

Europass Curriculum Vitae



Personal information

Surname(s) / First name(s) **POPESCU Andrei**
Address andrei.popescu@inflpr.ro

Work experience

Dates	September 2016→ to date
Occupation or position held	Scientific Researcher II degree
Main activities and responsibilities	3D printing of metallic materials; Laser cladding; Laser welding and cutting of metallic materials; Thin films deposition by laser techniques and their physical-chemical characterization; Experience in laser welding and cutting; Compositional analysis of metal alloys by laser induced breakdown spectroscopy; Nanoparticle generation by laser ablation; Material characterization by various techniques; Project proposals and management.
Name and address of employer	National Institute for Lasers, Plasma and Radiation Physics, Atomistilor 409, 077125 Magurele-Bucharest (Romania)
Type of business or sector	Research, Laser, Plasma and Materials Physics
Dates	January 2012→ August 2016
Occupation or position held	Scientific Researcher III degree
Main activities and responsibilities	Thin films deposition by laser techniques and their physical-chemical characterization. Experience in deposition of hard thin films; ceramic and polymer coatings for biomedical applications; superhydrophobic thin films and nanoparticles for surface functionalization; oxide for sensing structures; compositional analysis of metal alloys by laser induced breakdown spectroscopy.
Name and address of employer	National Institute for Lasers, Plasma and Radiation Physics, Atomistilor 409, 077125 Magurele-Bucharest (Romania)
Type of business or sector	Research, Laser, Plasma and Materials Physics
Dates	July 2008→ December 2011
Occupation or position held	Scientific Researcher
Main activities and responsibilities	Laser ablation in nanosecond regimes; organic and inorganic thin films synthesis; pulsed laser deposition; matrix assisted pulsed laser evaporation; nanoparticles synthesis in vacuum and liquid environments; surface processing; biomimetics; biosensing; infrared spectroscopy; materials analysis by Laser Induced Breakdown Spectroscopy.
Name and address of employer	National Institute for Lasers, Plasma and Radiation Physics, Atomistilor 409, 077125 Magurele-Bucharest (Romania)
Type of business or sector	Research, Laser, Plasma and Materials Physics

Dates	December 2005 → June 2008
Occupation or position held	Research Assistant
Main activities and responsibilities	Materials science; biomaterials; laser – matter interactions; surface modifications with lasers and micromachining; surface and material processing; deposition of thin solid structures by excimer laser irradiation
Name and address of employer	National Institute for Lasers, Plasma and Radiation Physics, Atomistilor 409, 077125 Magurele-Bucharest (Romania)
Type of business or sector	Research, Laser Physics, Spectroscopy
Dates	September 2004 → January 2005
Occupation or position held	Research Assistant
Main activities and responsibilities	Laser processing; surface and material processing.
Name and address of employer	“Optoelectronica 2001” S.A, 077125 Magurele-Bucharest (Romania)
Type of business or sector	Research
Education and training	
Dates	01 October 2013 – 30 September 2014
Titlul obtinut	PostDoc
Subiectul principal	Study of interaction between high power laser beams and metal matrix composites
Numele si tipul organizatiei	EMPA (Swiss Federal Laboratories for Materials Science and Engineering), Thun, Switzerland
Dates	01 October 2007 – 11 May 2012
Title of qualification awarded	PhD.
Principal subjects / occupational skills covered	“Laser deposition and characterization of transparent conductive, bioactive, hydrophobic and antiseptic nanostructures”
Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics (Romania) and University of Aix-Marseille, LP3 Laboratory - Laboratoire Lasers, Plasmas et Procèdes Photoniques (France)
Dates	03 October 2005 – 29 June 2007
Title of qualification awarded	Master degree in Biomaterials
Principal subjects / occupational skills covered	“Structural and functional characterization of calcium phosphate coatings obtained by pulsed laser deposition on Ti substrates”
Name and type of organisation providing education and training	Applied Chemistry and Materials Science Faculty, Department of Bioengineering and Biotechnology, Polytechnic University of Bucharest (Romania)
Dates	01 March – 30 June, 2005
Title of qualification awarded	Fellowship financed by the Romanian Government
Principal subjects / occupational skills covered	“Biodegradable polymer nanocapsules used in pharmacology – structure, composition, properties”
Name and type of organisation providing education and training	LPMCN (Laboratoire de Physique de la Matière Condensée et Nanostructures) and LAGEP (Laboratoire d’Automatique et Génie des Procèdes) from Claude Bernard Lyon 1 University, FRANCE
Dates	01 October 2000 → 30 June 2005
Title of qualification awarded	B. Sc. In Medical Engineering
Principal subjects / occupational skills covered	“Biodegradable polymer nanocapsules used in pharmacology – structure, composition, properties”
Name and type of organisation providing education and training	Materials Science and Engineering Faculty, Polytechnic University of Bucharest (Romania)

