



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Mihai Dănilă**
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E-mail mihai.danila@imt.ro
Nationality Romanian
Date of birth 12.03.1967
Gender M

Desired employment / Occupational field

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Work experience

Dates	Since Sept 1990
Occupation or position held	Senior researcher Since 2000 Head of X-ray Diffraction Laboratory & X-ray Unit
Main activities and responsibilities	Research activities: - Non-destructive material characterization using X-ray methods& techniques - X-ray metrology in semiconductor industry (materials, processes, devices) - Material characterization & Solid State Physics related research Education: teaching and training by research for the students of UPB, Faculty of Electronics
Name and address of employer	National Institute for R&D in Microtechnologies- IMT Bucharest, Erou Iancu Nicolae 126A, Voluntari, Ilfov
Type of business or sector	Research
Dates	1991-2011
Occupation or position held	1991-1996 Physicist Engineer, Research Assistant 1996-1997 Researcher 1997-2011 Senior researcher, C.P.3
Main activities and responsibilities	Main Research activities: - microfabrication processes for optoelectronics, in the Optoelectronics Lab of former ICCE (research institute for electronic compounds - 1991-1997) - design& development & characterization of solid state nuclear detectors (1991-1997) - study of physical processes& interactions produced by nuclear radiations in materials and electronic devices (pn & pin & Schottky diodes) - X-ray metrology of processes, materials & devices (semiconductor industry, metallurgy, etc)
Name and address of employer	Research Institute For Electronic Components , Erou Iancu Nicolae 32 B, Bucharest
Type of business or sector	Research

Education and training

Dates	1985 -1990
Title of qualification awarded	Physicist Engineer, MsC.
Principal subjects/occupational skills covered	Solid State Physics
Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics
Level in national or international classification	University
Principal subjects/occupational skills covered	solid state physics, mechanics, analytical mechanics , thermodynamics and statistical physics, nuclear physics, electricity and magnetism, optics, atomic physics, electronics, quantum mechanics.

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment

European level ()*

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2		C2		C1		C1		C1	
B2		B2		B2		B2		B2	

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences

Organisational skills and competences

Re-authorisation & cassation of old X-ray unit of IMT in 2 months
Authorised personnel for work with nuclear (ionising) radiations (CNCAN), Level 2 Permit nr.148/2000

Technical skills and competences

- X-ray related investigation methods& processes
- Opto-electrical characterization of devices
- Micro and nano fabrication related procedures: design, processes, testing
- Solid State related material investigations of physical properties & testing

Computer skills and competences

MS Windows, MS Office, Dedicated X-ray processing software, Origin, etc.

Artistic skills and competences

Other skills and competences

Driving licence

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Annexes

List of publications, projects coordinated, patents (2000-2011)



A. Project management – list of the grants coordinated in the last 10 years

National projects

- Development & expansion of X-ray characterization capabilities of Nanobiotechnology Laboratory of IMT Bucharest **High resolution X-ray Diffraction Lab- LADRIX** (CAPACITATI, 2007-2009)
- Research and development of advanced X-ray micro-structural diffraction methods of specific materials and devices used in microelectronics industry (1999 -2000)
- High efficiency Photovoltaic conversion elements (Cooperation with Moldavia 1998)
- InP / InGaAs Hetero bipolar transistors (Cooperation with Moldavia 1998-1999)

B. Selective publication list

2011

Papers in ISI Journals

1. *Nanostructure and Internal Strain Distribution in Porous Silicon*, Mihaela Miu, **Mihai Danila**, Irina Kleps, Adina Bragaru, Monica Simion, **Journal of Nanoscience and Nanotechnology** (ISSN 1533-4880) 11, pg 1-7, doi:10.1166/jnn.2011.4305, in press (2011);
2. *Biodegradation of Poly(vinyl alcohol) and Bacterial Cellulose Composites by Aspergillus niger*, Anicuta Stoica-Guzun, Luiza Jecu, Amalia Gheorghe, Iuliana Raut, Marta Stroescu, Marius Ghiurea, **Mihai Danila**, Iuliana Jipa, Victor Fruth, **Journal of Polymers and the Environment** 19(1), 69-79 (2011); DOI 10.1007/s10924-010-0257-1;
3. *1100nm InGaAs/(Al)GaAs quantum dot lasers for high-power applications*, E-M Pavelescu, C Gilfert, P Weinmann, **M Danila**, A Dinescu, M Jacob, M Kamp and J-P Reithmaier, **Journal Of Physics D-Applied Physics** 44(14), 145104 (2011); doi:10.1088/0022-3727/44/14/145104;
4. *Characterization of microdevices for ferrous chloride separation for biosensing applications*, Mihaela Carp, Raluca Müller, Loredana Draghiciu, Rodica Voicu, Mihai Danila, **Sensors and Actuators A: Physical** 171(1), 26-33 (2011);
5. *Electrochemical investigation of a glassy carbon electrode modified with (poly)crystalline gold decorated carbon nanotubes*, Antonio Radoi, Simona-Carmen Litescu, Sandra A. V. Eremia, Mihaela Miu, Mihai Danila, Adrian Dinescu, Gabriel-Lucian Radu, **Microchimica Acta** (ISSN 0026-3672), doi: 10.1007/s00604-011-0658-4, Published online: 17 July 2011;
6. *Optical properties of Cu₂S nano-powders*, Andreea Eugenia Pop, Violeta Popescu, **Mihai Danila**, Medina Natalia Batin, **Chalcogenide Letters** 8(6), 363 – 370 (2011);

