# Networks of excellence and integration in ERA

Dan Dascalu IMT-Bucharest



# ERA: the "*common market*" of European research The FP6 NoEs: the "*virtual institutes*" of research in Europe

# Content

- NoEs as a tool for integration in ERA
- Experience of FP6, perspectives for FP7
- Romanian experience in participation to FP6, and results related to NoEs
  - NMP and related topic in IST
- Networking in Romania is promoting European cooperation
- Taking the initiative
- CEEX preparing for FP7

# Networks of Excellence: FP6

### Joint research programmes.

- Missing knowledge
- Internal calls
- Support activities
  - Including dissemination of excellence outside network
- Interaction with industry
- Perspectives of integration
  - University research groups

# Networks of Excellence: FP7

- Support to joint research programmes implemented by a number of research organisations integrating their activities in a given field, carried out by research teams in the framework of longer term co-operation.
- The implementation of these joint programmes will require a formal commitment from the organizations integrating part of their resources and their activities.

# Romanian experience

- Joining consortia
- A two step evaluation: associate partners (last in, first out)
- Cost of labour
- Effective distribution of money
- Financial support from national authority for research
- Positive experience of MATNANTECH



# Contribution from MATNANTECH (New materials, micro- and nanotechnologies) RTDI programme

(a few slides)

Courtesy of Executive Director of MATNANTEH, Corneliu Trisca-Rusu

# Promoting integration in ERA

- Micro- and nanotechnology subprogrammes (correlated with EU programmes)
- Infrastructures
  - Various networks
  - Virtual centres of excellence
    - CENOBITE
    - NANOMATFAB

### **Romanian MATNANTECH R&D Programme**

### **New materials**

**Subprogram 1: Composite materials** 

Subprogram 2: Smart materials

**Subprogram 3:** Biosubstances and biomaterials

- Subprogram 4: Advanced materials with electrical, optical, magnetic and thermomechanic properties
- Subprogram 5: Materials for process engineering, chemical and environmental applications

**Subprogram 6:** Powders synthesis and characterization

### Micro, Nanotechnologies

Subprogram 7: Micro and nanoelectronics and optoelectronics Subprogram 8: Micro and nanotechnologies for interfaces, transducers and microsystems

**Subprogram 9:** Nanostructured materials, micro and nanostructures

### Support actions, Networks, centers

Subprogram 10: Support actions, Thematic networks, centers of excellence D. Dascalu "NoE and ERA", CNCSIS Conf., 12-14 May 2005

### **ERA-NET** scheme

ERA-NET is a new scheme designed to support the long-lasting coordination of European research programmes across national boundaries, aimed at the funders and managers of national and regional research programmes. The ERA-NET scheme represents a significant step towards the creation of a fully functioning European Research Area



### MNT ERA-NET Contract no. ERAC-CT-2003-510226

(January 2004 – December 2007)



### **MNT ERA-NET:**

From Micro- and Nanoscale Science to New Technologies for Europe

# **Participants**

- EUROBULEGOA (Basque Government)
- El Enterprise Ireland (Ireland)
- SENTER (Netherlands)
- TEMAS (Switzerland)
- RCN The Research Council of Norway
- VDI/VDE-IT (Germany)
- VINNOVA (Sweden)
- FFF (Austria) project management
- Austrian Space Agency (ASA)
- TEKES (Finland)
- UPB-MATNANTECH (Romania)
- Ministry of Wallonia Region (Belgium)
- Ministry of Education, Science and Sports (Slovenia)
- Ministry of Scientific Research and IT (Poland)
- Conseil Regional Midi-Pyrenees (France)



# Focus (1)

### Micro(system)technology



- Medicine devices (e.g. stents)
- Optical devices
- Energy (energy storage, photovoltaic, fuel cells, batteries)
- Actuators and sensors
- Instrumentation (AFM, holographic instruments, calibration)
- MEMS, MOEMS
- Manufacturing (machining, LIGA, nano lithography, nano structuring, nano tribology)
- System integration

(P)

# Focus (2)

- 2. Materials
  - With the aspect of application in microtechnology (e.g. sensors)

## 3. Nanotechnology only insofar:

- Chemistry in the aspect of material design
- High-tech material especially composites, metal, but not wood, textile...
- Nanosystems NOEMS







# **Anticipating NoEs!**

- CENOBITE and NANOMATFAB:
- networks of centres of excellence
  - Cordis, February 2003, CENOBITE
- Activities
  - Equipments
  - Events
  - Visits of foreign scientists
- Management and integration: three levels
  - Researchers from various groups
  - Research groups from various institutions
  - Top management of institutions

# NANOMATFAB

- National Institute for R&D in Microtechnologies IMT-Bucharest Coordinator
- "PETRU PONI" Institute of Macromolecular Chemistry, Institute of Excellence of the Romanian Academy, ICMPP, Iasi
- National Institute for Lasers, Plasma and Radiation Physics, INCDFLPR, Bucharest
- Institute of Physical Chemistry "Ilie Murgulescu" of the Romanian Academy, Institute of Excellence of the Romanian Academy, ICF, Bucharest
- National Institute for R&D of Isotopic and Molecular Technologies, INCD-TIM, Cluj-Napoca
- Centre for Fundamental and Advanced Technical Research, Timisoara Branch of the Romanian Academy, CCTFA
- National Center for Engineering of Systems with Complex Fluids, University Politehnica Timisoara, UPT.



