europass Curriculum Vitae

PERSONAL INFORMATION

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Sex M | Date of birth 14/09/1965 | Nationality Romanian

NAME OF EMPLOYER/POSITION

"Gheorghe Asachi" Technical University of Iasi, Faculty of Electrical Engineering/ Professor

WORK EXPERIENCE

2015-present	Professor "Gheorghe Asachi" Technical University of Iasi, Faculty of Electrical Engineering
2000-2015	Associate Profesor, "Gheorghe Asachi" Technical University of Iasi
1999-2000	Assitent professor "Gheorghe Asachi" Technical University of Iasi
1994-1998	ICPE-Trafil – Iasi (Research Institute in Electrical Engineering) - R&D Engineer
1990-1994	TEPRO S.A. Iasi (company) -Eng.

EDUCATION AND TRAINING

2016	Habilitation Thesis – Finalized phd thesis - 2	
2000-2001	Diplome de Formation Specialisee en Environement et Securite	Ecole des Mines d'Ales, France
1999	Phd Diploma	"Gh. Asachi" Technical University of Iasi
1990	Eng. Diploma	Polytechnical Institute of Iasi, Romania

Mother tongue(s)	romanian				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/2	C1/2	C1/2	C1/2	C1/2
French	B1/2	B1/2	B1/2	B1/2	B1/2
	Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages				

PUBLICATIONS

28 articles in Scientific Journals, 30 articles in ISI Conference Proceedings

64 articles in Conferences Proceedings

List of most representative papers

1. Constantin Razvan Beniuga, Bogdan Andrei Pingescu, Oana Cristina Beniuga, Alin Dragomir, Dragos-George Astanei and Radu Burlica, "Photovoltaic Panel System with Optical Dispersion of Solar Light for Greenhouse Agricultural Applications", **AgriEngineering** 2025, 7, 125. https://doi.org/10.3390/agriengineering7040125
2. M.A. Olariu, R. Herrero, D.G. Astanei, L. Jofré, J. Morentin, T.A. Filip, R. Burlica, *"Improving Printability of Polytetrafluoroethylene (PTFE) with the Help of Plasma Pre-Treatment*", **Polymers,** vol. 15, issue 16, Art. number 3348, 2023. (Q1)

