CURRICULUM VITAE

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Affiliation and official address:
"Laser-Surface-Plasma Interactions" Laboratory, Laser Department
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Date and place of birth: May 30, 1947; Slatina, Olt, Romania
Nationality: Romanian

Education:
Physics Faculty, Bucharest University, July 1969; specialized in Nuclear Physics and in Optics, Spectroscopy and Plasma Physics; graduation thesis "Statistical fluctuations in nuclear reactions"

Ph.D. at the Central Institute of Physics Bucharest; Ph.D. thesis: "Interaction of 1.06 μ m laser radiation of μs duration with metallic targets in vacuum", July 1982

Specialization:
(i) main field: Experimental Optics, Spectroscopy, Laser and Plasma, Surface Physics
(ii) other fields: Biophysics and Biomedicine, Plasma and Laser Theory
(iii) current research interest: Surface studies with laser, Surface processing, Deposition and modification of thin solid structures by high intensity laser irradiation, Biomaterials, Optoelectronics and Sensors.

Foreign languages: English, French, Russian, Italian

Career/Employment:
-Physicist in the Lasers Department, Institute of Atomic Physics, Bucharest, 1969-1975.

Research scientist, Institute of Physics and Technology of Radiation Devices, The Central Institute of Physics, Bucharest, 1975-1989

Senior research scientist 1-st degree, Institute of Atomic Physics, since 1990

Professor, Faculty of Physics, University of Bucharest, since October 1990

Head of the "Laser-Plasma-Surface Interactions" Laboratory, since 1975

Supervisor of 52 License (graduate) theses (since 1973), 12 Dissertation theses (since 1995)

Supervisor of Ph.D. thesis in Physics (Optics, Spectroscopy and Lasers) since 1990

Ph.D. thesis list:
1. Andrei Barborica, "The Corrugation of surfaces under laser irradiation", 1994
2. Aurel Andrei, "Researches concerning surfaces physics under laser irradiation", 1995
3. Stefan Amarandei, "Beam quality anticipation for a gas-transport laser", July 1996

4. Eniko. Gyorgy, “Synthesis, deposition and characterization of thin films by laser radiation”, July 1998
5. Magdalena Ulmeanu, “Study of systems under irradiated treatment; thin films used as mirrors for soft X-rays field”, 1999
6. Johnny Neamtu, “Interaction of laser radiation with substance in solid, liquid phase or/and plasma”, 2000
7. Corneliu Ghica, “Study of thin films obtained by laser ablation: Manganese with colossal magnetoresistence: $La_{0.6}Y_{0.07}Ca_{0.33}MnO_{3-\delta}$”, 2000
8. Valentin Nelea, “Growth and characterization of HA thin films obtained by pulsed laser deposition (PLD) method”, 2002
9. Cristian Petre, “Contributions to the spatial and temporal controlled generation and propagation of laser radiation. Applications to the thermal treatment of materials surfaces”, 2002
10. Monica Iliescu, “Study of manganese and carbonate doped octocalcium phosphate and HA films obtained on titan by pulsed laser deposition (PLD)”, 2003
11. Carmen Ristoscu, Synthesis, processing and characterization of thin films by high intensity laser radiation”, 2003
12. Rodica Cristescu, “Laser material interactions: laser processing of polymer thin films for biomedical applications”, 2005

- 12 thesis in current supervision

Participation in Ph.D. thesis Juries in: Romania (Institute of Atomic Physics, University of Cluj, “Ovidius” University of Constanta), Bulgaria (Institute of Electronics, Sofia), France (Claude-Bernard University, Lyon; Louis Pasteur University, Department of Physics, Strasbourg), Italy (University of Lecce, Department of Physics)**Honors, Awards,/**

The 1975 Constantin Miculescu Prize of Romanian Academy for contribution to Laser Interactions Physics and Applications

The 1994 Galileo Galilei Prize, awarded by the International Commission for Optics (ICO) “for outstanding contributions to the field of optics"

Fellowships,/ International Conference Organization/Membership of Professional Societies:

-Invited professor GREMI/University of Orleans, France, 1991

-Guest fellowship CNR (Consiglio Nazionale delle Ricerche) NATO, 1998

-Invited professor University of Barcelona, Department of Physics and Applied Optics, 2000

- Scientific secretary of the International Conferences “Trends in Quantum Electronics-TQE” (Bucharest, Romania): TQE’82, TQE’85, TQE’88

Scientific secretary of the “3rd International School on Coherent Optics-ISCO”, Bucharest, 1982

Member of the scientific program committee of “Particle Beam Modification of Materials- EPM” (Dresden, Germany): EPM’87, EPM’89

The International “Symposium on Laser Spectroscopy - SLS” SLS’86, SLS’89

International Conference ROMOPTO (Bucharest, Romania) - September 1994, September 1997, September 2000, September 2003.