### NANOMATFAB Seminar "New chances for participating to European Programmes in FP6 priorities 2 and 3, in accordance with the profile of MATNANTECH national programme", December 20, 2004

•Prof. Dr. Ion Mihailescu, National Institute for Laser, Plasma and Radiation Physics: "Participation in European contract of *Laser-Surface-Plasma Interactions* laboratory" - PHOREMOST network ("Nanophotonics to realize molecular scale technologies"), priority 2 (IST).

• Dr. Valeria Harabagiu , "Petru Poni" Institute of Macromolecular Chemistry, Iasi: POLYSACCAHRIDES NoE ("European Polysaccharide Network"), priority 3 (NMP).

• Dr. Carmen Moldovan, National Institute for R&D in Microtechnologies: *4M NoE ("Multi-Material Micro Manufacture: Technologies and Applications")*, priority 3 (NMP).

• Dr. Rodica Turcu, National Institute for R&D of Isotopic and Molecular Technologies, Cluj-Napoca: NANOFUN-POLY NoE ("Nanostructured and Functional Polymer-Based Materials and Nanocomposites"), priority 3 (NMP).

• Dr. Cristian Ruset, National Institute for Laser, Plasma and Radiation Physics: ForBeST project ("Increased service lifetime of forging tools by combined surface treatments")

• Dr. Alexandru Muller, National Institute for R&D in Microtechnologies: AMICOM NoE ("Advanced MEMS for RF and Millimeter Wave Communications"), priority 2 (IST).

• Dr. Niculae Ionescu, Institute of Physical Chemistry "I.G.Murgulescu" of the Romanian Academy: *INSIDE-PORES ("In Situ Study and Development of Processes Involving Nanoporous Solids")*, priority 3 (NMP)

• Acad. Dan Dascalu, National Institute for R&D in Microtechnologies: *PATENT ("Design for Micro & Nano Manufacture -Packaging, Test and Reliability Engineering in Micro & Nanosystems Technologies")*, priority 2 (IST )

IST area (selection):

**AMICOM** "Advanced MEMS for RF and Millimeter Wave Communications" *Romanian participant*: National Institute for R&D in Microtechnologies



**PATENT** "Design for Micro & Nano Manufacture - Packaging, Test and

Reliability Engineering in Micro & Nanosystems Technologies" *Romanian participant*: National Institute for R&D in Microtechnologies

**PHOREMOST** network "Nanophotonics to realize molecular scale technologies" *Romanian participant*. National Institute for Laser, Plasma and Radiation Physics

### NMP area:

•4M "Multi-Material Micro Manufacture: Technologies and Applications", Romanian participant: National Institute for R&D in Microtechnologies •NANOFUN-POLY "Nanostructured and Multi-Functional Polymer-Based Materials and Nanocomposites": Romanian participants: National Institute for R&D in Microtechnologies; National Institute for R&D of Isotopic and Molecular Technologies, Cluj-Napoca •POLYSACCHARIDES "European Polysaccharide Network", Romanian participant: "Petru Poni" Institute of Macromolecular Chemistry, Iasi •MAGMANet "Molecular Approach to Nanomagnets and Multifunctional Materials", Romanian participant: "Alexandru Ioan Cuza" University, Faculty of Physics; University of Bucharest •INTUITION "Network of Excellence on Virtual Reality and Virtual Environment Applications for Future Workspaces, "Romanian participant: University "Ovidius" Constanta •VRL KCIP "Virtual Research Lab for a Knowledge Community in Production", *Romanian participant*. University "Politehnica" Timisoara



# Description of a few networks

#### AMICOM Advanced MEMS for RF and Millimeter Wave Communications Coordinator: Prof. Robert Plana - LAAS-CNRS Toulouse NoE FP 6 - priority 2, IST

The "AMICOM" Network of excellence will be structured into the following three groups of activities:

- 1. Integrating RF-MEMS activities
- 2. Joint RF-MEMS Research activities
- 3. Activities to spread excellence in RF-MEMS

The network will aim to anticipate the research that will be required for the development of future communication systems. It is already apparent that new functionalities will be created through the use of Microsystems for RF and millimeter and wave communications. RF Microsystems will incorporate RF-MEMS components into RF and monolithic microwave integrated circuits (MMIC). This will involve the research in diverse fields, such semiconductor technology, materials science, electromagnetic, mechanical, thermal and electrical modeling, testing and characterization, packaging, reliability and failure analysis.

#### MICOM Participants:

CNRS (Fr) (LAAS-IEMN-IRCOM)
CHALMERS (SE)
CRANFIELD (UK)
FORTH (EL)
IMEC (B)
IMPERIAL COLLEGE (UK)
IMT-Bucharest (RO)
ITME (PL)
MILLILAB&VTT (FI)
PERUGIA (IT)
TECHNION (IL)
TEI CRETE (EL)
TUD (D)
TUM (D)
ULM (D)
UPPSALA (SE)
Lab Athens (EL)
ITC-IRST (IT)
ENSM (FR)
FRAUNHOFER ISIT (D)



#### **4M**

#### **Multi-Material Micro Manufacture: Technologies and Applications**

Coordinator: Dr. Stefan Dimov - Cardiff University NoE FP6 – priority 3, NMP

The main aim of 4M is to develop Micro- and Nano-Technology (MNT) for the batch-manufacture of micro- components and devices in a variety of materials into user-friendly production equipment, processes and manufacturing platforms for incorporation into the factory of the future. To achieve this, 4M will integrate the currently fragmented European R&D capacity in non-silicon microtechnologies into a Virtual Centre of Excellence for MNT process and product development. The establishment of such world class expert resource and infrastructure at European level will be crucial to the future of

European companies engaged in satisfying the growing demand for portable, wireless communication products and many lifestyle, health and transport related systems incorporating MNT. The foundations for a new European industrial sector and the achievement of sustainable, commercial and societal benefits for its citizens are the overall goals of 4M.

