



FIȘĂ DE EVALUARE GENERALĂ A STANDARDELOR UNIVERSITĂȚII

Descriptori	Punctaj
1. Articole științifice publicate în extenso în reviste cotate Web of Science cu factor de impact	223.866
2. Citări și recenzii ale lucrărilor științifice	72.036
3. Premii internaționale obținute printr-un proces de selecție	300
4. Participări la manifestări științifice	420
TOTAL	1015.902

Criterii	Descriptori	Punctaje acordate
Activitatea de cercetare	1. Articole științifice publicate în extenso în reviste cotate Web of Science cu factor de impact	(60 puncte x factor de impact + 25) / număr autori
	a. Iuliana Motrescu, Mihai Alexandru Ciolan , Kazuya Sugiyama, Naohisa Kawamura, Masaaki Nagatsu “Use of pre-ionization electrodes to produce large-volume, densely distributed filamentary dielectric barrier discharges for materials surface processing” Plasma Sources Science and Technology 27(11) 2018 pp.115005, IF 4.128 .	$(60 \times 4.128 + 25) / 5 = 54.536$
	b. Mihai Alexandru Ciolan , Iuliana Motrescu, Kuniaki Sugiura, Dumitru Luca, Masaaki Nagatsu “Tailoring the surface functionalities of radio frequency magnetron-sputtered ZnO thin films by Ar/NH ₃ gas mixture surface-wave plasmas”, Langmuir 34(38) 2018 pp.11253-11263, IF 3.686 .	$(60 \times 3.686 + 25) / 5 = 49.232$



	c. Hu Rui, Mihai Alexandru Ciolan , Wang Xiangke, Nagatsu Masaaki, “Copper induced hollow carbon nanospheres by arc discharge method: controlled synthesis and formation mechanism”, Nanotechnology , Vol.27, No. 33 (2016) 335602, IF 3.440	$(60 \times 3.440 + 25)/4 = 57.85$
	d. Masaaki Nagatsu, Kazyuya Sugiyama, Iuliana Motrescu, Mihai Alexandru Ciolan , Akihisa Ogino, Naohisa Kawamura “Surface modification of fluorine contained resins using an elongated parallel plate electrode type dielectric barrier discharge device” Journal of Photopolymer Science and Technology 31(3) 2018 pp.379-383, IF 0.934 .	$(60 \times 0.934 + 25)/6 = 13.507$
	e. Mihai Alexandru Ciolan , Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, “Mass Spectrometric Study of Ar/NH ₃ Surface Wave Plasma Utilized for Surface Functionalization of ZnO Nanoparticles”, Japanese Journal of Applied Physics , vol. 53 (1), 010207, 2014, IF 1.471 .	$(60 \times 1.471 + 25)/4 = 28.315$
	f. Mihai Alexandru Ciolan , Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, “Low Temperature Plasma Functionalization of ZnO with Amine Groups for Bioapplications”, Digest Journal of Nanomaterials and Biostructures , vol. 9 (2), pp. 483-491, 2014, IF 0.945 .	$(60 \times 0.945 + 25)/4 = 20.426$
	2. Citări și recenzii ale lucrărilor științifice	Reviste de specialitate din străinătate (10+20x factor de impact)/număr autori
	a. Hu Rui, Mihai Alexandru Ciolan , Wang Xiangke, Nagatsu Masaaki, “Copper induced hollow carbon nanospheres by arc discharge method: controlled synthesis and formation mechanism”, Nanotechnology , Vol.27, No. 33 (2016) 335602	$(10 + 20 \times 3.440)/4 = 19.7$
	b. Mihai Alexandru Ciolan , Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, “Low Temperature Plasma Functionalization of ZnO with Amine Groups for Bioapplications”, Digest Journal of Nanomaterials and Biostructures , vol. 9 (2), pp. 483-491, 2014	$(10 + 20 \times 0.945)/4 = 7.225$



