

**LISTĂ DE LUCRĂRI**  
**Gabriela BORCIA**



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## ARTICOLE PUBLICATE ÎN REVISTE INDEXATE ISI

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1. 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* 2016, 36 (1), 341-354.
2. Borcia, C.; Punga, I. L.; **Borcia, G.**, Surface properties and hydrophobic recovery of polymers treated by atmospheric-pressure plasma. *Applied Surface Science* 2014, 317, 103-110.
3. Broasca, G.; **Borcia, G.**; Dumitrascu, N.; Vrinceanu, N., Characterization of ZnO coated polyester fabrics for UV protection. *Applied Surface Science* 2013, 279, 272-278.
4. Chiper, A.; **Borcia, G.**, Argon Versus Helium Dielectric Barrier Discharge for Surface Modification of Polypropylene and Poly(methyl methacrylate) Films. *Plasma Chemistry and Plasma Processing* 2013, 33 (3), 553-568.
5. Borcia, C.; Dumitrascu, N.; **Borcia, G.**, COMPARING THE MODIFICATION INDUCED BY PLASMA AND UV RADIATION TO POLYMER SURFACES. *Romanian Reports in Physics* 2012, 64 (1), 163-172.
6. **Borcia, G.**; Cazan, R.; Popa, G., Investigation of Oxygen Metastable Distribution in Atmospheric-Pressure DBD Using TDLAS. *Ieee Transactions on Plasma Science* 2011, 39 (11), 2102-2103.
7. **Borcia, G.**; Cazan, R.; Borcia, C., DBD Surface Modification of Polymers in Relation to the Spatial Distribution of Reactive Oxygen Species. *Plasma Chemistry and Plasma Processing* 2011, 31 (5), 729-740.
8. Borcia, C.; **Borcia, G.**; Dumitrascu, N., SURFACE TREATMENT OF POLYMERS BY PLASMA AND UV RADIATION. *Romanian Journal of Physics* 2011, 56 (1-2), 224-232.
9. **Borcia, G.**; Borcia, C.; Dumitrascu, N., TEMPORAL EVOLUTION OF PULSED ATMOSPHERIC PRESSURE DBD IN ASYMMETRIC CONFIGURATION. *Romanian Journal of Physics* 2009, 54 (7-8), 689-697.
10. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Atmospheric-Pressure Dielectric Barrier Discharge for Surface Processing of Polymer Films and Fibers. *Ieee Transactions on Plasma Science* 2009, 37 (6), 941-945.
11. Dumitrascu, N.; Borcia, C.; **Borcia, G.**, Control of the Blood-Polymer Interface by Plasma Treatment. *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 2008, 87B (2), 364-373.
12. Cazan, R.; **Borcia, G.**; Chiper, A.; Popa, G., Time-space resolved distribution of oxygen metastable atoms in an axially symmetrical atmospheric pressure barrier discharge. *Plasma Sources Science & Technology* 2008, 17 (3).

13. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Plasma induced surface modification in relation to polymer characteristics. *Journal of Optoelectronics and Advanced Materials* 2008, *10* (3), 675-679.
14. Rusu, I. A.; **Borcia, G.**; Sayed, S. O.; Sullivan, J. L., Polymer surfaces treated by argon rf plasma. *Journal of Optoelectronics and Advanced Materials* 2008, *10* (3), 668-671.
15. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Relating plasma surface modification to polymer characteristics. *Applied Physics a-Materials Science & Processing* 2008, *90* (3), 507-515.
16. **Borcia, G.**; Brown, N. M. D., Hydrophobic coatings on selected polymers in an atmospheric pressure dielectric barrier discharge. *Journal of Physics D-Applied Physics* 2007, *40* (7), 1927-1936.
17. **Borcia, G.**; Anderson, C. A.; Brown, N. M. D., Surface treatment of natural and synthetic textiles using a dielectric barrier discharge. *Surface & Coatings Technology* 2006, *201* (6), 3074-3081.
18. **Borcia, G.**; Chiper, A.; Rusu, I., Using a He+N<sub>2</sub> dielectric barrier discharge for the modification of polymer surface properties. *Plasma Sources Science & Technology* 2006, *15* (4), 849-857.
19. **Borcia, G.**; Rusu, I.; Popa, G., Surface modification of polymethylmethacrylate films using dielectric barrier discharge. *Journal of Optoelectronics and Advanced Materials* 2006, *8* (3), 1048-1052.
20. **Borcia, G.**; Dumitrascu, N.; Popa, G., Influence of dielectric barrier discharge treatments on the surface properties of polyamide-6 films. *Journal of Optoelectronics and Advanced Materials* 2005, *7* (5), 2535-2538.
21. **Borcia, G.**; Anderson, C. A.; Brown, N. M. D., Using a nitrogen dielectric barrier discharge for surface treatment. *Plasma Sources Science & Technology* 2005, *14* (2), 259-267.
22. **Borcia, G.**; Dumitrascu, N.; Popa, G., Influence of helium-dielectric barrier discharge treatments on the adhesion properties of polyamide-6 surfaces. *Surface & Coatings Technology* 2005, *197* (2-3), 316-321.
23. **Borcia, G.**; Anderson, C. A.; Brown, N. M. D., The surface oxidation of selected polymers using an atmospheric pressure air dielectric barrier discharge. Part II. *Applied Surface Science* 2004, *225* (1-4), 186-197.
24. **Borcia, G.**; Brown, N. M. D.; Dixon, D.; McIlhagger, R., The effect of an air-dielectric barrier discharge on the surface properties and peel strength of medical packaging materials. *Surface & Coatings Technology* 2004, *179* (1), 70-77.
25. **Borcia, G.**; Anderson, C. A.; Brown, N. M. D., The surface oxidation of selected polymers using an atmospheric pressure air dielectric barrier discharge. Part I. *Applied Surface Science* 2004, *221* (1-4), 203-214.
26. Viville, P.; Lazzaroni, R.; Pollet, E.; Alexandre, M.; Dubois, P.; **Borcia, G.**; Pireaux, J. J., Surface characterization of poly(epsilon-caprolactone)-based nanocomposites. *Langmuir* 2003, *19* (22), 9425-9433.
27. **Borcia, G.**; Anderson, C. A.; Brown, N. M. D., Dielectric barrier discharge for surface treatment: application to selected polymers in film and fibre form. *Plasma Sources Science & Technology* 2003, *12* (3), 335-344.