The establishment of the expertise resource will have an impact on interdisciplinary education and training, on work practices in society and on quality of life. 4M will develop strategic links to research organisations and manufacturing companies involved in complementary and supporting activities and connect to existing and new national programs and will thus have a major impact on the development of the ERA in MNT. Contact will be maintained with other related centres of excellence outside of the network to ensure that knowledge and excellence are spread throughout the EU. The 4M network will have a policy of training researchers from outside the network, including the use of distance computer based learning, in order to counteract the shortage of skilled human resource in the MNT area and to generally spread knowledge and excellence beyond the network partners.

#### **Participants:**

Belgium: KU Leuven France: CEA Germany: IMTEK, IZM, FZK, IPT, IBMT, IMM, Erlangen Netherlands: TNO Spain TEKNIKER; Sweden: IVF and KTH UK: Cardiff, Cranfield, RAL Bulgaria: BAS Denmark: DTU France: LPMO Germany: IZFM, HSG-IMAT and BLZ Hungary: BUTE Italy: Naples Romania: IMT Slovenia: UL Sweden: IMEGO UK: Bath and SCU



#### NANO2LIFE

A network for bringing NANOtechnologies TO LIFE

Coordinator: Dr. Patrick Boisseau, CEA France (patrick.boisseau@cea.fr) NoEo, FP 6 priority 3 - NMP

#### Nano2Life in brief

N2L provides a frame to improve European competitiveness in nanobiotech by integrating excellent organisations, offering access to the largest and most advanced multidisciplinary expertise, facilities and know-how. Integration is achieved by coordinating research, training and communication in academia and industry.

The envisioned permanent European Institute of Nanobiotech will guarantee long term integration.

### Partners in Nano2 life

- MIC Copenhagen
- Mesa+ Twente
- NMRC Cork
- INSAT Newcastle
- NanoBio Grenoble, France
- PCB Barcelona, Spain
- Lund University
- Bio-Analytik Muenster
- NanoBioNet Saarbruecken
- EPFL Lausanne
- FSRM Neuchatel
- JRC Ispra
- Demokritos Athens Greece
- FORTH Heraklion
- Tel Aviv Univiversity

#### Partners in Nano2 life

Institute of Macromolecular Chemistry, Prague, Czeck Rep. Faculty of Electrical Engineering, University of Ljubljana, Slovenia National Institute for Microtechnologies (IMT), Bucharest, Romania "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania National Centre on NAnotechnology, Sofia, Bulgaria Institute for Materials Science and Technology (BAYATI) Institute of Chemistry Budapest, Hungary



#### NANOFUN-POLY

Nanostructured and Multi-Functional Polymer-Based Materials and Nanocomposites

Coordinator: Prof. Jose M. Kenny, Italian Consortium for Science and Technology of Materials (INSTM) NoE FP 6 - priority 3, NMP

NANOFUN-POLY joins forces of 25 partners from European countries, and combines knowledge and expertise from chemistry, physics, and engineering, covering experimental and applied aspects of materials science (www.NANOFUN.NET).

The research areas of excellence of NANOFUN-POLY network are:

**Area 1.** Polymer Chemistry: new monomers; new precursors (copolymers, dendrimers, hyperbranched polymers, microgels, nanoclusters); polymerisation routes - chain polymerisation, polycondensation, free radical and radical polymerisation, sol-gel, etc.; and formulation.

Area 2. Polymer Processing: intelligent and integrated processing;environmentally friendly processing techniques; processing nanocomposites;coatings; patterning of polymer surfaces.

Area 3. Nanostructure-Property Relationships: new techniques of nanoscale characterization; rheology at different scales; molecular modelling and related simulation techniques.

Area 4. Applications: mechanical systems; functional coatings; membranes; optical and electrical devices; bioactivity

The specific applications of the POLYMERIC MATERIALS in the MICRO-NANOTECHNOLOGY field are:

Sensors and biosensors;

Nanomaterials/ nanostructures with various application in medicine and environment;

Optoelectronics based on polymers and composite materials;

Field emission devices with carbon nanoparticles embeded in polymeric films

Vicrowave devices;

Photolithographic polymers;

- Polymers with functional properties: conductive, semiconductors dielectrics, optical active, photosensitive, photocromics, senzitive, magnetics, field emission, biodegradable, biocompatible,

hidrophylic, organometalics, etc.;

- Polymeric films as support for nanoparticles;
- Protective polymers.

#### Partners in Nano2 life

- MIC Copenhagen
- Mesa+ Twente
- NMRC Cork
- INSAT Newcastle
- NanoBio Grenoble, France
- PCB Barcelona, Spain
- Lund University
- Bio-Analytik Muenster
- NanoBioNet Saarbruecken
- EPFL Lausanne
- FSRM Neuchatel
- JRC Ispra
- Demokritos Athens Greece
- FORTH Heraklion
- Tel Aviv Univiversity



#### PATENT

**Design for Micro & Nano Manufacture** (Packaging, Test and Reliability Engineering in Micro & Nanosystem Technologies) Coordinator – University of Lancaster, UK; Dr. A Richardson (A.Richardson@Lancaster.ac.uk) NoE FP 6 - priority 2, IST

PATENT is a reactive initiative that will attempt to realise the vision of providing innovators whether they be members of small companies, universities or multinationals a "predictable" route from M&NT based product concept to product. This will be achieved by realising in the medium to long-term a new concurrent engineering or Design for Micromanufacture Methodology (DfMM) methodology for M&NT-based products that provides designers with the means to design for performance, testability, robustness and dependability competitively, whatever the operating environment. To achieve this vision, major technical challenges need to be solved that are both technically difficult and require workable cross-disciplinary teams.