Member of the Organizing Committee of International Conference on Advanced Laser Technologies (Moscow September 1992, Prague November 1993, Constanz September 1994, Prague September 1995)

Member of the Organizing Committee of International Conferences on Photo-Excited Processes and Applications (4-ICPEPA), 2005

Chairman of Workshop on Surface Physics and Engineering, co-organized by Physics Faculty, University of Bucharest, Institute of Physics and Chemistry of Materials from Strasbourg (IPCMS), National Institute for Applied Sciences (NIAS), Strasbourg, France, yearly since 1994

Chairman of more than 65 sessions or panel discussions at various international meetings

Member of the Romanian Physical Society since 1983

Member of SPIE - The International Society of Optical Engineering, since 1983

Member of the European Physical Society (the Quantum Electronic Division), since 1984

Member of the Optical Society of America, since 1986

Invited referee to Thin Solid Films (since1991), Applied Surface Science (since 2001), Surface Coatings and Technology (2001), Journal of Applied Physics (since 2003), Journal of Biomedical Materials Research (since 2005), Applied Physics A (since 2005);

Member in International board of Opto-Electronics Review, since *2000*

Member in International board of Revue des Technologies Avancees, since 1980

Member in International board of Journal of Optoelectronics and Advanced Materials, since *1999*

Evaluator of National and International Contracts, since 2000.

Publications and patents:

- Number of books: 6 books (3 abroad and 3 in Romania)
- Number of papers in refereed journals: 425 papers in international regular journals and 224 papers in proceedings of international meetings,
- Number of communications to scientific meetings: International conferences, symposiums, workshops or schools: with invited lectures: 45, with oral contributions: 65, with poster contributions: 86; Invited seminars: -abroad: 52, -in Romania: 16
- Number of citations in International Journals and Books: more than 1100
- **10 patents** (8 in Romania, 2 abroad)

Management of international projects:

Coordination of the Romanian participation **(**National Institute for Lasers, Plasma and Radiation Physics, Bucharest, NILPRP***) to/at the international contracts:***

1) -Contract no. 6642/R2/RB ***"Spectroscopic and transport studies of plasmas near material walls; Plasma interaction with wall materials; Laser and plasma surface studies"*****, International Atomic Energy Agency, 1992-1996.**

2) -„*Intereuropean pulsed laser deposition network for novel materials (INPULSNET)*", **INCO-Copernicus IC15-CT98-0807, (1998-2000), (6 partners);**

Coordinator:-Foundation for Research and Technology – Hellas, Institute of Electronic Structure and Laser (FORTH-IESL)

3) -PHARE contract ***"Enhanced Free Running Laser Device for Surface Cleaning"*** **RO9602-02-02-L024, 2000**

Partners:

-National Institute for Lasers, Plasma and Radiation Physics, Bucharest, Romania

-Foundation for Research and Technology – Hellas, Institute of Electronic Structure and Laser (FORTH-IESL)

4) -***"Surface Improvement of Metal Implants : New Preparation Methods and New Materials", SIMI G5RD-CT-2000-00423 (2000–2004), (10 partners);***

Coordinator:--Université Louis Pasteur, Strasbourg, France

5) –"Ferromagnetic semiconductors and novel magnetic semiconductor heterostructures for improved knowledge on spintronics", FENIKS G5RD-CT-2001-00535 (2001 –2005), (16 partners)

Coordinator:--IMEC, Leuven, Belgium

6) —-"Multiwavelength plasma investigations for applications in thin film deposition and processing", NATO PST.CLG. 977325, 2002–2003

Coordinator:--National Hellenic Research Foundation, Athens, Greece,

7) -"Controlled thin film doping by two synchronized laser systems for nano-electronic applications" - NATO PST.CLG 980464, 2003–2004

Coordinator:--National Hellenic Research Foundation, Athens, Greece,

8) -"Nanostructured Photonic Sensors" NANOPHOS IST-2001-39112 (2002–2005), (14 partners);

Coordinator:-- National Research Foundation (NHRF), Greece

9) – "Deposition - Characterization - Irradiation of Chalcogenide Films for Lithography" (DECHIR-CHAFILI) IB7320-111073/1, Scopes 2005-2008

Partners:- Ecole Polytechnique Fédérale de Lausanne (EPFL), Swiss ;

- A.F. IOFFE Physico-Technical Institute, Russia.