28. Viville, P.; Lazzaroni, R.; Dubois, P.; Kotzev, A.; Geerts, Y.; **Borcia, G.**; Pireaux, J., Impact of silicone-based block copolymer surfactants on the surface and bulk microscopic organization of a biodegradable polymer, poly(epsilon-caprolactone). *Biomacromolecules* 2003, 4 (3), 696-703.
29. Dumitrascu, N.; **Borcia, G.**; Apetroaei, N.; Popa, G., Immobilization of biologically active species on PA-6 foils treated by a dielectric barrier discharge. *Journal of Applied Polymer Science* 2003, 90 (7), 1985-1990.
30. Dumitrascu, N.; **Borcia, G.**; Apetroaei, N.; Popa, G., Roughness modification of surfaces treated by a pulsed dielectric barrier discharge. *Plasma Sources Science & Technology* 2002, 11 (2), 127-134.
31. Dumitrascu, N.; **Borcia, G.**; Popa, G., Corona discharge treatments of plastified PVC samples used in biological environment. *Journal of Applied Polymer Science* 2001, 81 (10), 2419-2425.
32. Arefi-Khonsari, F.; **Placinta, G.**; Amouroux, J.; Popa, G., Study of plasmas in He-O<sub>2</sub> mixtures and their role on the stability of the surface properties of polymers. *European Physical Journal-Applied Physics* 1998, 4 (2), 193-201.
33. **Placinta, G.**; ArefiKhonsari, F.; Gheorghiu, M.; Amouroux, J.; Popa, G., Surface properties and the stability of poly(ethylene terephthalate) films treated in plasmas of helium-oxygen mixtures. *Journal of Applied Polymer Science* 1997, 66 (7), 1367-1375.
34. Gheorghiu, M.; Arefi, F.; Amouroux, J.; **Placinta, G.**; Popa, G.; Tatoulian, M., Surface cross linking and functionalization of poly(ethylene terephthalate) in a helium discharge. *Plasma Sources Science & Technology* 1997, 6 (1), 8-19.



