

Europass Curriculum Vitae



Personal information

First name(s) / Surname(s)	NICOLETA – VIORICA DUMITRASCU		
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Nationality	Romanian		
Gender	Female		

Present employment / position Professor *Emeritus*

Work experience

Dates	<p>1974 - 1977, professor, Industrial school no. 7, Iasi</p> <p>1977 - 1990, assistant, Department of Physics, <i>Gheorghe Asachi</i> Technical University, Iasi</p> <p>1990 - 2001, lecturer, <i>Alexandru Ioan Cuza</i> University of Iasi</p> <p>2001 - 2007, assoc. professor, <i>Alexandru Ioan Cuza</i> University of Iasi</p> <p>2007 – professor, <i>Alexandru Ioan Cuza</i> University of Iasi</p> <p>2009 – PhD supervisor.</p>
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Occupation or position held	Professor
Name and address of employer	Faculty of Physics, <i>Alexandru Ioan Cuza</i> University of Iasi, Romania
Type of business or sector	

Education and training

Dates	<ul style="list-style-type: none"> • D.Sc. in Plasma Physics (1990) • M. Sc. in Optics, Spectroscopy and Plasma Physics (1974), with average grade 10 (on a scale of 10 maximum) • B.Sc. in Physics (1973), with average grade 9.83 (10 maximum)
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Title of qualification awarded Physicist

Principal subjects/occupational skills covered	<ul style="list-style-type: none"> • Biomaterials characterization. Biocompatibility testing of materials for medical applications • Plasma techniques for immobilization of biological molecules (heparin, albumin, IgG, antibiotics etc.) onto the polymeric surfaces • Reactions of polymerization under the plasma conditions • Optical and electrical diagnosis of plasma. Dielectric barrier discharges • Waves and instabilities in low temperature plasmas.
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Name and type of organisation providing education and training	Faculty of Physics, <i>Alexandru Ioan Cuza</i> University of Iasi, Romania.									
Personal skills and competences	<ul style="list-style-type: none"> • Biomaterials and biocompatibility testing of materials used in medical applications • Optical and electrical diagnosis of plasmas at atmospheric pressure • Mechanisms of polymerization • Techniques of biomolecules characterization 									
Mother tongue(s)	Romanian									
English										
Self-assessment <i>European level (*)</i>	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
	C1	Proficient user	C1	Proficient user	A2	Basic user	A2	Basic user	B1	Independent user
Organisational skills and competences	<ul style="list-style-type: none"> • Participation at International programmes of scientific cooperation: Brancusi (2000-2002), COST (2003-2007), CEEPUS (2003-2007; 2007-2012, 2012-2015) Socrates / Erasmus (2000-2015). • Convenor at ESF Exploratory Workshop about <i>Manipulation of Biomaterials surface by Plasma Processing</i> (May 2010) • Peer review activities at <i>Applied Surface Science, Elsevier, IEEE Transactions on Plasma Physics, J. of Coll. Inter Sci., ACS Appl. Mat & Interface, Acta Biomaterialia.</i> 									
Teaching activities	<p>Courses (2009-2016):</p> <ul style="list-style-type: none"> • <i>Biomaterials and biocompatibility.</i> Master II, Plasma Physics, Biophysics and Medical Physics • <i>Ecosystem and interactions with human.</i> Master II, Plasma Physics • <i>Elements of plasma physics. Medical applications.</i> Bachelor III, Biophysics and Medical Physics. 									
Scientific research activity	<p>a) Scientific papers</p> <ul style="list-style-type: none"> • 41 articles ISI: 35 articles in the topic of <i>Plasma treatments of biomaterials surface and Biocompatibility testing of materials.</i> • 5 Books: <ul style="list-style-type: none"> - <i>Biomaterials and Plasma Processing</i>, Eds. N. Dumitrascu, I.Topala, ISBN: 978-973-703-543-1, 2011. - <i>Polimeri degradabili si biocompatibili</i> (Cap. VI: Tratamente cu plasma ale polimerilor naturali si sintetici. Importanta si aplicatii in domeniul medical (G. Borcia, N.Dumitrascu), eds: C.Vasile et al., Tehnopress, Iasi, (in Romanian), 2009. - <i>Biomaterials and Biocompatibility</i>, pgs. 312, Ed. Univ. Al.I.Cuza Iasi, 2007. - <i>Dielectric barrier discharge and treatments of polymer surfaces</i> - in <i>Plasmas non thermiques et applications</i>, vol. II, N. Dumitrascu, Ed. Univ. Al. I. Cuza Iasi, 2003. - <i>Introducere în Fizica Plasmei</i>, partea I-a, N. Dumitrascu, Ed. Junimea, Iasi, 1999. <p>b) Scientific grants</p> <ul style="list-style-type: none"> • 6 grants : 3 grants CNCSIS as director, and 3 grants CEEX as coordinator • 2 international grants: Brancusi and COST (<i>Plasma Polymers and Related Materials</i>) as member • 11 grants CNCSIS as member. <p>c) ISI citations:</p> <ul style="list-style-type: none"> • 397 in ISI journals, 2 books and 1 USA patent. 									
Other activities	<p>a) Visiting professor</p> <ul style="list-style-type: none"> • <i>Plasma processing of materials and biointerfaces</i>, Leopold Franzens University, 									

Innsbruck, Austria, June 2012.

- *Le traitement plasma a pression atmospherique de polymeres pour applications bio-medicales*, Institut Européen des Membranes, Montpellier, France, 10 Avril-10 May 2007.