Proceedings (ISI)

1. *Fabrication and in vitro testing of porous silicon microcarriers*, A. Bragaru, M. S. Kusko, M. Simion, A. Iordanescu, R. Pascu, **M. Danila**, F. Craciunoiu, M. Diaconu, **IEEE CAS Proceeding**, 117-123 (2011);
2. *Nanostructured indium phosphide used in electrowetting system for biosensor applications*, L. Sirbu, I. Voda, D. Esinenco, R. Muller, R. Voicu, **M. Danila**, L. Ghimpu, I. M. Tiginyanu, V. Ursaki, **IEEE CAS Proceeding**, 237-241 (2011);
3. *Functionalized graphene/poly 3-hexyl thiophene based nanocomposites*, A.C. Obreja, D. Cristea, R. Gavrilă, V. Schiopu, A. Dinescu, **M.Danila**, F. Comanescu **IEEE CAS Proceeding**, 27-31 (2011);
4. *Structural investigation of P3HT-PCBM-Graphene films*, L.M. Veca, R. Gavrilă, E. Vasile, M. Purica, **M. Danila**, **IEEE CAS Proceeding**, 53-57 (2011);

2010

Papers in ISI Journals

1. **Electrocatalytic Activity of Platinum Nanoparticles Supported on nanoSilicon**, M. Miu, I. Kleps, **M. Danila**, T. Ignat, M. Simion, A. Bragaru, A. Dinescu, **Fuel Cells**, 10 (2), pp. 259 - 269, 2010. (impact factor 2.557).
2. **Metallic-Semiconductor Nanosystem Assembly for Miniaturized Fuel Cell Applications**, Mihaela Miu, **Mihai Danila**, Teodora Ignat, Florea Craciunoiu, Irina Kleps, Monica Simion, Adina Bragaru, Adrian Dinescu, , **Superlattices and Microstructures**, Vol. 46, pp. 291–296, 2009.
3. **Electrochemical Characterization of BSA/11-Mercaptoundecanoic Acid on Au Electrode**, T. Ignat, M. Miu, I. Kleps, A. Bragaru, M. Simion, **M. Danila**, **Materials Science and Engineering B**, 169 (1-3), pp. 55-61, 2010. (impact factor 1.715)

Proceedings (ISI)

1. **Nanocomposite Membranes Based on Platinum Nanoparticles Dispersed in Polymeric Matrix**, A. Bragaru, M. Miu, M. Simion, A. Iordanescu, M. Danila, A. Radoi, A. Dinescu, 33rd Edition, IEEE International Semiconductor Conference, CAS Proceedings, Vol. 1, 11-13 October, Sinaia, Romania, pp. 95–98, 2010.
2. **High power 1100 nm InGaAs/ GaAs Quantum dots Lasers**, E.M. Pavelescu, C. Gilfert, **M. Danila**, A. Dinescu, J.P. Reithmaier, 33rd Edition, IEEE International Semiconductor Conference, CAS-Proceedings, Vol. 1, 11-13 October, Sinaia, Romania, pp. 173-176, 2010;

3. **Temperature Influence on the Optical and Structural properties of NiO Thin Films obtained by Metallic Ni Oxidation Process**, E. Budianu, M. Purica, F. Comanescu, **M. Danila**, A. Dinescu, **7th International Conference on Nanosciences & Nanotechnologies (NN10)**, 10-15 July, Ouranopolis Halkidiki, Greece, p. 181, 2010.
4. **Studies Concerning the Utilizations of Cantilever Beams in Bio Applications**, L. Draghiciu, M. Carp, R. Muller, A. Dinescu, A. Cismaru, **M. Danila**, V. Damian, 7th International Conference on Nanosciences & Nanotechnologies (NN10), 11-14 July, Ouranopolis Halkidiki, Greece, Book of Abstracts, p. 214, 2010;
5. **Structural and Optical Properties of Nickel Oxide thin Films Prepared by Ni thin Film Thermal Oxidation for Transparent Electronics**, M. Purica, E. Budianu, A. Dinescu, M. Danila, F. Comanescu, R. Gavrilă, **International Conference on Transparent and Conductive Materials (TCM)**, October, Creta, Grecia, 2010.
6. **Metallic nanoparticles embedded in thin membranes for new hybrid nanosystems**, A. Brăgaru, I. Kleps, M. Miu, Monica Simion, **Mihai Danila**, Lucia Cortojan, Florea Craciunoiu, Teodora Ignat, Minodora Leca, **Advanced hybrid materials: stakes and concepts, Proceeding E-MRS Conference**, 6-11 iunie 2010, Strasbourg, France.
7. **Nanocomposite membranes based on platinum nanoparticles dispersed in polymeric matrix**, A. Brăgaru, M. Miu, M. Simion, A. Iordanescu, M. Danila, A. Radoi, A. Dinescu, **International Semiconductor Conference (CAS)**, 11-13 octombrie 2010, vol.1, 95 – 98