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## ARTICOLE PUBLICATE ÎN REVISTE NEINDEXATE ISI

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1. Punga, I.-L.; **Borcia, G.**, Surface modification and stability of polymers treated by atmospheric-pressure helium plasma. *Journal of Advanced Research in Physics*, 4(1) (2013) 011305 (5 pp.), “Alexandru Ioan Cuza” University Press, ISSN 2067-0451.
2. Chiper, A.S.; **Borcia, G.**; Dobromir, M.; Popa, G., He and Ar dielectric barrier discharge for surface modification of polymers. *Journal of Advanced Research in Physics*, 2 (2) 021104 (2011), “Alexandru Ioan Cuza” University Press, ISSN 2067-0451.
3. Baida, D.; **Borcia, G.**; Spectrul electronic de absorbție al moleculei de clorofilă în prezența diferenților solvenți. *Revista “V. Adamachi”*, vol. XVII, Nr. 1 (2008), pp. 82-85, ISSN 12219363.
4. Onciu, A.; **Borcia, G.**; Spectrele de linii ale atomilor. *Revista “V. Adamachi”*, vol. XVII, Nr. 1 (2008), pp. 72-75, ISSN 12219363.
5. Burghelea, I.; Spridon, D.; Dumitrascu, N.; **Borcia, G.**, Analysis of polymeric materials degradation. *Revista “V. Adamachi”*, vol. XVII, Nr. 1 (2008), pp. 79-81, ISSN 12219363.
6. Topala, I.; **Borcia, G.**; Dumitrascu, N.; Popa, G., Surface modification of polymers used in medicine by dielectric barrier discharge treatments. *Analele Stiintifice ale Universitatii "Al. I. Cuza"*, Supliment 2006, pp. 267-274, ISSN 1453-0759.
7. Bors, S.; **Borcia, G.**; Dumitrascu, N., Interaction of biological liquids with polyamide-6 films treated by dielectric barrier discharge. *Rev. Med.-Chir. Soc. Med. Nat. Iasi*, Vol. 109, Supliment nr. 1, pp. 39-40, Mai 2005, ISSN 0048-7848.
8. **Borcia, G.**; Dumitrascu, N., Interaction of biological liquids with polyamide-6 films treated by dielectric barrier discharge, *Romanian Journal of Biophysics* 2005, 15 (1-4) 147-154. ISSN 1220-515X, Editura Academiei Române.
9. **Borcia, G.**; Brown, N. M. D.; Anderson, C. A., Plasma processing at atmospheric pressure using a dielectric barrier discharge (DBD). *DWI Reports* 2003, 126, 424-428. ISSN: 0942-301X, Publisher: Deutsches Wollforschungsinstitut (German Wool Research Institute).
10. **Borcia, G.**; Arefi-Khonsari, F.; Amouroux, J.; Popa, G., Study on the stability of surface properties of poly(ethylene terephthalate) films treated in plasmas of He-O<sub>2</sub> mixtures. *An. St. Univ. A. I. Cuza Iasi*, Tomul XLVI, *Plasma Physics* (2000) 201 - 204, ISSN 0379-7864.
11. **Placinta, G.**; Arefi-Khonsari, F.; Gheorghiu, M.; Amouroux, J.; Popa, G., Surface properties and the stability of poly(ethylene terephthalate) (PET) films treated in plasmas of He-O<sub>2</sub> mixtures. *Vide: Science, Technique et Applications* 1997, 53 (284) (Supp. 1) 105-108. ISSN 1266-0167, Publisher: Société Française du Vide.

12. **Placinta, G.**; Popa, G.; Arefi-Khonsari, F.; Amouroux, J., Properties of the assymmetrical low frequency (70 kHz) discharge in helium-oxygen mixtures. *Romanian Reports in Physics* 1997, 49 (5-6-7) 507 – 521. ISSN 1221-1451, Editura Academiei Române.
13. Dumitrascu, N.; **Placinta, G.**; Surdu, S.; Verdes, D.; Popa, G., Some properties of nylon-6 treated by corona discharge in helium. *Romanian Reports in Physics* 1997, 48 (9-10) 291 – 295. ISSN 1221-1451, Editura Academiei Române.
14. Gheorghiu,M.; Amouroux, J.; **Placinta, G.**; Popa, G., Surface cross linking and functionalization of poly(ethylene terephthalate) in a helium discharge. An. St. Univ. A. I. Cuza Iasi, Tomul XL-XLII, Fizica Plasmei, 1994-1996, p. 125 – 143, ISSN 0379-7864.

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## CĂRȚI, CAPITOLE ÎN CĂRȚI ȘI MATERIALE DIDACTICE SUPORT

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1. **Borcia, G.**, Fizica atomului și moleculei, 2014, 187 pp., Editura Sedcom Libris, Iași, ISBN 978-973-670-136-8.
2. **Borcia, G.**, coordonator volum, Lucrări de laborator - Fizica atomului și moleculei, autori Chiper, A.; Borcia, C.; Topală, I.; **Borcia, G.**, 2014, 231 pp., Editura Universității „Alexandru Ioan Cuza” Iași, ISBN 978-606-714-090-3.
3. **Borcia, G.**, Chap. 3 X-ray photoelectron spectroscopy of polymers, in Surface properties of polymers, Vasile, C.; Pascu, M. C., Eds., 2007, pp. 91-129, Research Signpost, Kerala, India , ISBN 978-81-308-0142-1.
4. **Borcia, G.**, Introducere în teoria cuantică a atomului și moleculei, 2006, 318 pp., Editura Sedcom Libris, Iași, ISBN 978-973-670-183-2.
5. **Borcia, G.**, Fizica atomului și moleculei: note de curs și aplicații, 2006, 293 pp., Editura Sedcom Libris, Iași, ISBN 978-973-670-182-5.
6. **Borcia, G.**, Dumitrascu, N., Cap. VI Tratamentele cu plasmă ale polimerilor naturali și/sau sintetici. Importanță și aplicații în domeniul medical, în Polimeri degradabili și biocompatibili, Editori: Vasile, C.; Chiriac, A. P.; Niță, L. E.; 2006, pp. 151-175, Tehnopress, Iași, ISBN 978-973-702-378-0.
7. **Borcia, G.**, Fizica moleculei - note de curs, 2015  
<http://www.plasma.uaic.ro/didactica/course/view.php?id=7>
8. **Borcia, G.**, Fizica moleculei - note de curs - extensiunea Bălți, Rep. Moldova, 2015  
<http://www.plasma.uaic.ro/didactica/course/>
9. **Borcia, G.**, Fizica moleculei - support seminar - ext. Bălți, Rep. Moldova, 2015  
<http://www.plasma.uaic.ro/didactica/course/>
10. **Borcia, G.**, Polymer Physics (Master, anul II) - Lecture Notes, 2015  
<http://www.plasma.uaic.ro/didactica/course/view.php?id=18>
11. **Borcia, G.**, Polymer Physics (Master, anul II) - Laboratory Guide, 2015  
<http://www.plasma.uaic.ro/didactica/course/view.php?id=18>