c.	Mihai Alexandru Ciolan , Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, "Mass Spectrometric Study of Ar/NH ₃ Surface Wave Plasma Utilized for Surface Functionalization of ZnO Nanoparticles", Japanese Journal of Applied Physics , vol. 53 (1), 010207, 2014	$(10+20 \times 1.471)/4 = 9.855$
d.	Mihai Alexandru Ciolan , Iuliana Motrescu, Kuniaki Sugiura, Dumitru Luca, Masaaki Nagatsu "Tailoring the surface functionalities of radio frequency magnetron-sputtered ZnO thin films by Ar/NH ₃ gas mixture surface-wave plasmas", Langmuir 34(38) 2018 pp.11253-11263	$(10+20 \times 3.686)/5 = 16.744$
e.	Iuliana Motrescu, Mihai Alexandru Ciolan , Kazuya Sugiyama, Naohisa Kawamura, Masaaki Nagatsu "Use of pre-ionization electrodes to produce large-volume, densely distributed filamentary dielectric barrier discharges for materials surface processing" Plasma Sources Science and Technology 27(11) 2018 pp.115005	$(10+20 \times 4.128)/5 = 18.512$
3. Premii internaționale obținute printr-un proces de selecție		100 puncte / categorie / număr persoane
a.	Plasma Conference 2014 Young Scientist Award for Plasma Applications - The Japan Society of Plasma Science and Nuclear Fusion Research, Niigata, Japan 2014	100
b.	12th International Conference on Global Research and Education First Prize Young Scientist Award interAcademia 2013, Sofia, Bulgaria 2013	100
c.	29th JSPF Annual Meeting Young Scientist Award for Plasma Applications 2012 - The Japan Society of Plasma Science and Nuclear Fusion Research, Fukuoka, Japan	100
4. Participări la manifestări științifice		10 puncte x 42 = 420
1)	"Large volume dielectric barrier discharge with pre-triggering system for non-thermal plasma applications" Iuliana Motrescu, Mihai Alexandru Ciolan , Masaaki Nagatsu, 12 th International Conference on Physics of Advanced Materials (ICPAM-12), 22-28 September 2018, Crete, Greece – oral presentation.	



- 2) *"Surface Modification of Fluorine Contained Resins Using an Elongated Parallel Plate Electrode Type Dielectric Barrier Discharge Device"*, Masaaki Nagatsu, Kazuya Sugiyama, Iuliana Motrescu, **Mihai Alexandru Ciolan**, Akihisa Ogino, Naohisa Kawamura, 35th International Conference of Photopolymer Science and Technology (ICPST-35), Makuhari Messe, International Conference Hall, Chiba, 2018.6.27
- 3) *"Functionalization of material surfaces for biomedical applications using low-temperature plasma processing"*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Masaaki Nagatsu, 56th Annual Meeting of Veterinary Sciences "Towards Global Health", International Workshop Bio-medical applications of non-thermal plasma discharges, 20 October 2017, Iasi, Romania – oral presentation.
- 4) *"Bioimaging with Plasma-Functionalized ZnO Nanophosphors for Virus and Bacteria Detection System"*, Masaaki Nagatsu, **Mihai Alexandru Ciolan**, Kuniaki Sugiura, and Anchu Viswan, (Poster), MRS 2015 Fall Meeting, Symposium G, Hynes Convention Center, Boston, USA (2015.12.3-4)
- 5) *"Plasma Surface Functionalization of Nano-structured Materials for Biomedical Applications"*, Masaaki Nagatsu, Han Chou, Anchu Viswan, Tomy Abuzairi, Mitsuru Okada, **Mihai Alexandru Ciolan**, Nji R. Poespawati, Retno W. Purnamaningsih, Akikazu Sakudo, and Sudeep Bhattacharjee, (Invited Talk), AVS 62nd International Symposium and Exhibition, San Jose, California, USA (2015.10.19-23)
- 6) *"Plasma Surface Functionalization of Nanostructured Materials for Bio-medical and Environmental Applications"*, M. Nagatsu, **Mihai Alexandru Ciolan**, T. Abuzairi, A. Viswan, A. Sakudo, E. Yang, S. Yang, H. Chou, N. Okada, M. Okada, N. R. Poespawati, R. Wigajatri, X. Wang, and D. Luca (invited talk) MRS 2015 Spring Meeting, Symposium: QQ: Plasma-Based Materials Science and Engineering, San Francisco, California, (2015.4.7-9).
- 7) *"Plasma-assisted Functionalization of Zinc Oxide for Development of Bio-sensors"*, **Mihai Alexandru Ciolan**,



