

# CURRICULUM VITAE – MATTEO GHERARDI

## PERSONAL DATA

Date and place of birth: 09/09/1985 – Bologna, Italy

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## EDUCATION AND PROFESSIONAL CAREER

10/2004-10/2007	Bachelor in Energy and Nuclear Engineering cum laude, Università di Bologna
10/2007-10/2009	Master in Energy and Nuclear Engineering cum laude, Università di Bologna
1/2010-12/2012	PhD in Mechanical Engineering, Alma Mater Studiorum - University of Bologna. <i>PhD dissertation: Integrated analysis and design of optimization and up-scaling of inductively coupled plasma synthesis of nanoparticles.</i>
1/2013-3/2015	Postdoctoral fellow, Department of Industrial Engineering, Università di Bologna.
2-7/2013 and 2-7/2015	Adjunct professor for the course <i>Laboratory of Industrial Applications of Plasmas</i> , master degree in Energy Engineering, Università di Bologna
5/2013-to date	Founder and member of advisory board (up to 2019) of <i>AlmaPlasma srl</i> , spin-off company of Università di Bologna
4/2015-3/2018	Junior assistant professor, Department of Industrial Engineering, Università di Bologna
4/2018-3/2021	Senior assistant professor, Department of Industrial Engineering, Università di Bologna
2021-to date	Associate professor, Department of Industrial Engineering, Alma Mater Studiorum - University of Bologna

## RESEARCH ACTIVITIES

### Profile

MG scientific activity is focused on the development of innovative plasma technologies and their applications in industrially and socially relevant fields, unraveling the underlying fundamental aspects with the aim of understanding, controlling and optimising processes. MG main interests are medical applications of plasmas, with a particular focus on cancer treatment, odontostomatology and decontamination, and material processing, especially nanomaterial synthesis/modification (in gas, liquid or solid phase) and deposition of functional thin films (organic, inorganic, nanostructured). MG expertise is rooted in atmospheric pressure plasma engineering and physics (design and optimization of plasma systems and processes, plasma diagnostics), and complemented with the chemistry and biology background required to support research activities in the fields of plasma and medicine and material processing. Over the years MG has participated in the creation of an international network of collaborations for investigating atmospheric pressure non-equilibrium plasmas and for providing PhD and graduate students with the opportunity of research experiences abroad; a non-exhaustive list of the researchers and institution composing the network is here reported: Dr. Nevena Puac and Prof. Zoran Petrovic (Institute of Physics, Belgrade, Serbia), Eng. Petr Lukes (Institute of Plasma Physics, Academy of Sciences, Prague, Czech Republic), Prof. Davide Mariotti (Nanotechnology and Integrated Bioengineering Centre, University of Ulster, Belfast, UK), Prof. Mohan Sankaran (Case Western Reserve University, USA and University of Illinois, USA), Dr. Anton Nikiforov (Gent University, Belgium), Prof. Ondrej Kylian (Charles University, Prague, Czech Republic), Dr. Eric Robert (Gremi, Orleans, France), Prof. Jan van Dijk and Prof. Ana Sobota (Technical University of Eindhoven, The Netherlands). MG has been a member of the research group for industrial applications of plasmas (<http://plasmagroup.ing.unibo.it>) at Università di Bologna since 2009, of the International Plasma Chemistry Society since 2011 and of the International Society of Plasma Medicine since 2012.

Years	Funded research projects and covered role
From: 2021 To: 2021	<b>INDUSTRIAL PROJECT.</b> Topic: design-oriented modeling for the optimization of components of plasma arc cut torches. Role covered: <u>project leader</u> ; project value: 25 k€
From: 2020 To: active	<b>COST ACTION CA19110 Plasma applications for smart and sustainable agriculture</b> , european networking project. Topic: investigate the potential of low temperature plasmas (cold plasmas) as i) a green alternative to conventional chemicals in agriculture to improve yields, increase size and robustness of plants and to reduce (or eliminate) the need for antifungal agents and as ii) an innovative technology in the food processing chain for the treatment of food and packaging. Role: <u>MC member and work group leader</u>
From: 2019 To: active	<b>Atmospheric low temperature plasmas (LTPs) activation of water for agricultural applications and food processing.</b> Projects for exchange of researchers selected within the frame of the executive programme of scientific and technological cooperation between the Italian republic and the republic of Serbia for the years 2019-2021. Role covered: <u>project coordinator</u>
From: 2019 To: 2021	<b>PLASMAFOOD</b> , PRIN 2017 national project. Topic: study and optimization of cold atmospheric plasma treatment for food safety and quality improvement. Role: participant
From: 2018 To: 2019	<b>INDUSTRIAL PROJECT.</b> Topic: deposition of SiO <sub>2</sub> -like films for improving the barrier properties of polymeric packaging. Role covered: <u>project leader</u> ; project value: 24 k€