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**LUCRĂRI PREZENTATE LA CONFERINȚE INTERNAȚIONALE  
ȘI PUBLICATE IN EXTENSO**

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1. Rusu, G., Topala, I.; Borcia, C.; Dumitrascu, N.; **Borcia, G.**, Plasma treatment effects on the processes involved in fabrics dyeing. XXXII International Conference on Phenomena in Ionized Gases (XXXII ICPIG), Iasi, Romania, 26-31 July 2015, 4 pp. format electronic in "ICPIG 2015".
2. Dorneanu, M. E.; Dobromir, M.; Talasman, C. M.; Buteică, D.; **Borcia, G.**; Chiper, A. S.; Surface modification of natural and synthetic polymers induced by pulsed atmospheric pressure plasma. XXXII International Conference on Phenomena in Ionized Gases (XXXII ICPIG), Iasi, Romania, 26-31 July 2015, 3 pp. format electronic in "ICPIG 2015".
3. **Borcia, G.**, Atmospheric pressure plasma reactors for fibers processing. 22nd International Symposium on Plasma Chemistry (ISPC 22), 5-10 July 2015, Antwerp, Belgium, 5 pp. format electronic in "ISPC2015\_proceedings".
4. Borcia, C.; Punga, I.; **Borcia, G.**, Post-treatment stability of aromatic polymers modified by helium atmospheric-pressure plasma. 22nd International Symposium on Plasma Chemistry (ISPC 22), 5-10 July 2015, Antwerp, Belgium, 5 pp. format electronic in "ISPC2015\_proceedings".
5. **Borcia, G.**; Chiper, A. S.; Mihaila, I.; Vitelaru, C.; Popa, G., Atmospheric-pressure dielectric barrier discharge in He and He+O<sub>2</sub> for surface modification of polymers. XXX International Conference on Phenomena in Ionized Gases (30<sup>th</sup> ICPIG), August 28<sup>th</sup> – September 2<sup>nd</sup> 2011, Belfast, Northern Ireland, UK, 4 pp. on web site.
6. **Borcia, G.**; Rusu, I.; Borcia, C.; Dumitrascu, N., Temporal behaviour of pulsed atmospheric pressure asymmetric dielectric barrier discharge. 19th Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (19th ESCAMPIG), Granada, Spain, 15-19 July 2008, 2 pp. on CD-ROM - Published by: European Physical Society, Volume number: 32 A, ISBN 2-914771-04-5.
7. Borcia, C.; Dumitrascu, N.; **Borcia, G.**, Atmospheric pressure plasma processing of cylindrical surfaces. 19th Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (19th ESCAMPIG), Granada, Spain, 15-19 July 2008, 2 pp. on CD-ROM - Published by: European Physical Society, Volume number: 32 A, ISBN 2-914771-04-5.
8. Topala, I.; Asandulesa, M.; **Borcia, G.**; Dumitrascu, N., Application of natural polymers DBD treatment to painting. 19th Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (19th ESCAMPIG), Granada, Spain, 15-19 July 2008, 2 pp. on CD-ROM - Published by: European Physical Society, Volume number: 32 A, ISBN 2-914771-04-5.