#### **Partners:**



### ASSEMIC

### Advanced Handling and Assembly in Microtechnology

Coordinator: Institute of Sensor and Actuator Systems - ISAS, Prof. Dr. Werner Brenner A Marie Curie Research Training Network

The Main Objectivs of the Network are:

High resolution positioning systems, micromotors and microrobots.

Advanced tools and control for microhandling (visual/ force feedback, haptic interfaces, etc.)

Microassembly tools and strategies (self-assembly, bonding, soldering...)

Quality management for industrial manufacturability

Know-how management (e-learning, technology transfer and dissemination, etc.)

### **Participants:**

- Institute of Sensor and Actuator Systems ISAS
- Swiss Foundation for Research in Microtechnology FSRM
- ARC Seibersdorf research GmbH ARCS
- National Institute for Research and Development in Microtechnologies, Bucharest, Romania IMT
- Warsaw University of Technology WUT
- Instituto de Desenvolvimento de Novas Tecnologias UNINOVA
- Carl von Ossietzky University Oldenburg Uni-OL
- FUNDACION ROBOTIKER ROBOTIKER
- FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS FORTH
- Medplant Genetics. S.L. Medplant
- CLRC Rutherford Appleton Laboratory RAL
- Fraunhofer Gesellschaft zur Frderung der angewandten
- Scuola Superiore Sant'Anna SSSA
- NANOSCALE TECHNOLOGIES GMBH Nascatec GmbH



# Active role

- PATENT: IMT is an associate member of the Board, has a Special role for Eastern Countries (NMS and ACC) in dissemination and Networking (WP6 Dissemination and Networking)
- 4M: IMT is coordinator of WP12, task 12.5 for "RAS Centres (Research Advisory Service Centres) in NMS
- **AMICOM**: Represented in the Project Board
  - TAKING THE INITIATIVE: The above three projects are members of a project coordinated by IMT, namely MINOS-EURONET

# SSA in the benefit of NMS/ACC

### Dissemination of information

- A better visibility of potential Eastern participants to EU programmes
- Exchange of information Est-West
- Direct contacts
  - Brokerage
  - Scientific events
  - Policy

# MINOS-EURONET Focus

### Mixed or "converged" technologies: Micro-nano-biotechnologies

- Three *international Forums* on relevant strategic fields for NMS / ACC. The Forums will offer the possibility to conjugate the Eastern and Western Countries potential in MST related technologies.
- Three editions of the *"Microsystems as a platform for integrating technologies" Conference*, in Romania, Poland and Lithuania. This conference will select the best results in micro-nanosystems from NMS and ACC (including results of cooperation with scientists from MS).

### **Support for FP7**





### The characteristic of this project is given by the presence in the project consortium of eight coordinators of big FP6 projects, as follows:

•GOSPEL (General Olfaction and Sensing Projects on a European Level), NoE in priority 2, IST, coordinated by IPC, Institute of Physical and Theoretical Chemistry, University of Tuebingen, Germany;

• PATENT-dfmm (Design for Micro & Nano Manufacture), NoE, in priority 2, IST, coordinated by University of Lancaster, UK;

• AMICOM (Advanced MEMS for RF and Millimetre Wave Communications), NoE in priority 2, IST, coordinated by CNRS-LAAS (Toulouse, France);

• GOOD FOOD (Food Safety and Quality with Microsystems), IP in priority 2, IST, coordinated by Centro Nacional de Microelectrónica (CNM), Madrid, Spain;

• HEALTHY AIMS (Nano scale materials and sensors and microsystems for medical implants improving health and quality of life), IP in priority 2, IST, coordinated by European Technology for Business Ltd, Codicote, UK;

• 4M (Material Micro Manufacture: Technologies and Applications), NoE in priority 3, NMP, coordinated by University of Wales Cardiff, Manufacturing Engineering Centre, UK;

• Nano2Life (Bringing NANOtechnologies TO LIFE), NoE, priority 3, NMP, coordinated by CEA (French Atomic Energy Commission);

• ASSEMIC (Advanced Methods and Tools for Handling and Assembly in Microtechnology), Training by Research Network, Marie Curie actions, coordinated by Vienna University of Technology, Institute of Sensor and Actuator Systems TUW-ISAS, Vienna, Austria.







**MINOS-EURONET** cluster of eight FP6 projects contains 159 different organizations (the number of partners is shown circled on the map of each country).

### **Coordination:**

National Institute for R&D in Microtechnologies (IMT-Bucharest)

Project coordinator:

Prof. Dan Dascalu, Email: dascalu@imt.ro <u>www.imt.ro</u>

Contact address: MINOS team: <u>minos@nano-link.net</u>





### **MINOS-EURONET Communication Platform**



### FP6 SSA Projects coordinated by IMT for integration in ERA and Pan-European Networking



### FP6 SSA Projects coordinated by IMT for integration in ERA and Pan-European Networking



MINAEAST: Micro and Nanotechnologies going Eastern Europe through Networking

MINOS: Micro and Nanosystems European Network pursuing the integration of NMS and ACC in ERA

# The nanoL/NK initiative

### MINAEAST – NET and MINOS-EURONET are working under umbrella of the nanoLINK initiative, using the nanoLINK "platform"