	<p>Dumitru Luca, and Masaaki Nagatsu (Poster), 2015 International Symposium toward the Future of Advanced Researches in Shizuoka University, Hamamatsu, Japan (2015.1.27-28).</p> <p>8) <i>"Biofunctionalization of ZnO thin films for bioimaging applications"</i>, Iuliana Motrescu, Mihai Alexandru Ciolan, Dumitru Luca, International Scientific Congress "Life Sciences, a Challenge for the future", Iasi, October 2014 – oral presentation.</p> <p>9) <i>"Recent Progress on Medical and Biological Applications of Plasma Science and Technology"</i>, Masaaki Nagatsu, Han Chou, Tomy Abuzairi, Mihai Alexandru Ciolan, Anchu Viswan, Enbo Yang, Nji Raden Poespawati and Dumitru Luca (Plenary Talk), 12th International Conference on Global Research and Education (Inter-Academia 2014), Riga, Latvia, (2014.9.10-12)</p> <p>10) <i>"Surface Functionalization of Nano-structured Materials by Plasma Processing"</i>, M. Nagatsu, H. Chou, M. Okada, T. Abuzairi, Mihai Alexandru Ciolan, A. Viswan, E. Yang, N. R. Poespawati, D. Luca, (Plenary Talk) 19th Korea-Japan Workshop on Advanced Plasma Processes and Diagnostics & 6th Workshop for NU-SKKU Joint Institute for Plasma-Nano Materials, NFRI Plasma Technology Research Center, Gunsan, Korea, (2014. 7.6-7).</p> <p>11) <i>"Nitrogen Plasma Modification of Amino Acids with or without ZnO Nanoparticles"</i>, Iuliana Motrescu, Mihai Alexandru Ciolan, Dumitru Luca, Masaaki Nagatsu, The 60th JSAP Spring Meeting, Kanagawa Institute of Technology, Japan, March 2013 – oral presentation.</p> <p>12) <i>"Plasma Surface Functionalization of ZnO Nanoparticles for Bio-Imaging Applications"</i>, Iuliana Motrescu, Mihai Alexandru Ciolan, Dumitru Luca, Masaaki Nagatsu, The 14th Takayanagi Kenjiro Memorial Symposium, Shizuoka University, Hamamatsu, Japan, November 2012 – oral presentation.</p> <p>13) <i>"Bio-molecules plasma processing for bioimaging applications"</i>, Iuliana Motrescu Mihai Alexandru Ciolan,</p>	
--	---	--