9. **Borcia, G.**; Borcia, C.; Dumitrascu, N., Atmospheric pressure plasma for surface processing. i-SUP 2008, Innovation for Sustainable Production - Bruges 22-25 April 2008, Proceedings of the first i-SUP conference, pp. 35-39.
10. Cazan, R.; **Borcia, G.**; Popa, G., Radial mapping of atmospheric pressure barrier discharge for surface processing. i-SUP 2008, Innovation for Sustainable Production - Bruges 22-25 April 2008, Proceedings of the first i-SUP conference, pp. 40-44.
11. Topala, I.; Asandulesa, M.; Dumitrascu, N.; **Borcia, G.**; Popa, G., Polymerization reactions in plasma at atmospheric pressure. Proceedings of the 6th International Conference on Global Research and Education - Inter-Academia 2007 (iA) & Inter-Academia for Young Researchers Workshop (iAY), September 26-30, 2007, Hamamatsu, Japan, Vol. II, pp. 1334-1342.
12. Dumitrascu, N.; **Borcia, G.**; Borcia, C., Control of the blood-polymer materials interface by plasma treatments. 18th International Symposium on Plasma Chemistry (ISPC 18), August 26 – 31 2007, Kyoto University, Japan, Full-Papers CD, paper00229.pdf (4 pp.), ISBN 978-4-9903773-3-5.
13. Cazan, R.; Chiper, A.; **Borcia, G.**; Popa, G., Influence of the spatial distribution of reactive species on the surface modification of polymers by DBD. 18th International Symposium on Plasma Chemistry (ISPC 18), August 26 – 31 2007, Kyoto University, Japan, Full-Papers CD, paper00230.pdf (4 pp.), ISBN 978-4-9903773-3-5.
14. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Plasma surface modification in relation to polymer properties. XXVIII International Conference on Phenomena in Ionized Gases (ICPIG), July 15-20, 2007, Prague, Czech Republic, paper in extenso on CD - Proceedings of XXVIII ICPIG, published by Institute of Plasma Physics AS CR, pp. 700-703, ISBN 978-80-87026-01-4.
15. Rusu, I.A.; **Borcia, G.**; Sayed, S. O.; Sullivan, J. L., Ar rf plasma effect on polymer surfaces. XXVIII International Conference on Phenomena in Ionized Gases (ICPIG), July 15-20, 2007, Prague, Czech Republic, paper in extenso on CD - Proceedings of XXVIII ICPIG, published by Institute of Plasma Physics AS CR, pp. 704-707, ISBN 978-80-87026-01-4.
16. Topala, I.; **Borcia, G.**; Dumitrascu, N.; Popa, G., Surface modification of polymers used in medicine by dielectric barrier discharge treatments. Conference on European Research in Cold Plasma Applications, 12-13 February, 2007, Iasi, Romania, pp. 87-98, ISBN 978-973-0-04933-6.
17. Topala, I.; **Borcia, G.**; Dumitrascu, N.; Popa, G.; Surface modification of polymers used in medicine by dielectric barrier discharge treatments. Proceedings of the 5th International Conference on Global Research and Education - Inter-Academia 2006, 25 - 28 September, 2006, Iasi, Romania, Analele Stiintifice ale Universitatii "Al. I. Cuza", Supliment 2006, pp. 267-274, ISSN 1453-0759.
18. Dumitrascu, N.; **Borcia, G.**; Pohoata, V.; Topala, I.; Asandulesa, M., Wood treatment by DBD plasma. 18<sup>th</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases (ESCAPIG), July 12-16, 2006, Lecce, Italy, Europhysics Conference Abstracts, Volume 30 G, pp. 475-476, published by European Physical Society, ISBN 2-914771-38-X.

19. **Borcia, G.**; Rusu, I.; Chiper, A.; Popa, G.; Surface modification of polymers using He+N<sub>2</sub> DBD. Proceedings of XXVII International Conference on Phenomena in Ionized Gases, July 17-22, 2005, Eindhoven, The Netherlands, 4 pp. on suport CD, ISSN 0963-0252.
20. **Borcia, G.**; Dumitrascu, N.; Popa, G., Interaction of biological liquids with medical polymer films treated by dielectric barrier discharge. Proceedings of XXVII International Conference on Phenomena in Ionized Gases, July 17-22, 2005, Eindhoven, The Netherlands, 4 pp. on suport CD, ISSN 0963-0252.
21. **Borcia, G.**: Dumitrascu, N.; Popa, G., Dielectric Barrier Discharge for Physico-Chemical Modification of PA-6 Films. Proceedings of the XV<sup>th</sup> International Symposium on Gas Discharges and their Applications, September 5-10, 2004, Toulouse, France, pp. 271-274.
22. **Borcia, G.**; Dumitrascu, N.; Popa, G., Influence of DBD treatments on the surface properties of PA-6 films. Proceedings of the 17<sup>th</sup> Europhysics Conference on Atomic & Molecular Physics of Ionized Gases (ESCAMPIG), September 1-5, 2004, Constanta, Romania, pp. 267-268, ISSN 0963-0252.
23. **Borcia, G.**; Brown, N. M. D.; Anderson, C. A., Plasma processing at atmospheric pressure using a dielectric barrier discharge (DBD). Proceedings of the 16<sup>th</sup> International Symposium on Plasma Chemistry, June 22-27, 2003, Taormina, Italy, 6 pp. on suport CD, ISSN 1093-3611.
24. **Borcia, G.**; Dumitrascu, N.; Apetroaei, N.; Popa, G., Physico-chemical modifications of DBD treatments on polymer surfaces. Proceedings of the 16<sup>th</sup> Europhysics Conference on Atomic & Molecular Physics of Ionized Gases (ESCAMPIG), Grenoble, France, July 14-18, 2002, pp. 153-154, ISSN 0963-0252.
25. Dumitrascu, N.; **Borcia, G.**; Apetroaei, N.; Popa, G., Immobilization of biological active species on polymer samples treated by DBD. Proceedings of 15<sup>th</sup> International Symposium on Plasma Chemistry, July 9-13, 2001, Orleans, France, vol. VI, pp. 2361 - 2366, ISSN 0033-4545.
26. Dumitrascu, N.; **Borcia, G.**; Morariu, M.; Popa, G., AFM analysis of the roughness of some thin film materials enhanced by dielectric barrier discharge. XV<sup>th</sup> ESCAMPIG, August 26-30, 2000, Miskolc, Hungary, pp. 406 – 407, ISSN 0963-0252.
27. **Borcia, G.**; Arefi-Khonsari, F.; Amouroux, J.; Popa, G., Study of a helium plasma with low oxygen content applied to the surface treatment of poly(ethylene terephthalate). Proceedings of 14<sup>th</sup> International Symposium on Plasma Chemistry, August 2-6 1999, Prague, Czech Republic, vol. IV, pp. 1815 – 1820, ISSN 0033-4545.
28. Dumitrascu, N.; **Borcia, G.**; Pohoata, V.; Popa, G., Corona discharge treatments of PVC films used in medical applications. Proceedings of 14<sup>th</sup> International Symposium on Plasma Chemistry, August 2-6 1999, Prague, Czech Republic, vol. IV, pp. 1831 – 1836, ISSN 0033-4545.
29. **Placinta, G.**; Arefi-Khonsari, F.; Amouroux, J.; Popa, G., Study of plasmas in He-O<sub>2</sub> mixtures and their role on the stability of the surface properties. Proceedings of ISPC 13 – IUPAC 1997, August 1997, Pekin, China, pp. 1269 – 1274, ISSN 0272-4324.