Bilateral Agreements:

1) – "Pulsed laser deposition and processing of thin films", 2000-2002

University of Szeged, Department of Experimental Physics, Hungary

National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

2) "Thin film and multilayer systems diagnostics and technology", 1999-2002

- Slovak Academy of Sciences, Institute of Physics, Slovakia
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

3) "Thin films and structures for medical, chemical and biological applications", 2003-2005; "Thin films obtained by pulsed laser deposition and matrix assisted pulsed laser evaporation", 2005-2007

- Israeli Academy of Sciences and Humanism, Hebrew University of Jerusalem, Israel
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

4) "Pulsed laser deposition of thin films", 2002-2004, (contractul nou)

- Academy of Sciences of the Czech Republic, Institute of Physics, Czech Republic
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

5) "Electrophysical and optical properties of CN_x-Si, WC_x-Si, AlN_x-Si, SiC_x-Si and BN_x-Si heterostructures:, 2001-2004; "Optical, magnetic and electrical

properties of nanostructured layers obtained by PLD for new applications in sensing, waveguides, spintronics and advanced electrical measurements", 2004-2007

- Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

6) "Pulsed laser deposition of thin oxide films", 2000-2003; "Pulsed laser deposition of optical and magnetic thin films", 2003-2006

- Institute of Electronics, Sofia, Bulgaria
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

7) "Surface Laser Modification of Metal/Ceramic Thin Films Materials for Microelectronics and sensor Technics, 2000-2003

- Central Laboratory of Photoprocesses"Acad. J. Malimowski", Bulgarian Academy of Sciences, Sofia, Bulgaria
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

8) "Laser deposition of thin oxide films for optoelectronic devices", 2004

- University of Lecce, Department of Physics, Italy
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

9) "Cooperation Project", 2000

- University of Orleans, France
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

10) "Artificial structures with magnetic, optical and mechanical properties obtained by reactive pulsed laser deposition (RPLD)" CNRS Contract, 1998-2006;

"Bilateral Agreement for the academic year 2003-2006", SOCRATES program: higher education (ERASMUS);

"Etude des contraintes residuelles a l'interface ceramique/metal et applications aux implants dentaires", Brancusi Program, 2003-2008

- Institute of Physics and Chemistry of Materials from Strasbourg, France
- National Institute for Applied Sciences, (NIAS), Strasbourg, France
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

11) "Bilateral Agreement", 2002-2004; "Material processing by pulsed laser ablation: plasma diagnostics and theoretical modeling", 2002-2004

- Mediterranean University (Aix-Marseille II), Marseille, France
- Laboratory of Lasers, Plasmas and Photonics, Mediterranean University, Marseille, France
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

12) "New biomimetic calcium phosphate coatings for metallic implants", 2005-2008

- Università di Bologna, Dipartimento di Chimica "G.Ciamician"
- National Institute for Lasers, Plasma and Radiation Physics, Bucharest, (NILPRP), Romania

Projects in evaluation stage:

1. Enhancement of Photonics Technology by Supra-regional Networking, ENPHOTERN, 33013, NoE
2. Self molecular assembly in health and medicine, SAM-MED-NET, 34635, IP
3. Advanced Functional Materials Produced by Pulsed Laser Deposition, AMPLE, 35127, IP
4. Network of Excellence in Surface Science and Engineering, SuSiE, 35068, NoE
5. Advanced Laser Micro/Nano Processing, Material Synthesis and Modification, AdLAS, 34663, IP
6. Ceramic Coatings Resembling Chemistry and nano-topography of the regenerating bone, OSTEOMNEME, STREP
7. Reinforcement or research capacity in Romanian Centre of Excellence in Photonics, REPHOT, call FP6-2004-ACC-SSA-2, FP6-01700

Date: October 20, 2005 Prof. Dr. Ion N. Mihailescu