


**PERSONAL INFORMATION** **MIHAELA FILIPESCU (former MORAR)**

 National Institute for Lasers, Plasma, and Radiation Physics

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Sex Female | Date of birth 16/02/1978 | Nationality Romanian

**WORK EXPERIENCE**

June 2019 – present	<b>Scientific researcher I</b> National Institute for Lasers, Plasma, and Radiation Physics, Magurele, Romania <ul style="list-style-type: none"> <li>Processing of metal oxides by laser and plasma techniques for applications in the field of sensors; investigations of surfaces morphology and structure</li> </ul>
June 2016 – May 2019	<b>Scientific researcher II</b> National Institute for Lasers, Plasma, and Radiation Physics, Magurele, Romania <ul style="list-style-type: none"> <li>Processing of advanced materials as thin films by laser and plasma methods</li> </ul>
2008 – May 2016	<b>Scientific researcher III</b> National Institute for Lasers, Plasma, and Radiation Physics, Magurele, Romania <ul style="list-style-type: none"> <li>Growth of nuclear ceramics as nanostructured thin films by laser and plasma techniques; thin film surface investigations by atomic force microscopy</li> </ul>
2004 – 2008	<b>Scientific researcher</b> National Institute for Lasers, Plasma, and Radiation Physics, Magurele, Romania <ul style="list-style-type: none"> <li>Thin film processing with lasers and plasma (boron nitride, zinc oxide, tungsten oxide)</li> </ul>
2001 – 2004	<b>Research assistant</b> National Institute for Lasers, Plasma, and Radiation Physics, Magurele, Romania <ul style="list-style-type: none"> <li>Laser processing of hig-k dielectric materials</li> </ul>

**EDUCATION AND TRAINING**

- October 2004 – June 2011 **PhD in Physics**  
 University of Bucharest, Faculty of Physics
  - Title of the thesis: Contributions at the study of structural, electrical, and optical properties of nanostructured thin layers used for obtaining electronic and optoelectronic devices; PhD supervisor: Prof. Dr. Stefan Antohe
  - Level in national or international classification: Summa cum laudae
- October 2001 – July 2002 **MSc in Physics**  
 University of Bucharest, Faculty of Physics
  - Title of the thesis: Growth of ZrO<sub>2</sub> thin films by laser ablation
  - Area of study: Optical Technologies with lasers and plasma
- October 1996 – July 2001 **BSc in Physics**

University of Bucharest, Faculty of Physics

- Title of the thesis: InN thin films deposited by laser ablation

## PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B1	B2	C1
French	C1	C1	B2	B2	C1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

### Organisational / managerial skills

#### PROJECT DIRECTOR

- Within the PN II program – Human Resources, post-doctoral project, PD 100, *Sensors based on tungsten oxide nanostructured obtained by laser and plasma techniques for the detection of nitrogen dioxide* (SENSWO) 09.01.2012 - 13.12.2013
- SCIEX Fellowship – Romania-Switzerland, SCIEX 13.251, *Laser printing of hybrid nanocomposited for chemiresistive sensors* (NANO-SENS) 01.09.2014 - 28.02.2015
- Within PN II, Partnership in priority fields, PCCA 38 project, *Antireflex thin films for high power lasers with ultra-short pulses* (ARCOLAS) 01.07.2014 - 30.09.2017
- Complex projects completed in consortia CDI, 33PCCDI project, *Multiagent intelligent systems platform for the monitoring of water quality on the Romanian sector of the Danube and Danube Delta* (MultiMonD2) 01.03.2018 – 31.12.2020
- Project responsible:** in the frame of PN III Program: 314PED/2020: Biosensor with graphene-based surface acoustic waves functionalized with anti-alpha-fetoprotein monoclonal antibody for the diagnosis of liver cancer (SAWSENSE), August 2020 – July 2022; 459PED/2020: Air-Water Innovative System for Environment Monitoring (AWISEM), November 2020 – November 2022;
- Co-organizer** of the symposium *Laser Interactions with Materials: from fundamentals to applications*, during the EMRS Spring Meeting, Nice – France, 27 - 31 May 2019.
- Member of the Steering Committee** of the conference: International Conference on Laser Ablation (COLA 2019) Maui, USA, (8-13 September 2019).

### Job-related skills

Participation at summer schools: 1st International School on *Laser-surface interactions for new materials production: tailoring structure and properties* (13-20 July 2008, Venice – Italy)

### Digital competence

Microsoft Office, XLS, Origin

### Other skills

**Reviewer** for Applied Surface Science, Romanian Reports in Physics; Applied Physics A, Journal of Molecular Structure, Journal of Microscopy and Ultrastructure, Nanomaterials

**Member** in a doctoral committee at University of Craiova;

**Evaluator** for national and international projects;

**Guest Editor** to Applied Surface Science, Volume 513, 30 May 2020;

**Member of the Steering Committee** of the conference: International Conference on Laser Ablation (COLA 2019) Maui, USA, (8-13 September 2019).