30. **Placinta, G.**; Verdes, D.; Popa, G., Surface modifications of He-O<sub>2</sub> corona treated poly(ethylene terephthalate) (PET). Proceedings of the XXIII ICPIG, July 1997, Toulouse, France, vol. IV, pp. 242 – 243.
31. **Placinta, G.**; Arefi-Khonsari, F.; Gheorghiu, M.; Amouroux, J.; Popa, G., Surface properties and the stability of PET films treated in plasmas of He-O<sub>2</sub> mixtures. Proceeding of 11<sup>th</sup> International Colloquium on Plasma Processes, CIP '97, Le Mans, Mai 1997, pp. 105 – 108.
32. **Placinta, G.**; Toma, M., About a self-organization phenomenon in a magnetized plasma. Proceedings of the International Conference of Physics Students (ICPS), August 1991, Viena, Austria, pp. 86-88.

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## LUCRĂRI PREZENTATE LA CONFERINȚE INTERNAȚIONALE ȘI PUBLICATE ÎN REZUMAT

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1. Borcia, C.; Punga, I. L.; **Borcia, G.**, Post-treatment recovery of atmospheric-pressure plasma treated polymers. 10th International Conference on Physics of Advanced Materials (ICPAM-10), 22-28 September 2014, Iasi, Romania, Book of abstracts, pp. 149-150.
2. Ionita, C.; **Borcia, G.**; Dumitrascu, N., Nitrogen functional groups on polysulphone films for improving the interface with blood. 16th International Conference on Plasma Physics and Applications, June 20-25, 2013, Magurele, Bucharest, Romania, Book of Abstracts, p. 130, ISSN 2344-0481.
3. Punga, L.; Borcia, C.; **Borcia, G.**, Stability of aromatic polymers treated by plasma. 16th International Conference on Plasma Physics and Applications, June 20-25, 2013, Magurele, Bucharest, Romania, Book of Abstracts, p. 122, ISSN 2344-0481.
4. **Borcia, G.**; Cazan, R.; Borcia, C., Surface modification of polymers in relation to the spatial distribution of reactive oxygen species. 9th International Conference on Physics of Advanced Materials (ICPAM), 23 - 23 September 2012, Iasi, Romania, Abstract Book, p. 55-56.
5. Chiper, A.; **Borcia G.**; Dobromir, M.; Popa, G., He and Ar-DBD for surface modification of polymers. 10th International Conference on Global Research and Education (inter-Academia 2011), 26 - 29 September 2011, Sucevita, Romania, Book of Abstracts, p. 21.
6. Dumitrascu, N.; Borcia, C.; **Borcia, G.**, Plasma and UV radiation surface modification of polymers. 10th International Balkan Workshop on Applied Physics (IBWAP 2009), July 6-8, 2009, Constanta, Romania, Book of Abstracts, pp. 105-106, Ovidius University Press, Constanta, ISBN 978-973-614-507-0.
7. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Atmospheric pressure plasma for surface modification of polymers in film and fibre form. 8th International Conference on Physics of Advanced Materials (ICPAM-8), June 4-7, 2008, Iasi, Romania, Proceedings - Abstracts of Poster Papers, pp. 41-42.
8. Dumitrascu, N.; Borcia, C.; **Borcia, G.**, Plasma and UV radiation modification of polymers. 8th International Conference on Physics of Advanced Materials (ICPAM-8), June 4-7, 2008, Iasi, Romania, Proceedings - Abstracts of Poster Papers, p. 42.
9. Burghelea, I.; Spridon, D.; Dumitrascu, N.; **Borcia, G.**, Analysis of polymer degradation process. 8th International Conference on Physics of Advanced Materials (ICPAM-8), June 4-7, 2008, Iasi, Romania, Proceedings - Abstracts of Poster Papers, p. 93.