# The nanoL/NK web portal

- A platform for cooperation between different projects and the corresponding networks
- Common databases
- Open for new interactions
  - Education and training
  - Technology transfer

# Added value of databases

- Created in ROMNET-ERA for the inventory of Romanian centres
- Also completed with data from other Eastern countries in MINAEAST-NET
- Open for interaction with Western partners through MINOS-EURONET



CNCSIS Conf., 12-14 May 2005

# Main futures

- Oriented mainly towards applications related to *life quality*
  - Converging technologies, e.g. micro-, nano- biotechnologies
- Exploiting the human potential of *Eastern Europe*
- Paying special attention to *education* and training (at the global scale)

nanoLINK supporting preparation of new proposals

- Working groups on the above topics
- Exchanging information with foreign specialists
- Traveling to meetings for project preparation

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n@noLINK *supporting preparation* 

- Working groups on the above topics?
- Exchanging information with foreign specialists?
- Traveling to meetings for project preparation?

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Micro and Nanotechnologies going to through NETworking (MINAEA Contract no.: 510470	EASTern Europe AST-NET)
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### Search by country



### **Example search by Country**



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Dissemination 3 Slovakia M	frs <u>Viera Khunová</u>
Events 4 Slovakia D	r <u>Ladislav Pe.ek</u>
MINAEAST offer 5 "Institute for Non-ferrous and Rare Metals, Romania Di Contact Research Group for Nanoceramic P	r <u>Roxana Mioara</u> 'iticescu
6 ADVANCED ENGINEERING GROUP Romania UNIVERSITY OF CRAIOVA P (AEG)	rof <u>MIHAIL</u> 1ANGRA
7 Atomistics Simulation Laboratory Turkey Physics Department,Arts and Physics Sciences Faculty, Yildiz Sciences Faculty, Yildiz Technical University	rof <u>Gulay Dereli</u>
8 Atomistics Simulations Laboratory, Vildiz Technical University, Department of Physics	rof <u>Gulay Dereli</u>
9 BILKENT University Turkey D	r <u>Atilla AYDINLI</u>
10 Biological Research Centre Hungary ch	hoose <u>Pál Ormos</u>
11         Biomolecular Layers Laboratory         Bulgaria         Institute of Solid State Physics, Plus           ISSPh-BAS         P	rof <u>Alexander</u> ' <u>etrov</u>
12 Center for Advanced Technologies Romania University Politechnica M Bucharest	1r <u>Mindruta Silviu</u>
13 Center for research and application of Czech Czech Technical University, Di coatings increasing lifetime and reliability Republic Prague, Faculty of Mechanical	r <u>Rudolf Novák</u>
14 Center of Nanotechnology Romania National Institute for Research Di and Development in Microtechnologies (IMT- Bucharest)	Ir <u>Irina Kleps</u>
15 Central Lab of Solar Energy and New Bulgaria National Centre of Pr Energy Sources, CLSENES-BAS Nanotechnology-NCNT	rof <u>Petko Vitanov</u>

### Search by Keyword - opto



### Search by domains - diagram



### Search by Domain – M-N-O-B: Micro-Nano-Opto-Bio



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		-
I. Identifying centres (entities), see explanation		
Entity Name (local/national language)		
Entity Name (English)*		
Country*	Europe Country (specify)	
Status of the centre - Independent entity ? *	O Yes O No	
If NO:		
Parent organization		
Position inside parent organisation	Choose	
Main activity of this centre *	Choose	
Contact person for the centre		
Title	choose 💌	
Position (function)		
E-mail		
Phone number		
Fax		-
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CNCSIS Conf., 12-14 May 2005

### Final result of the search partner matching databases

A list of all entries corresponding to the selected sub domain, also containing for each entry:

- contact data for this entry
- profile of the organization introducing the data
- · basics resources in the selected domain
- suggestion for common research (expression of interest)