Managerial skills

1. Head of Laser-Materials Processing Laboratory, composed of 10 researchers
2. Graduated a **Course of Risk Management in Research** in 2019
3. Graduated a **Course of Management**, October 2019

4. Graduated a **Course of Executive Management**, October 2017
5. **Project Director, TE** (accepted for financing) In situ synthesis of metal matrix composites by directed-energy deposition 3D printing-coordination of a 4 members team; **431900 lei**
6. **Project Director, PED 241 / 23.08.2017**, 2 years, PN-III-P2-2.1-PED-2016-1309: 3D printing of cranial metal prostheses functionalized with bioactive ceramic layers – coordination of a 17 members team; **475000 lei**
7. **Project Director, TE 136/2013** (PN-III-P1-1.1-TE-2016-2015), 2 years, Laser welding monitored by high speed imaging and optical spectroscopy of aluminium metal matrix nanocomposites - coordination of a 6 members team; **450000 lei**
8. **Project Director, TE 16 / 201316/ 26.04.2013**, 3 years, PN-II-RU-TE-2012-3-0379: Hard and adherent carbon thin films synthesized by pulsed laser deposition for protection against wear of cutting and drilling tools– coordination of a 7 members team; **690124 lei**
9. **Project SCIEX International Romania – Elvetia, Contract 12.346/2013 PLASDIAMET**, 1 year, 80000 CHF
10. **Project director BD 256/2008**, CNCSIS, 3 years, **40000 lei**
11. Coordination of a research team of 4 members in project **PN II – 32-168 LOTUS**: Superhydrophobic breathing nanostructures
12. Supervisor of the scientific activity of french students from IUT Marseille, Universite Paris Sud 11, Université Paul Cézanne Aix-Marseille III, for 3-4 months stages conducted in INFLPR (Laura Guillermain, Remi Andre, Bebei Betina, Gael Porte, Florin Buga, Adrien Carriere, Lea Distaso, Victor Capon-Degardin, Ludovic Le Roy)
13. Supervisor of work stages of students from Faculty of Engineering and Management of Technological Systems - University Politehnica Bucharest for 3 months stages (Stan Gabriel, Bulau Stefan, Sabin Mihai, Alexandra Davidoiu, Cristian Joita), Faculty of Mechanical Engineering and Mechatronics - University Politehnica Bucharest (Vlad Dorcioman)
14. Scientific supervisor for diploma project of students from the Faculty of Mechanical Engineering and Technology, University of Pitesti (Valentin Broc)

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English, French**

Self-assessment
European level (*)

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C1	Advanced	C2	Proficient user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C1	Advanced	C1	Proficient user

(*) [Common European Framework of Reference \(CEF\) level](#)

Technical skills and competences

Laser ablation and processing of various materials. Experience in working with solid state and gas lasers. Plasma analysis by high speed imaging, optical emission spectroscopy and LIBS; Materials characterization by various microscopy techniques, FTIR, spectrophotometry and Raman spectroscopy.

Computer skills and competences

Autocad, Mathcad, Origin, Adobe Photoshop, MS Office (Word, Excel, PowerPoint, Access), Adobe Acrobat, NVU and other frequently used applications in PC environment.

Driving licence(s)

B

Additional information
Courses, Stages, Fellowships

October 1, 2013 – September 30, 2014, SCIEX Postdoc Fellowship at EMPA-Swiss Federal Laboratories for Materials Science and Technology, Thun - Switzerland

2007 - 2010 National Fellowship for PhD Funding, Financed by National University Research Council (CNCSIS)

November 3, 2010 – April 1, 2011, stages in LP3 (Laboratoire Lasers, Plasmas et Procédés Photoniques) of Aix Marseille University financed by the French Government

September 1 – 10, 2010, working stage at the University of Nicosia, Cyprus

June 3 – August 1, 2010, stages in LP3 financed by the French Government

June 1 – August 1, 2009, stages in LP3 financed by the French Government

May 21 – 24, 2009, working stage at Institute of Electronics and Institute of Electrochemistry and Energy Systems, Bulgarian Academy of Sciences, Sofia, Bulgaria

November 2 – 12, 2008, working stage at Natural Sciences Center of Institute of General Physics “A. M. Prokhorov”, Moscow, Russia

May 16 – 23, 2008, working stage at Institute of Physics, Prague, Czech Republic

July 9 – 15, 2007, working stage at Faculty of Technology & Metallurgy, University of Belgrade, Serbia