10. Dumitrascu, N.; Topala, I.; Asandulesa, M.; **Borcia, G.**; Carpov, A., Functional coatings on biomaterials for enzyme immobilization. 8th World Biomaterials Congress, Amsterdam, The Netherlands, 28 May - 1 June 2008, Abstracts on CD (1 p.).
11. Cazan, R.; **Borcia, G.**; Popa, G., Spatial distribution of reactive species in DBD. International Conference on Fundamental and Applied Research in Physics FARPhys2007, 25-20 October, Iasi, Romania, Abstracts, p. 82.
12. Dumitrascu, N.; **Borcia, G.**; Borcia, C.; Popa, G., Blood-polymer materials interface controlled by plasma treatment. 14th International Conference on Plasma Physics and Applications, September 14-18, 2007, Brasov, Romania, Book of Abstracts, pp. 125-126.
13. Cazan, R.; **Borcia, G.**; Chiper, A.; Popa, G., Time-space evolution of oxygen metastable atoms in an axial symmetrical atmospheric pressure barrier discharge. 8th International Balkan Workshop on Applied Physics, July 5-7, 2007, Constanta, Romania, Book of Abstracts, p. 44, Ovidius University Press, Constanta, ISBN 978-973-614-391-5.
14. Rusu, I. A.; **Borcia, G.**, Polymer surfaces treated by RF plasma. 8th International Balkan Workshop on Applied Physics, July 5-7, 2007, Constanta, Romania, Book of Abstracts, p. 151, Ovidius University Press, ISBN 978-973-614-391-5.
15. Borcia, C.; **Borcia, G.**; Dumitrascu, N., Plasma induced surface modification in relation to polymer characteristics. 8th International Balkan Workshop on Applied Physics, July 5-7, 2007, Constanta, Romania, Book of Abstracts, pp. 145-146, Ovidius University Press, ISBN 978-973-614-391-5.
16. Popa, G.; **Borcia, G.**; Chiper, A., Low temperature plasma systems used for fluid treatment. ECO-NET Meeting, "Modern Techniques in Atmospheric Physics and Chemistry", University of Szeged, Hungary, May 2 – 4, 2007.
17. Cazan, R.; Chiper, A.; **Borcia, G.**; Popa, G., Tunable diode laser absorption spectrometry. ECO-NET Meeting, "Modern Techniques in Atmospheric Physics and Chemistry", University of Szeged, Hungary, May 2 – 4, 2007.
18. Ciobanu, C.; **Borcia, G.**; Ciobanu, C.; Dumitrascu, N., Ag-doped biopolyurethane urea films for medical applications. 2nd International Conference on Biomaterials and Medical Devices (BiomMedD'2006), November 9–11, 2006, Iasi, Romania, Conference Proceeding - Abstract Volume, p. 164, Printech, Bucuresti, ISBN 978-973-718-566-2.
19. Dumitrascu, N.; **Borcia, G.**; Popa, G., Improvement of the Blood - PTFE Interface Properties by Plasma Treatment. Proceedings of ESB 2006 - 20th European Conference on Biomaterials, 27 September - 1 October, 2006, Nantes, France, (CD), P144.
20. Popescu, M. C.; Pascu, M.; **Borcia, G.**; Popescu, C. M.; Vasile, C., Polyvinyl alcohol/starch blends. I. Surface modifications. 2-nd International Conference on Advanced Spectroscopies on Biomedical Nanostructured Systems - 2nd NANOSPEC, Cluj-Napoca, Romania, September 3-6, 2006, Book of Abstract, p. 95.
21. **Borcia, G.**; Topala, I.; Dumitrascu, N., Improvement of wood adhesion properties by plasma treatments. 7th International Balkan Workshop on Applied Physics, July 5-7, 2006, Constanta, Romania, Book of Abstracts, p. 109, Ovidius University Press, ISBN 978-973-614-314-4.
22. Dumitrascu, N.; **Borcia, G.**; Popa, G., Control of the blood - polymer implant interface by plasma surface treatments. Proceedings of ESB 2005 - 19th European Conference on Biomaterials, September 11-15, 2005, Sorrento, Italy, p. P386\_151.