Organization Fullname Name	Organization Short Name	Web page	Country	Main activity	Department	Contact	Email	Contact other	Profile	EU projects	
National Institute for Research nd Development in Microtechnologies	IMT-Bucharest	http://www.imtro	Romania	Research	Centre of Nanotechnologies	Irina Kleps	irinak@imt.ro	Str. Erou Iancu Nicolae 32B, Bucharest 077190, Fax: 4021.4908238	Theoretical studies, fabrication technologies and characterisation methods of nanomaterials and nanostructures with applications in microsystems	. FP6-2003, NoE: Nanostructured and Functional Polymer-Based Materials, "NANOFUN-POLY" - Selective growth of carbon nanotubes on pyramidal silicon structures, Bilateral Romanian-French "Brincusi" project (2003-2005) Cooperation of Southwest European sountries in field of Nanotechnology- COSENT - Porous silicon matrix for biomedical applications, NMRC- CORK -2003 - European FP5 Network, 2001-2003 PHANTOMS	
			Co	mpetence/Resource	es				Proposal/Interest		
Long-term interdisci mastering j	plinary researc) processes and de	a into understandi weloping research	ng phenor tools	<b>mena,</b> Sil	icon surface functio:	nalisation				- Self-organisation and self-assembling; - Covalent binding of oligonucleotides for microPCR applications.	
	Nano-biotecl	nologies		-Bi bio	io-chips for diagnos )-active material; -D	ing biolog rug delive	ical media and i ry devices; -M	for pollution contro icrochip for DNA a	l; -Porous silicon matrix like nalysis.	- Biomedical applications of nanostructures; -Interfacing biological and non-biological components	
Nano-metre-scale o	Nano-metre-scale engineering techniques to create materials and components		and -N pro	-Nanostructures preparation: chemical and electrochemical etching, thin film deposition, thermal processes; -Nanoparticles: CVD synthesis, sol-gel processing, funtionalisation, stabilisation.					-Development of nanostructured materials; - Surface functionalisation; - Development of carbon nanotubes;		
Development of l	handling and co	ntrol devices and i	nstrumen	ts							
Applications in area energy	s such as health y, optics, food an	and medical syste d the environment	ms, chem t	<b>istry,</b> -Po Ph	-Porous silicon bio-medical applications (drug delivery systems and tissue engineering); - Pharmaucetical Lab-on-a-chip;					-Pharmauceutical Lab-on-a-chip; -Lab-on-a-chip for DNA analysis;	
Develo	opment of funda	mental knowledge		-B	-Biological/non-biological interfaces: cells adhesion on porous silicon;					-Interfacial characteristics and phenomena;	
Technologies asso processing of kno	ciated with the p owledge-based n biomate	oroduction, transfo vultifunctional ma rials	rmation : terials an	and ad -N	-Nanostructured silicon as bio-active, biocompatible and bioresorbable material;			-Novel materials, serving multisectoral applications; - Microsystems based on multifunctional materials;			
Engineeri	ing support for r	naterials developm	ent	-N	-Nanostructures bio-mineralisation; -In-vitro experiments in SBF; -Electrical characterisation						
Development	of new processe manufacturin	s and flexible, into g systems	elligent								
Syst	ems research ar	id hazard control									
Optimising the life-	cycle of industri	al systems, produc	ts and ser	rvices							
Human-fri	endly, safe and e	efficient constructi	on IP								
New generation of	multifunctional surface trans	materials and tec sport - IP	hnologies	for							
Mastering chemica	ils and creating synthesis rou	new eco-efficient j tes IP; NE	rocesses	and							

# Tools for networking



La data de 10 mai 2005, in amfiteatrul Bibliotecii Academiei Romane

Ministerul Educatiei și Cercetarii cu suportul logistic al proiectului ROMNET-ERA

Info proiect	
Evenimente	
Publicatii electronice	
Baze de date	<
Oferta ROMNET	
Proiecte PC6 (Romania)	
Galerie	
Informatii utile	

Matching call-uri PC6

a organizat seminarul "NA Nanostiinta si Nanotehnol <b>Programul seminarului</b>	NO EDUcation: Problematica Educatiei si instruirii in ogie, in contextul Integrarii Europene a Romaniei'' <u>si prezentarile</u> (11 <i>mai</i> 2005) .
- Lista vorbitorilor inscrisi	(5 <i>mai 2005</i> ) poate fi consultata <u>aici.</u>
Proiecte internationale 📀 🕨	rivind educatia in domeniul "nano" pot fi consultate <u>aici</u> . J NANOEDUcation au acces la unele documente ale
Centre de cercetare 💦 🕨	nizat de Comisia Europeana, la Bruxelles (14-15 aprilie
Specialisti	Formular de inregistrare

#### THE EUROPEAN RESEARCHER'S MOBILITY PORTAL

Free search

Welcome to the European Researcher's Mobility Portal, a joint initiative of the European Commission and the 33 countries participating in the European Union's Sixth Framework Programme for Research.

Cautare si editare (cu parola)

The purpose of this Portal is to create a more favourable environment for career development job vacancies for researchers in the European Research Area by providing the necessary structured information as proposed in the Communication "A Mobility Strategy for the European Research Area". (Read more). (27 aprilie)

### Conferinta Nationala a Cercetarii Stiintifice din nvatamântul Superior - CNCSIS

🔁 Go

Links

-

12-14 mai 2005 [mai multe detalii...]

Infoday "Cercetarea in Europa: Posibilitati de finantare in Romania, Gemania si Uniunea Europeana pentru doctoranzi si cercetatori care să desfasoare activitati la nivel postdoctoral"

> 12 Mai 2005 [mai multe detalii...]



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	Entry questionnaire - <mark>Specialist database</mark> -								
	Section A: Studies								
First Name *									
Family Name *									
Title *	SELECT								
Degree: Post Doc, Ph.D., M.Sc Diploma (Title/Year/Institution/Country)	,	×							
Background (first university de in (select the most appropriate entry)*:	gree) SELECT								
Second specialization (if any) centered on (select the closest entry): Note: through a degree, PU cou training by research etc. (minim one year)	SELECT <b>T</b>								
	Section B: Affiliation								
Institution name and Initials *									
Country (for your place of work the above institution)*	at Europe  Other Country (specify)								
Position									
E-mail (main address and alternative)*	Main address * : Alternative address (if necessary)								
Phone, Fax *									
Address and/or mailing address (if different from the location of above institution)	the	4							
Country of origin (permanent residence), if different from the above	Europe Context (specify) Context (specify)								
Age SELECT -	Gender SELECT -								
\$	Section C: Competence (expertise)*								
First Competence									
Domain *									
Key Words *									