3.	S. Padureanu, R. Burlica, V. Stoleru, O. Beniuga, D. Dirlau, D.E. Cretu, D. Astanei, A. Patras, "Non-Thermal Plasma-Activated Water: A Cytogenotoxic Potential on Triticum aestivum", **Agronomy**, vol 13, issue 2, Art. number 459, 2023. (Q2)
4.	Mandici Alexandru, Cretu Daniel, Burlica Radu, Astanei Dragos, Beniuga Oana, Rosu CraitaTopa, Denis Constantin Aostacioaei, Tudor George Aprotosoaie, Ana Clara, Miron Anca, *Preliminary Study on the Impact of Non-Thermal Plasma Activated Water on* the *Quality of Triticum aestivum L. cv. Glosa Sprouts* , 2022**, Horticulturae**, IF 3.58, (Q1)
5.	Burlica, R; Cretu, DE , Beniuga, O ; Astanei, D , N*onthermal Plasma Multi-Reactor Scale-Up Using Pulse Capacitive Power Supplies*, 10.3390/app122010403, **APPLIED SCIENCES-BASEL** , 2022, (Q2)
6.	Stoica, I Albu, RM, Hulubei, C (Astanei, Dragos George) (Burlica, Radu (Mersal, Gaber A. M , Elnasr, Tarek A. Seaf Barzic, Andreea IrinaElnaggar, Ashraf Y.*, A New Texturing Approach of a Polyimide Shielding Cover for Enhanced Light Propagationin Photovoltaic Devices*, **Materials**, 2022 (Q2)
7.	Astanei Dragos, Burlica Radu, Cretu Daniel-Eusebiu, Olariu Marius , Stoica Iuliana, Beniuga Oana, *Treatment of Polymeric Films Used for Printed Electronic Circuits Using Ambient Air DBD Non-Thermal Plasma.,* 2022, **Materials** (Q2)
8.	M. Wartel, F. Faubert, I.D. Dirlau, S. Rudz, N. Pellerin, D. Astanei, R. Burlica, B. Hnatiuc, S. Pellerin, „ *Analysis of plasma activated water by gliding arc at atmospheric pressure: Effect of the chemical composition of water on the activation*", **Journal of Applied Physics**, vol. 129, issue 23, Art. number 233301, 2021(Q2)
9.	V. Stoleru, R. Burlică, G. Mihalache, D. Dirlau, S. Padurean, G.C. Teliban, D. Astanei, A. Cojocaru, O. Beniuga, A. Patras, *„Plant growth promotion effect of plasma activated water on Lactuca sativa L. cultivated in two different volumes of substrate*", **Scientific Reports (Nature),** vol. 10, issue 1, Art. number 20920, 2020, (Q2)
10.	Popescu, Vasilica; Astanei, Dragos-George; Burlica, Radu; et al *Sustainable and cleaner microwave-assisted dyeing process for obtaining eco-friendly and fluorescent acrylic knitted fabrics*, **JOURNAL OF CLEANER PRODUCTION** Volume: 232 Pages: 451-461 Published: SEP 20 2019 (Q1)
11.	Burlica, R.; Shih, K. -Y.; Locke, B. R, *Formation of H-2 and H2O2 in a Water-Spray Gliding Arc Nonthermal Plasma Reactor* (vol 49, pg 6342, 2010),. **INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH** Volume 49 Issue14 Page 6342-6349
12.	DOI 10.1021/ie100038g 2010 (Q2)
13.	Burlica Radu; Finney Wright C.; Locke Bruce R, *Effects of the Voltage and Current Waveforms and Discharge Power on Hydrogen Peroxide Formation in Water-Spray Gliding Arc Reactors*,., **IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS** Volume: 49 Issue: 3 Pages: 1098-1103 Published: MAY-JUN 2013 (Q2)
14.	Shih Kai-Yuan; Burlica Radu; Finney Wright C.; Locke B. R. *Optical Diagnostics of Electrical Discharge Water-Spray Reactors for Chemical Synthesis*, **IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS** Volume: 49 Issue: 1 Pages: 305-310 Published: JAN-FEB 2013 (Q2)
15.	Burlica, Radu; Shih, Kai-Yuan; Hnatiuc, Bogdan; et al .*Hydrogen Generation by Pulsed Gliding Arc Discharge Plasma with Sprays of Alcohol Solutions* , **INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH** Volume: 50 Issue: 15 Special Issue: SI Pages: 9466-9470 Published: AUG 3 2011 (Q2)
16.	Burlica, R.; Grim, R. G.; Shih, K. -Y.; et al, *Bacteria Inactivation Using Low Power Pulsed Gliding Arc Discharges with Water Spray, ,* **PLASMA PROCESSES AND POLYMERS** Volume: 7 Issue: 8 Pages: 640-649 Published: AUG 23 2010 (Q2)
17.	Shih, Kai-Yuan; Burlica, Radu; Finney, Wright C.; et al Effect of Pressure on Discharge Initiation and Chemical Reaction in a Liquid-Phase Electrical Discharge Reactor,.**EEE TRANSACTIONS ON INDUSTRY APPLICATIONS** Volume: 45 Issue: 2 Pages: 630-637 Published: MAR-APR 2009 (Q2)
18.	Burlica, Radu; Locke, Bruce R *Pulsed plasma gliding-arc discharges with water spray*., **IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS** Volume: 44 Issue: 2 Pages: 482-489 Published: MAR-APR 2008 (Q2)
19.	Burlica, R; Kirkpatrick, MJ; Locke, BR, *Formation of reactive species in gliding arc discharges with liquid water* **JOURNAL OF ELECTROSTATICS** Volume: 64 Issue: 1 Pages: 35-43 Published: JAN 2006 (Q3)
20.	Burlica, R; Kirkpatrick, MJ; Finney, WC; et al. *Organic dye removal from aqueous solution by glidarc discharges*, **JOURNAL OF ELECTROSTATICS** Volume: 62 Issue: 4 Pages: 309-321 Published: NOV 2004 (Q3)

RESEARCH PROJECTS

Year	Project title -— link to project	Role	Funder	webpage
2025 - 2027	Synergistic integration of complex photovoltaic-panels with light dispersion system and Non-Thermal Plasma Activated Water technologies in sustainable greenhouse farming	KExp	Uefiscdi, PN-IV-PCB-RO-MD-2024-0382 ,	-
2024 - 2025	Assessment of the impact of using non-thermal plasma technology on plant growth and development in indoor farming, PNCDI IV, P 5.8 -	KExp	SP 5.8.3 - Proiecte de mobilitate, PM-RO-BE-2024 PN-IV-P8-8.3-PM-RO-BE-2024-0011	-