September 18 – 22, 2006, 14-th International School on Quantum Electronics: Laser Physics and Applications, Sunny Beach, Bulgaria

March 1 – June 30, 2005, stage in LPMCN (Laboratoire de Physique de la Matière Condensée et Nanostructures) and LAGEP (Laboratoire d’Automatique et Génie des Procédés) from Claude Bernard Lyon 1 University financed by the Romanian Government

Publications and patents:

57 publications in international journals reviews or peer-reviewed conference proceedings;
6 book chapters
Hirsch factor = 18 (according with Web of Science)
Patents: 1
Patent demands: 5

Invited referee to

Applied Surface Science, Materials Science and Engineering C, International Journal of Energy Research, Thin Solid Films, Diamond and Related Materials, Materials, Metals, Coatings, Polymers, Journal of Materials Processing Technology

Membership of Professional Societies

International Society of Optical Engineering (SPIE) since 2005

Projects coordinator

PCE 57/2021 (PN-III-P4-ID-PCE-2020-1634): Use of enhanced topology in engineering of additive manufactured parts made of composite materials
TE 136/2018 (PN-III-P1-1.1-TE-2016-2015): Laser welding monitored by high speed imaging and optical spectroscopy of aluminium metal matrix nanocomposites
PED 241/ 2017 (PN-III-P2-2.1-PED-2016-1309): 3D laser additive manufacturing of cranial metallic prostheses functionalized with bioactive ceramic coatings.
TE 16/ 01.05.2013 (PN-II-TE-2012-3-0379): Hard And Adherent Carbon Thin Films Synthesized By Pulsed Laser Deposition For Wear Protection Of Metallurgical Cutting And Drilling Tools.

Participation in International Projects

DECHIR-CHAFILI-IB7320-111073/1: *Deposition - Characterization - Irradiation of Chalcogenide Films for Lithography*, 2005–2008; partners: Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; A. F. IOFFE Physico-Technical Institute, Russia
EUREKA (BIONANOCOMPOSIT E!3033) 37/2005: *Hydroxyapatite nanocomposite ceramics – new implant material for bone substitute*, 2005–2006; coordinator: University of Riga, Latvia
Bilateral project Italia, University of Lecce, 2006-2007: Oxide thin films obtained by laser techniques for optical sensor applications”
Bilateral project Hungary, University József Attila” of Szeged, 2006-2007: Biosensors design with the

aid of laser radiation

Bilateral project Cyprus: Nanostructured Thin Films Fabricated by Advanced Laser Techniques with Applications in Nanoelectronics, Spintronics, Biology and Medicine

Bilateral project Russia, Natural Sciences Center of General Physics Institute, Russian Academy of Sciences, Moscow: Laser interactions for new advanced applications in medicine, biology, and/or opto(nano)-electronics, 2006–2008

Bilateral project Serbia, Serbian Academy Of Sciences and arts and Physics Institute of Belgrade: Laser produced plasma: spectroscopic diagnostics and applications in thin films deposition and characterizations, 2006-2008

Bilateral project Bulgaria, Institute of Electronics, Sofia, Bulgaria Pulsed laser deposition of oxide thin films for gas sensing and optoelectronics applications, 2006–2008

Bilateral project Czech Republic, Institute of Physics, Academy of Sciences of the Czech Republic: Thin films obtained by pulsed laser deposition and matrix assisted pulsed laser evaporation, 2005-2007

Participation in National Projects

Contracts under the National Program for Research, Development, and Innovation

CEEX 307/06 Integrated technological network for biocompatible/bioactive glass powders and nanostructured thin films RETEBIOGLASS

CEEX 05-D11-32/2005: *Magnetism of clusters in interaction: fundamental processes and applications*

CEEX 42/2005: Integrated research network of NANOMEDICINE (nano-biotechnology for health)

CEEX 46/2005: *Integrated technological network for research of biocompatible advanced structures for dental implants*

CEEX 05-D11/2005: *Amorphous nanostructured chalcogenic materials for sensors and optoelectronics*

CEEX 60/2006: Targeted drug delivery by functionalized nanostructures processed by advanced pulsed laser techniques MEDINANOLAS

2CEEX 150/2006: *Development of new laser techniques for biosensor design and manufacturing, 2006–2008*

Grant CNCSIS 863/2006: Multifunctional metallic oxides thin films with "accordable and predetermined optic and magnetic properties

National Plan for Research, Development and Innovation 2007-2016 - PN II

PN II 85 / 02.09.2013 *Processing and immobilization by non-conventional laser techniques of grafen polymer nanocomposite materials for next-generation stretchable transparent electrodes*

PN II 162 / 02.07.2012 *Complex high surface area photoactive nanomaterials for environmentally-friendly energy production and organic pollutants degradation*