Short description (please indicate the nature of your work, e.g. computer-aided simulation and design, technology, physical characterization etc Max 1000 characters)	×	
Functioning as an expert* Note: you have to select at least one entry	<ul> <li>Evaluator of proposals at the EC</li> <li>Expert of the EC (committee program and others)</li> <li>Other international expert</li> <li>National expert</li> <li>Neither of the above</li> </ul>	
Section D: Participati	on in the most relevant international projects	
Project 1: Title/Acronym/Program/Time interval		
<b>Description</b> (Max 1000 characters)	×	
Project 2: Title/Acronym/Program/Time interval		
<b>Description</b> (Max 1000 characters)	A ()	
Project 3: Title/Acronym/Program/Time interval		
Description (Max 1000 characters)	× *	
Sectio	on E: Interest in collaboration	
Nature of your activity (basic job today), please select* Note: you can select more than one entry	Research     Technological development     Technological transfer     Production     Education     Management     Marketing     Consultancy     Other	
Interest for continuing/extending your activity at the international scale, select the domain of activity* Note: you can select more than one entry	<ul> <li>Scientific research and technological development</li> <li>Education and training</li> <li>Technology transfer and innovation</li> </ul>	
Detailed description of your interest	× *	
Interest for future themes (priorities for cooperative research) in the future Framework program (FP7) of EU Note: you can select more than one entry	Health     Food, Agriculture and Biotechnology     Information and Communication Technologies     Nanosciences, Nanotechnologies, Materials and new Production     Technologies     Energy     Environment (including Climate Change)     Transport (including Aeronautics)     Security and Space	
Key Words		
Other relevant information	Å	
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Username suggested by you* Note: you have to entry the same username for all databases		
wote ; you have to entry the same username for all databases	Submit Reset	

### Cautare si editare (cu parola)

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	ROMNET-ER ROManian Inventory and NETworking for 2004-2006 (Inventarierea si interconectarea centre din Romania si integrarea acestor Contract No. 510475, financed by Europe	A or Integration in ERA lor de cercetare ra in ERA) an Commission
	Contract No. 5104/5 Innanced by Europe	
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Prezentarile de la S	Search emin <del>arur v</del> ational de Nanostiinta si Nanotehnologie din 18 iar	nuarie 2005 se gasesc <u>AICI</u> .
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		Keywords: AND O OR O Search
	No Name	Institution name and Initials
	1 Ph.D Professor Ioan ANDONE	"Alexandru Ioan Cuza" Iasi, UAIC, Faculty of Economics and Business Administration (FEAA), Dept of Business Informatics
	2 DR VICTOR AUREL ANDRE 3 Dipl antineer Ange Smernich 1	d Institute for Nuclear Kesearch Averlager National Austitute for Research and Development in Microtechnologies, IMT Buckeyert
	4 Senor scientist Ioan Ardelean	Institute of Biology
	5 Profesor Steponas Asmontas	Semiconductor Physics Institute
	6 Ph.D. eng. Marioara Avram	National Institute for Research and Development in Microtechnologies (IMT - Bucharest)
	7 Assoc. Prof. Mitra Baleva	Sofia University, SU
	8 Ph.D Engineer Mihaela Banu	University of Galati
	9 Dr. Marius Bazu	National Institute for Microtehenlogies IMT
	10 Assoc.Prof. LIDIA BENEA	Dunarea de Jos University of Galati, UGAL
		page 1 page 2 page 3 page 4 page 5 page 6 page 7 page 8 page 9 page 10

CNCSIS Conf., 12-14 May 2005



### **ROManian Inventory and NETworking for Integration in ERA** ROMNET-ERA

Contract No. 510475, financed by European Commission, 2004-2006

#### Previous issues are available on the project website: <u>www.romnet.net</u> E-newsletter No. 30, May 5, 2005

Versiunea originala a acestui e-newsletter (si numerele anterioare), la adresa www.romnet.net/ro/arhiva.htm

#### Nou

Dezvoltarea colaborării între unitățile şi instituțiile de cercetare-dezvoltare, universități şi operatori economici va fi susținută prin Programul de cercetare de excelență – CEEX, discutat joi, 28 aprilie 2005 in sedinta de Guvern (sursa: www.guv.ro). Programul va fi finanțat de la bugetul de stat prin alocații, prevăzute cu această destinație, în limita fondurilor aprobate prin bugetul Ministerului Educației şi Cercetării. Programul are un caracter multianual şi se derulează în perioada 2005-2008 [mai multe detalii..]

#### Evenimente viitoare:

\_\_\_\_\_

- La data de 10 mai 2005, Ministerul Educatiei si Cercetarii organizeaza, cu suportul logistic al proiectului ROMNET-ERA, in amfiteatrul Bibliotecii Academiei Romane (intrarea prin Bv. Dacia), seminarul "NANOEDUcation: Problematica Educatiei si Instruirii in Nanostiinta si Nanotehnologie, in contextul integrarii europene a Romaniei". Aceasta manifestare urmeaza unui seminar pe aceasta tema organizat de Comisia Europeana (14-15 aprilie 2005). Programul seminarului este in curs de completare (a se vedea www.romnet.net); cei interesati de tematica sunt rugati sa completeze formularul de inregistrare la seminar. Se sponsorizeaza deplasarea specialistilor din provincie.
- <u>4th Annual Meeting of the European Tissue Engineering Society</u> ", 31 august- 3 septembrie 2005, Munchen, Germania; Termen trimitere rezumate: 8 mai 2005.
- <u>\* ESONN'05 European School On Nanosciences & Nanotechnologies</u>
  , 21 august 9 septembrie 2005, Grenoble, Franta;
  Termen trimitere aplicatii: 15 mai 2005.
- 🔊 "<u>E-MRS 2005 Fall Meeting</u> ", 5 9 septembrie 2005, Varsovia Polonia; Termen trimitere rezumate: 20 mai 2005
- "<u>The Protein World</u>", congres organizat de FEBS (<u>Federatia Europeana de Biochimie</u>), 2 7 iulie 2005, Budapesta, Ungaria; Termen trimitere rezumate: 31 mai 2005