	<p>Akihisa Ogino, and Masaaki Nagatsu, The 58th Spring Meeting of the Japan Society of Applied Physics, Waseda University, Tokyo, 16p-B8-1, 15-18 March 2012 – oral presentation.</p> <p>14) <i>“Plasma assisted surface modification of magnetron sputtered ZnO thin films for development of novel functional materials for biosensing chips”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 14th International Conference on Global Research and Education (Inter-Academia 2015), September 2015, Hamamatsu, Japan.</p> <p>15) <i>“Toward the Development of New Functional ZnO Thin Films by Dry Plasma Processing for Biosensing Application”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca and Masaaki Nagatsu, MRS 2015 Fall Meeting, Symposium G, Hynes Convention Center, December 2015, Boston, USA.</p> <p>16) <i>“Investigation on the structural and optical properties of zinc oxide thins films modified by surface wave plasma”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, D. Luca, M. Nagatsu, The XXXII edition of the International Conference on Phenomena in Ionized Gases (ICPIG-2015), July 2015, Iasi, Romania.</p> <p>17) <i>“Plasma surface modifications of nano-structured materials and their applications to virus detection system”</i>, M. Nagatsu, A. Sakudo, A. Viswan, T. Abuzairi, H. Chou, M. Okada, E. Yang, I. Motrescu, Mihai Alexandru Ciolan, R. W. Purnamaningsih, N. R. Poespawati and D. Luca, The XXXII edition of the International Conference on Phenomena in Ionized Gases (ICPIG-2015), July 2015, Iasi, Romania.</p> <p>18) <i>“Plasma-induced functionalization of the surface of sputtered ZnO films”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 10th International Conference on Physics of Advanced Materials, Iasi, Romania, p.149, 22-28 September 2014.</p> <p>19) <i>“Bioimmobilization of ZnO nanoparticles functionalized by surface-wave plasma processing”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 10th International Conference on Physics of Advanced Materials,</p>	
--	---	--



Iasi, Romania, p.142, 22-28 September 2014.

- 20) *“New approach on the development of bioimaging application by employing plasma functionalized zinc oxide”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, InterAcademia - iA2014, Riga, Latvia, September 10-12 2014.
- 21) *“Novel approach for zinc oxide nanomaterials functionalization based on dry plasma processing”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 41st IEEE International Conference on Plasma Science and the 20th International Conference on High-Power Particle Beams (ICOPS/BEAMS2014), Marriott Wardman Park, Washington DC (2014.5.25-29).
- 22) *“Evaluation of Amine Functionalities bound on the ZnO surface by plasma processing for Biomolecule Detection”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 61th Japan Society of Applied Physics Spring Meeting in 2014, Aoyamagakuindai, Sagamihara Campus, March 2014.
- 23) *“Molecule immobilization on amine enriched zinc oxide by plasma processing”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, and Masaaki Nagatsu, ISPlasma2014/IC-PLANTS2014, Meijo University, Nagoya March 2014.
- 24) *“Quantification of amine groups introduced on the surface of zinc oxide nanoparticles by Ar/NH₃ plasma processing”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 8th International Conference on Reactive Plasmas/31st Symposium on Plasma Processing, Fukuoka Convention Center, Fukuoka, Japan, February 2014.
- 25) *“Optical Detection of sugar chains Connected to plasma zinc oxide Aminated Nanomaterials”*, **Mihai Alexandru Ciolan**, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, Plasma Science and Nuclear Fusion Research 30th Annual Meeting, Tokyo Institute of Technology Ookayama December 2013.
- 26) *“Spectrophotometric Study for Quantifying the amino groups*



Bonded to the zinc oxide Nanoparticles by plasma processing”, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 23rd Japan MRS Annual Conference, Yokohama Memorial Hall, December 2013.

27) *“Influence of Ar/NH₃ excited surface wave plasma processing on the photoluminescent properties of ZnO nanoparticles”, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, and Masaaki Nagatsu, 12th International Conference on Global Research and Education, Inter-Academia, Sofia, Bulgaria, 2013.*

28) *“Pioneering research in plasma of bio applications”, Masaaki Nagatsu, Mihai Alexandru Ciolan, Iuliana Motrescu, 26th Plasma Material Science Symposium (SPSM26), Kyushu University, September 2013.*

29) *“Biofunctionalization of ZnO Nanoparticles Modified by Ammonia Plasma for Bioimaging Applications “, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 2013 JSAP-MRS Joint Symposia, Symposium O, Doshisha University, Kyotanabe Campus, September 2013.*

30) *“Surface functionalization of ZnO nanoparticles with Ar/NH₃ surface-wave plasma for bioimaging applications”, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, and Masaaki Nagatsu, 35th International Symposium on Dry Process (DPS2013), Ramada Plaza Jeju Hotel, Jeju, Korea, August 2013.*