2020- 2022	Double-sided bio-treatment of polymeric foil for food packaging using coupled DBD-Corona non-thermal plasma	KExp	P 3 - SP 3.2 - ERA.NET ERANET-MANUNET-PlasmaPack Uefiscdi.ro	http://www.plasmapack.ieeia.tuiasi.ro/
2020- 2022	Experimental model for demonstrating the feasibility of increasing the therapeutic potential of wheat sprouts by treating them with non-thermal plasma activated water	CO	PN-III-P2-2.1-PED-2019-0556 (PAW) Uefiscdi.ro	http://www.phytopaw.ieeia.tuiasi.ro/
2020- 2022	Atmospheric pressure nonthermal plasma reactor for pretreatment of polymeric substrates used in printable Flexible electronics manufacturing	CO	P 3 - SP 3.2 - ERA.NET ERANET-MANUNET-III-Treatoflex/Uefiscdi.ro	http://www.treatoflex.ieeia.tuiasi.ro
2019- 2021	Evaluation of the activated water produced by different non-thermal plasma reactors	KExp	Uefiscdi.ro 2019-0213 PN-III-P3-3.1-PM-RO-FR-	http://www.paw-ev.tuiasi.ro/
2018 - 2019	An Enhanced Contact Plasma Reactor: A Competitive Remediation Technology for Per- and Perfluoroalkyl Substance (PFAS) Contaminated Water	KExp	EPA – USA Contract Number: 68HE0D18C0022 Clarckson University NNY	DMAX Plasma LLC
2017 - 2019	Increasing the Agricultural Production in Greenhouses using Non- Thermal Plasma Activated Water Technology for Irrigation	CO	Uefiscdi.ro P 4 - PN-III-P4-ID-PCE-2016-0277	http://www.awag.ieeia.tuiasi.ro/
2012 - 2015	Reaction Processes in Organic Droplet Spray Plasma Reactors	KExp	NSF (USA)-CBET-1236225 FSU	https://www.nsf.gov/awardsearch/showAward?AWD_ID=1236225
2009 - 2012	Water Spray in Atmospheric Pressure Electrical Discharge Plasma	KExp	NSF (USA)-CBET-0932481 FSU	https://www.nsf.gov/awardsearch/showAward?AWD_ID=0932481
2008 - 2011	The study of hydrogen production by cold plasma technologies	CO	Uefiscdi.ro PNII– IDEI 331 977/2009	http://iota.ee.tuiasi.ro/~rburlica/IDEI331/Index.html
2005-2006	"Laboratory for Advanced Chemical Reaction Engineering"	KExp	Grant **PEG** (Program Enhancement Grant), USA, Florida State University- USA	http://www.eng.fsu.edu/
2008 - 2009	"Pulsed Gliding Arc Electrical Discharge Reactor"	KExp	**GAP**_Program supported by the Florida State University Research Foundation	http://www.eng.fsu.edu/
2002 - 2003	High voltage electro-chemical reactors for water pollution treatment	Fellowship Award	NSF-NATO - DGE-0209555 FSU	https://www.nsf.gov/awardsearch/showAward?AWD_ID=0209555
2000-2002	Utilizarea reactoarelor cu plasma rece pentru depoluarea aerului si apei ,	CO	Grant de tip **T,** MCT, 6177 Gr/2000-2001, director grant	n/a

BOOKS

1. Iuliana-Delicia Dîrlău Radu Burlică , *Aplicații ale plasmei non-termice în agricultură*, Ed. Politehnium, 2023
2. Radu Burlică, Dragoş Astanei, *Plasma non-termică: Fundamente, Aplicații, Analiză*, Editura PIM, ISBN 978-606-13-5944-8, Iaşi, 2020.
3. R. Burlica, "*Descarcari electrice de tip plasma rece. Aplicatii pentru mediu*", Ed. PIM 2015, , ISBN: 978-606-13-2409-5
4. R. Burlică, "*Tehnici de comutaţie*", Editura PIM, 2014, ISBN: 978-606-13-2019-6 .
5. E Hnatiuc, R. Burlică, B. Hnatiuc, *"Bazele Teoretice ale Funcţionării Aparatelor Electrice",* Editura Venus, Iaşi, 2004, ISBN: 973-7960-52-1
6. R. Burlică, E. Hnatiuc, B. Hnatiuc, "*Aparate Electrice de Comutaţie Acţionate cu Electromagneţi*", Editura Venus, Iaşi, 2004, ISBN: 973-7960-30-0.

PATENTS

1. **Minireactor electrochimic cu plasmă non-termică cu geometrie in forma de T pentru producerea apei activate,** RO 134206 B1, Inventors: Burlica R, Astanei D., Dirlau I. D., Beniuga O., Andrusca M, Adam M. RO 13406 B1

2. **Cold plasma device with non-symetrical electrodes Patent** Number(s): RO128078-A2, OSIM RO
   Inventor(s): Burlica R, Hnatiuc B, Hnatiuc E, Ursache M
3. **Gliding arc electrical discharge reactors with improved nozzle configuration**
   Patent Number(s): US2009236215-A1; US8444924-B2, UNIV FLORIDA STATE SUA
   Inventor(s): Burlica R, Locke B.
4. **Pulsed gliding arc electrical discharge reactors**
   Patent Number(s): US2007272543-A1 ; US7919053-B2, UNIV FLORIDA STATE SUA,
   Inventor(s): Burlica R, Locke B.

AWARDS

1. IEEE-Creativity and Innovation Price Paper Award - 2009
2. Florida State University –INNOVATOR AWARD -2007
3. Florida State University –INNOVATOR AWARD -2011

Prof.dr.ing. Radu Burlica