Chapters in books

1. **Acoustic Devices for GHz Applications Based on Micromachining and Nanoprocessing of GaN/Silicon**, A. Muller, D. Neculoiu, G. Konstantinidis, D. Vasilache, A. Dinescu, A. Stavrinidis, G. Deligiorgis, **M. Danila**, K. Tzagaraki, M. Dragoman, A. Cismaru, C. Buiculescu, I. Petrini, A.A. Muller, D. Dascalu, **“Microwave and millimeter wave MEMS”, Series in Micro and Nanoengineering, Publishing House of the Romanian Academy**, pp. 103-111, Editors: Flavio Giacomozzi, Alexandru Muller, Dan Dascalu, Robert Plana, 2010.

2009

Papers in ISI Journals

1. **Metallic-Semiconductor Nanosystem Assembly for Miniaturized Fuel Cell Applications**, Mihaela Miu, **Mihai Danila**, Teodora Ignat, Florea Craciunoiu, Irina Kleps, Monica Simion, Adina Brăgaru, **Adrian Dinescu**, **Superlattices and Microstructures**, Vol. 46, Issues 1-2 pp.291–296, 2009.
2. **Study of the Micro- and Nanostructured Silicon for Biosensing and Medical Applications**, Irina Kleps, Mihaela Miu, Monica Simion, Teodora Ignat, Adina Brăgaru, Florea Craciunoiu, and **Mihai Danila**, **Journal Biomedical Nanotechnology (JBN)** 5, 2009, pp. 300–309.
3. **6.3 GHz Film Bulk Acoustic Resonator Structures Based on a Gallium Nitride/Silicon Thin Membrane**, Alexandru Müller, Dan Neculoiu, George Konstantinidis, Antonis Stavrinidis, Dan Vasilache, Alina Cismaru, **Mihai Danila**, Mircea Dragoman, George Deligeorgis and Katerina Tsagaraki, **IEEE Electron Devices Letters**, Vol 30, No 8, August 2009, pp. 799–801

2007

Papers in ISI Journals

- 1 **Nanoporous Silicon Matrix Used as Biomaterial**, M. Simion, I. Kleps, T. Neghina, A. Angelescu, M. Miu, A. Brăgaru, **M. Danila**, E. Condac, M. Costache, L. Savu, **Journal of Alloys and Compounds**, 2007, Vol. 434–435, pp. 830–832;
2. **Gold and Silver/Si Nanocomposite Layers**, I. Kleps, M. Danila, A. Angelescu, M. Miu, M. Simion, T. Ignat, A. Brăgaru, L. Dumitru, G. Teodosiu, **Materials Science and Engineering: C**, 2007, Vol. 27, pp. 1439–1443.

2002

Papers in ISI Journals

1. *Optical and structural investigation of ZnO thin films prepared by chemical vapor deposition (CVD)*. **THIN SOLID FILMS**, 403, Purica, M; Budianu, E; Rusu, E; Danila, M; Gavrilă, R, , pp. 485-488, 2002.
2. *Optical improved structure of polycrystalline silicon-based thin-film solar cell*; **SOLAR ENERGY MATERIALS AND SOLAR CELLS**, Budianu, E; Purica, M; Manea, E; Rusu, E; Gavrilă, R; Danila, M, , 72 (1-4), pp. 223-229, 2002.
3. *Microstructural information from optical properties of LPCVD silicon films annealed at low temperature*, Gartner, M; Modreanu, M; Cobianu, C; Gavrilă, R; **Danila, M.** **SENSORS AND ACTUATORS A-PHYSICAL**, 99 (1-2), pp. 160-164, 2002

2001

Papers in ISI Journals

1. **Structural and morphological changes in low temperature annealed LPCVD Si layers**, C. Cobianu, M. Modreanu, M. Bercu, **M. Dănilă**, R. Gavrilă, and M. Gartner, **Journal de Physique IV** 2001 vol.11 Pr.3 315-324;