#### Carti de nano-biotehnologie:

- Microchip manufacturing
  - Autor: Stanley Wolf Anul aparitiei: 2004 ISBN: 0-9616721-8-8
- D Correlation Spectroscopy of Surfaces, Thin Films, and Nanostructures

Autori: Jamal Berakdar, Jürgen Kirschner Anul aparitiei: 2004 ISBN: 3527404775

Daca aveti intrebari, comentarii sau sugestii, va rugam sa ne scrieti pe adresa webmaster@romnet.net;

Pentru a nu mai primi acest newsletter va rugam trimiteti un mesaj la webmaster@romnet.net;

Daca cititi o editie primita de la un prieten si doriti sa primiti direct newsletter-ul, va rugam accesati urmatoarea adresa:

http://www.romnet.net/db/news\_reg.htm;





No. 4/ Weeks 10-15 /2005 Edited with the support of EU project MINAEAST-NET Contract no: 510470 (2004- 2006) Project web page: <u>www.minaeast.net</u>

1. East/West Partnering Workshop within the MINAEAST.NET Initiative - 22 Apr 2005 (9-15 h), Fraunhofer IZM Berlin - TU Berlin FsP Microperipherics, Gustav-Meyer Allee 25, D-13355 Berlin, Germany. Organisers: <u>Karl-F.</u> <u>Becker</u>, TU Berlin/FhG-IZM, Berlin, Germany <u>Patric Salomon</u>, 4M2C PATRIC SALOMON GmbH, Berlin, Germany. <u>Agenda</u>

2. The 7th Framework Programme will be organised in four specific programmes, corresponding to four major objectives of European research policy: Cooperation; Ideas; People; Capacities We present here two themes from the "Cooperation" part:

- Information and Communication Technologies

- Nanosciences, Nanotechnologies, Materials and new Production Technologies

For complete information see http://www.cordis.lu/fp7/ (published on Cordis on 6th of April, 2005)

<u>NanoMicroClub Meeting</u> - 28th April, The Fabriam Centre, Newcastle (contact: eleanor@nano.org.uk)



2005 NSTI - Nanotechnology Conference and Trade Show Nanotech 2005; May 8-12, 2005; Anaheim Marriott&Convention Center; Anaheim, California, U.S.A. Join 130 Exhibiting Companies & 2500 Participants

5. <u>EuroNanoForum2005: "Nanotechnology and the Health of the EU Citizen in 2020"</u>, Edinburgh, 6-9th September 2005. For further information please contact Carrie Smith (carrie@nano.org.uk ) or on 01786 447520

6. <u>7th International Symposium "TECHNOMAT & INFOTEL 2005" Materials, Methods and Technology;</u> September 7 - 10, 2005 - HOTEL COMPLEX Ministerial Council - Republic of Bulgaria, Sunny Beach resort. Organized by: Bulgarian Academy of Science; Union of Scientists in Bulgaria; "Prof. Dr. Assen Zlatarov" University; Science Invest LTD - branch Bourgas;

 On 4 April 2005, INTAS, the International Association for the promotion of cooperation with scientists from the New Independent States (NIS) of the former Soviet Union, launched the first stage of its Open Call for Research Projects Proposals 2005-2006. <u>Details</u>.



CN(

3. NANOPOLIS- "Exploring Nanotechnology"



NANOPOLIS is inviting you to participate to the upcoming "Exploring Nanotechnology" in the Nanopolis encyclopedias and Virtual Show. The "Exploring Nanotechnology" encyclopedia is the result of the cooperation of over 200 research groups worldwide. It explains topics of interest in nanotechnology in a widely accessible manner. To each topic it associates summary charts representing the main classes of industrial and research players and their interdependence. It also includes presentations of companies active in the field (e.g. instrument manufacturers, nanomaterials users. IP lawyers etc.)."



\***Nanopolis™** (<u>www.nanopolis.net</u>) is a virtual space mirroring the evolution of nanotech research and integrating it with education and industry. The scientific content of Nanopolis™ is "gathered" in real-time due to a close partnership

a. NSTI - CEI Nanotechnology Course Series, 21-24 March 2005, Davos, Switzerland. Registration form on the website: www.nsti.org/courses/accomodations.html#davos (NEXUS-MEMS)

b. Advanced Nanotechnology - Materials, Processes, Structures and Applications, 4th - 8th April 2005 NMRC Cork Ireland For details on how to register for this Vision on-line Training Week please

c. Sabanci University, Faculty of Engineering & Natural Sciences, Microelectronics Engineering Program. TURKEY, organized a national optics, fotonics, electro-optics workshop with a specific focus on Micro and Nano technologies on December 10, 2004. This has turned into a one of the biggest Scientific events in Turkey with more than 200 people already registered and about 50 scientific oral and poster presentations. The MINAEAST-NET Project was promoted during this one-day event throug a leaflet sent by coordinator. Coming soon: Info day for micro-nano technologies organised by Sabanci University, Faculty of Engineering & Natural Sciences, Microelectronics Engineering Program, TURKEY; Contact person: Prof. Yasar GURBUZ

# Conclusion (1)

- Romanian programmes in support for European integration
- CEEX
  - Topics from FP7!
  - "Instruments":
    - Networks as poles of excellence in advanced technologies
    - Integrated technological networks >> European technological platforms

# Conclusion (2)

### A formidable challenge

- Highly advanced topics and an enormous field
  - European cooperation
- "New instruments"?
  - Mixing research with support actions?
  - Extensive networking
- Experience of evaluators?

Flexibility, possibilities of correction?