PN II – 71-110 BIOSTIMP *Cranio spinal implants biointegration by bioactive multilayer coatings*

PN II – 71-038 TIMAT AUTO *Novel technologies for metallic materials surface properties enhancement, for automotive production*

PN II – 71-031 *Performant ceramic nanocomposites for a new generation of combustion cells with solid electrode of medium temperature*

PN II - 22-079 PEMREFACET *Inovative system of electrical energy production using PEM type combustion piles at high temperatures, nourished by hydrogen produced by acetic acid reformation*

PN II – 32-168 LOTUS *Superhydrophobe breathing nanostructures*

PN II 71-097: *Biocompatible Iron Oxides Nanoparticles obtained by co-precipitations*

Ideas, 2007-2016

IDEAS 652/16.01.2009: *Innovative Laser Induced Biomaterial Processing For Controlled Drug Delivery and Detection Devices, 2008-2011*

IDEAS 547/16.01.2009: *Highly reliable metallic photocathodes obtained by pulsed laser technologies for free electron lasers, 2008-2011*

IDEAS 209/2011: *„Functionalised flavonoid-biopolymer nanostructured composite processed for antimicrobial activity” 2011-2016*

IDEAS 304/2011: *„Multi-parameter nanosensors synthesized by advanced metal oxide technologies” 2011-2016*

Young Team, 2015-2018

TE 108 /2015: *„ Higly adherent biological Hydroxyapatite thin films synthesized by pulsed laser deposition techniques for medical applications” 2015-2018*

Plenary, invited and oral presentations at International Conferences

"Additive technologies for production and processing of metallic implants", A. C. Popescu, D. Chioibas, plenary presentation at International Conference on Renewable Energy and Energy Conversion, Oran, Algeria, November 2019

"High speed imaging monitoring of molten pool and spatter produced during laser processing of metal matrix nanocomposites", A. C. Popescu, M. Leparoux, oral presentation at E-MRS 2019 Spring Meeting, Symposium V, Nice, France, May 2019

"Design, manufacturing and testing of Ti6Al4V cranial mesh prostheses printed by Laser Melting

Deposition", A. C. Popescu, invited presentation at The 7th Global Conference on Materials Science and Engineering (CMSE 2018), Xi'an, China, November 2018
"Carbon thin films surface nanostructuring by picosecond laser irradiation", A.C. Popescu, G. Dorcioman, oral presentation at EMRS Spring Meeting, Lille, France, May 2016
"DLC Hard Protective Coatings Synthesized by Pulsed Laser Deposition", C. Nita, L. Duta, G.E. Stan, C Popescu, V. Craciun, M. Husanu, B. Bitu, R. Ghisleni, C. Himcinschi, A. C. Popescu, oral presentation at EMRS Spring Meeting, Lille, France, May 2014
"Protective Haemocompatible DLC films for metal surfaces in contact with corrosive body fluids", A.C. Popescu, A.C. Popa, G.E. Stan, M.A. Husanu, I. Pasuk, D. Popescu, I.N. Mihailescu, oral presentation at 4th International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, Corfu, Greece, June 2013,
"LIBS investigations of high quality amorphous indium zinc oxide thin films synthesized by PLD", A.C. Popescu, S. Beldjilali, J. Hermann, G. Socol, D. Craciun, N. Stefan, V. Craciun, oral presentation at EMRS 2011, Symposium J, Nice, France, May 10, 2011
"Functional hydrophobic and antibacterial textile materials covered with ZnO nanoparticles", A.C. Popescu, G. Dorcioman, L. Duta, I. N. Mihailescu, G.E. Stan, I. Zgura, I. Enculescu, I. Dumitrescu, oral presentation at EMRS 10, symposium B Functional Biointerfaces, Strasbourg, June 2010
Innovative processing of Ribonuclease A by laser irradiation for detection devices, A. C. Popescu, J. Roqueta, A. Perez del Pino, M. Moussaoui, M. V. Nogués, E. Gyorgy, oral presentation at EMRS 10, symposium B Functional Biointerfaces, Strasbourg, June 2014
"Biocompatible and bioactive nanostructured glass coatings synthesized by pulsed laser deposition", A. C. Popescu, F. Sima, L. Duta, C. Cojanu, R. Mustata, S. Petrescu, D. Tanaskovic, D. Janackovic, I. N. Mihailescu, oral presentation E-MRS 2008 Spring Meeting, held at the Congress Center in Strasbourg, France, May 2008

I'm also co-author of other 15 oral/invited presentations and 50 posters in International Conferences.

Annexes | <http://www.researcherid.com/rid/C-4407-2011>