23. **Borcia, G.**; Rusu, I.; Chiper, A.; Popa, G., Modification of polymer surface properties using He+N<sub>2</sub> dielectric barrier discharge. 6th International Balkan Workshop on Applied Physics, July 5-7, 2005, Constanta, Romania, Abstracts, pp. 103-104, Ovidius University Press.
24. **Borcia, G.**; Brown, N. M. D.; Anderson, C. A.; Plasma processing at atmospheric pressure using a dielectric barrier discharge (DBD). 29<sup>th</sup> Aachen Textile Conference, Aachen, Germany, November 27-28, 2002, A6 - p. 142.
25. Viville, P.; Lazzaroni, R.; Dubois, P.; Kotsev, A.; Geerts, Y.; **Borcia, G.**; Pireaux, J.-J., Internal structure of a polymer-emulsifier system elucidated with XPS, atomic force microscopy and optical microscopy. Proceedings of the 7<sup>th</sup> International Conference on the Structure of Surfaces (ICOS 7), Newcastle, Australia, July 22-26, 2002, p. 88, ISSN 0218-625X.
26. Anderson, C.A.; **Borcia, G.**; Brown, N.M.D.; Cui, N.-Y., The application of dielectric barrier discharge (DBD) plasmas to the surface modification of materials at atmospheric pressure. Workshop on Atmospheric Pressure Plasmas in Surface Treatment Applications, Vito, Mol, Belgium, February 22, 2002.
27. **Borcia, G.**; Pireaux, J. J.; Lepoittevin, B.; Pantoustier, N.; Alexandre, M.; Dubois, P., Surface analysis of biodegradable nanocomposites based on poly( $\epsilon$ -caprolactone). Workshop on Self-Assembly and Chemistry for Nanotechnology, Namur, Belgium, November 9<sup>th</sup>, 2001, P2.
28. **Borcia, G.**; Dumitrascu, N.; Popa, G., Biologically active species immobilized on PVC surfaces treated by a dielectric barrier discharge. 4<sup>th</sup> General Conference of the Balcan Physical Union, August 22-25, 2000, Veliko Turnovo, Bulgaria.
29. **Placinta, G.**; Popa, G.; Arefi-Khonsari, F.; Amouroux, J., Study of the helium metastables by absorption spectroscopy in relation with the surface modifications of PET films. 7th ECASIA, June 1997, Göteborg, Sweden, P. 174, ISBN 0-471-97827-2.
30. Arefi-Khonsari, F.; Tatoulian, M.; **Placinta, G.**; Kurdi, J.; Amouroux, J., Study of plasma treated polymers and the stability of the surface properties. ACS Meetings, San Francisco International Meeting, April 13-18, 1997, Proceeding of the American Chemical Society, Division of Polymeric materials, Science and Engineering.



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## **LUCRĂRI PREZENTATE LA CONFERINȚE NAȚIONALE ȘI PUBLICATE ÎN REZUMAT**

---

1. Borcia, C.; Dumitrascu, N.; **Borcia, G.**, Comparing the modification induced by plasma and UV radiations to polymer surfaces. Conferința Națională de Fizică CNF 2010, 23-25 Septembrie 2010, Iași, Rezumatele lucrărilor, FP-P1, p. 143.
2. **Borcia, G.**; Rusu, I.; Borcia, C.; Dumitrascu, N., Temporal evolution of pulsed atmospheric pressure DBD in asymmetric configuration. 15th National Conference on Physics, Bucharest, 10 - 13 September 2008, Abstracts, published by Romanian Physics Society, S6-P-2, p. 119.
3. **Borcia, G.**; Dumitrascu, N.; Chiper, A.; Popa, G., Surface Functionalization of Polymers Using Atmospheric Pressure Discharges. 13th CPPA, Iasi, Romania, October 27-29, 2005, Abstracts volume, p. 16.
4. **Borcia, G.**; Rusu, I.; Apetroaei, N.; Popa, G., Surface Modification of Polymethylmethacrylate Films Using Dielectric Barrier Discharge. 13th CPPA, Iasi, Romania, October 27-29, 2005, Abstracts volume, p. 56.
5. **Borcia, G.**; Dumitrascu, N.; Apetroaei, N.; Popa, G., Stabilization of the Surface Properties of Medical Polymer Films Treated by Dielectric Barrier Discharge. 13th CPPA, Iasi, Romania, October 27-29, 2005, Abstracts volume, pp. 55-56.
6. **Borcia, G.**; Dumitrascu, N.; Popa, G., Low Temperature Plasmas Used for Surface Modification of Polymer Materials. 14th National Conference on Physics, Bucharest, Romania, 13-16 Sept., 2005, Abstracts volume I, pp. 97-98.
7. Bors, S.; **Borcia, G.**; Dumitrascu, N., Interaction of biological liquids with polyamide-6 films treated by dielectric barrier discharge. 8th National Biophysics Conference, May 26-28, Iasi, Romania, Abstracts, Rev. Med.-Chir. Soc. Med. Nat. Iasi, Vol. 109, Supliment nr. 1, pp. 39-40.