- *Biomaterials. Tests of biocompatibility* - Master cours, Leopold Franzens University, Innsbruck, Austria, May 2005.

b) Invited talks (title of lecture)

- *Medical applications of atmospheric pressure plasma. Tissue – polymeric implants interface*, Université de Lille 1, France, September, 2014.

- *Plasma Physics Laboratory of Iasi*, at Conference „40 Jahre Institut fur Ionenphysik in Innsbruck”, Leopold Franzens University, Innsbruck, Austria, December 2007.

- *Optimization of the blood-polymer materials interface by plasma treatments*, 4th Joint workgroup meeting COST 527, University of Barcelona, Catalunya, Sant Feliu de Guixols, Spania, 2-5 October 2005.

- *Hemocompatibility of PA-6 surfaces treated by a dielectric barrier discharge*, University of Barcelona, Spain, June 2004.

- *DBD and its medical applications*, Leopold Franzens University, Innsbruck, Austria, May 2004.

- *Traitements des surfaces polymeres par une decharge a barriere dielectrique*, Université Paris-Sud Orsay, France, December 2003.

- *Tests of biocompatibility*, Comenius University, Bratislava, Slovacia, May 2002.

c). Co - editor at the Analele “Alexandru Ioan Cuza University of Iasi”. Plasma Physics section (2000-2005).

d). Coordinator Socrates /Erasmus at the Faculty of Physics (2000-2010).

List of published ISI papers : 2011- 2016

1. J.G.Vazquez, M.Asandulesa, I.Topala, Nicoleta Dumitrascu, *Fast imaging study of polymerization plasmas at atmospheric pressure*, IEEE Transactions on Plasma Science, 39(11), 2170-2171 (2011).
2. C.Borcia, G.Borcia, Nicoleta Dumitrascu, *Surface treatment of polymers by plasma and UV radiation*, Rom. J. Phys., 56 (1-2), 224-232 (2011).
3. I.Topala, Nicoleta Dumitrascu, *Evolution of bullets in helium atmospheric pressure plasma jet*, IEEE Transactions on Plasma Science, 39(11), 2342 - 2343, (2011).
4. D.Spridon, L.Curecheriu, M.Dobromir, Nicoleta Dumitrascu, *Synthesis of Poly (N-isopropylacrylamide) under Atmospheric Pressure Plasma Conditions*, J. of Applied Polymer Science 124(3) 2377-2382 (2012).

5. C.Borcia, Nicoleta Dumitrascu, G.Borcia, *Comparing the modification induced by plasma and UV radiation to polymer surfaces*, Rom. Rep. Phys., 64 (1), 163-172 (2012).
6. I.Topala, Nicoleta Dumitrascu, Dan-Gh. Dimitriu, *Experimental and Theoretical Investigations of Dielectric-Barrier Plasma Jet in Helium*, IEEE Transactions on Plasma Science, 40(11), 2811 - 2816, (2012).
7. M.Asandulesa, I.Topala, V.Pohoata, Yves Marie Legrand, M.Dobromir, M.Totolin, Nicoleta Dumitrascu, *Chemically polymerization mechanism of aromatic compounds under atmospheric pressure plasma conditions*, Plasma Processes and Polymers, 10(5), 469–480, (2013).
8. Rusu G. B., Asandulesa M., Topala I., V. Pohoata, N. Dumitrascu, M. Barboiu, *Atmospheric pressure plasma polymers for tuned QCM detection of protein adhesion*, BIOSENSORS & BIOELECTRONICS, vol 53, pgs. 154-159 (2014).
9. Volodymyr T., V. Raks, R. Issa, I. R. Cooper, P.J. Cragg, R. Jijie, N. Dumitrascu, L.I. Mikhalovska, A. Barras, V. Zaitsev, R. Boukherroub, S. Szunerits, *Antimicrobial activity of menthol modified nanodiamond particles*, DIAMOND AND RELATED MATERIALS, vol. 57, pgs. 2-8 (2015).
10. Teslaru T., Topala I., Dobromir M., Pohoata V., Curecheriu L., Dumitrascu N., *Polythiophene films obtained by polymerization under atmospheric pressure plasma conditions*, MATERIALS CHEMISTRY AND PHYSICS, vol.169, pgs:120-127 (2016).
11. Rusu B. -G., Pohoata V., Ionita C., Dumitrascu N., *Methods of obtaining porous polymer structure using atmospheric pressure plasma*, ROMANIAN JOURNAL OF PHYSICS, vol. 61(3-4), pgs: 518-526 (2016).
12. Rotaru A., Teslaru T., Chirap I., Prodan AM., Dumitrascu N., *Comparison of different techniques used to improve the sealants adhesion on enamel surface*, ROMANIAN JOURNAL OF PHYSICS, vol. 61(3-4), pgs. 666-675 (2016).
13. Jijie R., Dumych T., Buckaert J., Turcheniuk K., Hage Charles-Henri, Heliot L., Cudennec B., Dumitrascu N., Boukherroub R., *Particle-based photodynamic therapy based on indocyanine green modified plasmonic nanostructures for inactivation of a Crohn's disease-associated Escherichia coli strain*, JOURNAL OF MATERIALS CHEMISTRY B, vol. 4(15), pgs 2598-2605 (2016).
14. Rusu, G. B., Topala, I., Borcia C., Dumitrascu N., Borcia G., *Effects of Atmospheric-Pressure Plasma Treatment on the Processes Involved in Fabrics Dyeing*, PLASMA CHEMISTRY AND PLASMA PROCESSING, vol. 36 (1), pgs 341-354 (2016).

Prof. Nicoleta Dumitrascu