31) *“Nano/micro-sized Plasma Surface Modifications for Biomedical Applications”, Masaaki Nagatsu, Mihai Alexandru Ciolan, Enbo Yang, Yohei Mochizuki, Han Cho, Iuliana Motrescu, Akikazu Sakudo and Dumitru Luca, 9th AsianEuropean International Conference on Plasma Surface Engineering (AEPSE 2013), Ramada Plaza Jeju Hotel, Jeju, Korea, August 2013.*

32) *“Surface Amination of ZnO Nanoparticles by Surface-Wave Excited Ar/NH₃ Plasma Processing”, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 16th*



	<p>International Conference on Plasma Physics and Applications, Magurele, Romania, June 20th-25th, 2013.</p> <p>33) <i>“Characterization of plasma functionalized ZnO nanoparticles”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 60th JSAP Spring Meeting, Kanagawa Institute of Technology, Japan, March 27th-30th, 2013.</p> <p>34) <i>“The Role of Plasma Processing of ZnO for Amino Groups Functionalization”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 5th International Symposium on Advanced Plasma Science and its Applications for Nitrides and Nanomaterials, ISPlasma 2013, Nagoya University, Japan, January 28 – February 1, 2013.</p> <p>35) <i>“Effect of Ammonia Plasma Treatment on Photoluminescent and Crystalline Property of ZnO”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, 30th Symposium on Plasma Processing, Hamamatsu, Japan, p.85 January 21st-23rd, 2013.</p> <p>36) <i>“Ammonia excited surface wave plasma processing of zinc oxide nanomaterials for amino group functionalization”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 11th Asia-Pacific Conference on Plasma Science and Technology and 25th Symposium on Plasma Science for Materials, Kyoto, Japan, 2-5 October 2012.</p> <p>37) <i>“Functionalization of Zinc Oxide Nanoparticles Obtained by Pulsed Laser Ablation Technique”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, IUMRS – ICEM 2012 – International Conference on Electronic Materials, Yokohama, Japan, 23-28 September 2012.</p> <p>38) <i>“Amine Groups Functionalization of ZnO Produced by Pulsed Laser Ablation”</i>, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 59th JSAP Autumn Meeting, Ehime University and Matsuyama University, Matsuyama, Japan, 11-14 September 2012.</p> <p>39) <i>“Low Temperature Plasma Processing of ZnO Nanostructures</i></p>	
--	--	--



	<p><i>Produced by Pulsed Laser Ablation for Bio-Applications”, Mihai Alexandru Ciolan, Iuliana Motrescu, Dumitru Luca, Masaaki Nagatsu, The 11th Conference on Global Research and Education in Engineers for Better Life, Budapest, Hungary, pp.321-329, 27-30 August, 2012.</i></p> <p>40) <i>“Plasma Surface Modification of ZnO Nanoparticles for Bio-Imaging Applications”, Mihai Alexandru Ciolan, Iuliana Motrescu, Akihisa Ogino, Dumitru Luca, Masaaki Nagatsu, The 58th Spring Meeting of the Japan Society of Applied Physics, Waseda University, Tokyo, 17p-B8-12, 15-18 March 2012.</i></p> <p>41) <i>“Plasma Surface Modification of ZnO Nanoparticles for Bio-Imaging Applications”, Mihai Alexandru Ciolan, Iuliana Motrescu, Akihisa Ogino, Dumitru Luca, Masaaki Nagatsu, The 58th Spring Meeting of the Japan Society of Applied Physics, Waseda University, Tokyo, 17p-B8-12, 15-18 March 2012.</i></p> <p>42) <i>“Functional Amino Group Addition to Zinc Oxide Nanoparticles by Plasma Processing”, Mihai Alexandru Ciolan, Iuliana Motrescu, Akihisa Ogino, Dumitru Luca, Masaaki Nagatsu, The 5th Int. Conf. on Plasma Nanotechnology & Science (IC-Plants 2012), Inuyama, Japan, March 2013.</i></p>	
	TOTAL	1015.902 puncte