Driving licence B

#### ADDITIONAL INFORMATION

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- Publications** The results of the activity in the area of processing and characterization of thin films resulted in: 77 published papers, 60 in ISI journals, and 4 book chapters.  
Hirsch index: **13**;  
The total number of citations according to Web of Science: **500**
- Presentations** Over 100 presentations: posters, oral and invited presentations.
- Most recent (oral presentation) M. Filipescu, R. Birjega, V. Ion, L.C. Nistor, C. Luculescu, M. Dinescu, Ceria hierarchical nanostructures grown by laser ablation, HPLA Conference, SUA - Santa Fe, 26-29 March 2018

#### ANNEXES

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#### Chapters in books

1. Vasilescu, A., Dinca, V., Filipescu, M., Rusen, L., Hosu, I.S., Boukherroub, R., Szunerits, S., Dinescu, M., Peteu, S.F.

Chapter 9: Recent approaches to enhance the selectivity of peroxydinitrite detection,

Book: Peroxydinitrite Detection in Biological Media: Challenges and Advances

Print publication date: 21 Oct 2015

RSC Detection Science, (7), pp. 166-185.

2. Filipescu M., Palla Papavlu A., Dinescu M.

Chapter: Functional metal oxide thin films grown by pulsed laser deposition

Book: Crystalline and Non-crystalline Solids

(2016) InTech

ISBN 978-953-51-4721-3

3. Palla Papavlu A, Dinca V, Filipescu M, Dinescu M

Chapter 8: Matrix assisted pulsed laser evaporation of organic thin films: Applications in biology and chemical sensors

Book: Laser Ablation - From Mechanisms to Applications

(2017) InTech, pp. 171-189

<http://dx.doi.org/10.5772/intechopen.70676>

4. M. Filipescu, A. Palla-Papavlu, P. M. Ossi, M. Dinescu

Chapter 15: Nanostructured tungsten oxide using pulsed laser deposition for bio- and environmental sensing applications

Book: Functional nanostructured interfaces for environmental science and biomedical applications,

(2019) Elsevier

ISBN: 978-0-12-814401-5

#### Relevant published papers

1. Filipescu, M., Scarisoreanu, N., Matei, D.G., Dinescu, G., Ferrari, A., Balucani, M., Toma, O., Ghica, C., Nistor, L.C., Dinescu, M., *Properties of zirconium silicate thin films prepared by laser ablation*, Materials Science in Semiconductor Processing, 7 (4-6) (2004) 209-214;

2. Filipescu, M., Scarisoreanu, N., Craciun, V., Mitu, B., Purice, A., Moldovan, A., Ion, V., Toma, O., Dinescu, M., *High-k dielectric oxides obtained by PLD as solution for gates dielectric in MOS devices*, Applied Surface Science, 253 (19) (2007) 8184-8191;
3. Filipescu, M., Orlando, S., Russo, V., Lamperti, A., Purice, A., Moldovan, A., Dinescu, M., *Morphological and structural studies of WO<sub>x</sub> thin films deposited by laser ablation*, Applied Surface Science, 253 (19) (2007) 8258-8262;
4. Filipescu, M., Ossi, P.M., Dinescu, M., *WO<sub>x</sub> cluster formation in radio frequency assisted pulsed laser deposition*, Applied Surface Science 254 (4) (2007) 1347-1351;
5. Filipescu, M., Ossi, P.M., Santo, N., Dinescu, M., *Radio-frequency assisted pulsed laser deposition of nanostructured WO<sub>x</sub> films*, Applied Surface Science 255 (24) (2009) 9699-9702;
6. Santo, N., Filipescu, M., Ossi, P.M., Dinescu, M., *Nanostructure evolution in cluster-assembled WO<sub>x</sub> films synthesized by radio-frequency assisted laser ablation*, Applied Physics A: Materials Science and Processing, 101 (2) (2010) 325-331;
7. Filipescu, M., Ion, V., Colceag, D., Ossi, P.M., Dinescu, M., *Growth and characterizations of nanostructured tungsten oxides*, Romanian Reports in Physics, 64 (4), (2012) 1213-1225
8. A. Bercea, M. Filipescu, A. Moldovan, S. Brajnicov, D. Colceag, V. Ion, L. C. Nistor, A. Zorila, M. Dinescu, *Optical coatings for ELI experiments prepared by laser ablation*, Romanian Journal of Physics 63, art no. 606 (2018)
9. Filipescu, M; Palla-Papavlu; Bercea, A; Rusen, L; Cernaianu, MO; Ion, V; Calugar, A; Nistor, LC; Dinescu, M, *Antireflective coatings with high damage threshold prepared by laser ablation*, Applied Physics A-Materials Science & Processing 125 (12), art no. 815 (2019)
10. A. I. Radu, M. Filipescu, M. Dumitru, A. Moldovan, M. Dinescu, S. Antohe, *Physical properties of metal oxide nanoparticles processed as thin films by MAPLE technique*, Romanian Reports in Physics, vol. 72 (2), art no. 503 (2020)

Dr. Mihaela Filipescu

