaboration activities involving departments, research institutes, universities and private companies from Romania and abroad, as well as of the micro-scale production facilities developed at IFT Iasi, to produce high-tech products for internal and external markets.

The **MDM Department** has the research infrastructure for amorphous and nanocrystalline/nanostructured materials preparation and characterization, some of these equipments being unique in Romania and even in Europe.

The research infrastructure from the **MDM Department** – IFT Iasi will be completed in 2006 with a few new equipments for preparation and complex characterization of advanced materials for multidisciplinary applications, the development and enhancement of the infrastructure being one of the key points of the long-term research strategy at IFT Iasi.



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