From: 2016 To: 2019	<b>COST ACTION CA15114 Anti-Microbial Coating Innovations to prevent infectious diseases (AMICI)</b> , european networking project. Topic: Evaluate the impact of introducing anti-microbial coatings in healthcare on the spread of infections and on the efficacy in fighting HealthCare Associated Infection and bacterial resistance to current antibiotics. Role: MC substitute
From: 2016 To: 2019	<b>ECOPACKLAB</b> , POR-FESR 2014-2020 regional project. Topic: Design and realisation of a laboratory for the study of advanced technologies for the production of active and ecosustainable packaging. Role: participant
From: 2016 To: 2019	<b>TECNO_EN-P</b> , POR-FESR 2014-2020 regional project. Topic: Design and realisation of a system to generate smart materials for biomedical devices to selectively remove cells and soluble or suspended matter in biological fluids. Role: participant
From: 2015 To: 2019	<b>NOTHEPIAS</b> , SIR 2014 national project. Topic: Evaluation of non-thermal plasma as an innovative anticancer strategy Role: participant
From: 2015 To: 2019	<b>INDUSTRIAL PROJECT</b> . Topic: Electrical, physical and chemical characterization and analysis of the antibacterial effectiveness of lab-scale atmospheric plasma sources for the decontamination of packaging films. Role: <u>project leader</u> ; project value: 200 k€
From: 2015 To: 2019	<b>INSPIRED</b> , european H2020 grant. Topic: Scale up to an industrial scale of the plasma assisted production of nanomaterials for nano-inks. The opening of the assistant professorship is related to the project approval by the EU. Role: participant
From: 2013 To: 2017	<b>COST ACTION TD1208 Electrical discharges with liquids for future applications</b> , european networking project. Topic: Investigate the fundamental mechanisms of the interaction between plasma and liquids and develop innovative and interdisciplinary applications. Role: MC substitute
From: 2013 To: 2016	<b>PLASMAT</b> , FARB grant (fundamental research funding from Alma Mater Studiorum - Università di Bologna). Topic: Intensify the understanding of the fundamental mechanisms of plasma interaction with molecular and macromolecular materials (both in solid and liquid phase). Develop innovative and interdisciplinary applications. Role: participant
From: 2012 To: 2015	<b>COST ACTION MP1101 Bio-Plasma</b> , european networking project. Topic: Intensify the knowledge base relevant to medical and biomedical applications of atmospheric pressure plasma technology. Role: participant
From: 2009 To: 2012	<b>SIMBA</b> , european 7th Framework Program grant. Topic: Optimization and scale-up to the industrial level of RF plasma systems for nanoparticle synthesis through modeling, diagnostics and experiments. Role: participant

## PUBLICATION SUMMARY

- 79 papers, 20 h-index, 1148 citations (source Scopus). Annex I: complete list of publications

## AFFILIATIONS

- Member of the International Plasma Chemistry Society (2011 – to date)
- Member of the International Society of Plasma Medicine (2012 – to date)
- Member of the Interdepartmental Center for Industrial Research: CIRI - Advanced Applications in Mechanical Engineering and Materials Technology at Alma Mater Studiorum – Università di Bologna (2015 – to date)

## HONORS, AWARDS AND INVITATIONS FOR SEMINARS/CONFERENCES

- 2018 - Early Career Plasma Medicine Award (ECPMA) from the International Society on Plasma Medicine (ISPM)
- 2014 - Early Career Presentation Award (ECPA) at the 5th International Conference on Plasma Medicine (ICPM5)
- 11 Plenary/keynote/invited lectures at international conferences and at international training schools
  - 2021, 30<sup>th</sup> International Toki conference on plasma and fusion research (ITC30); invited lecture
  - 2021, International conference on plasma medicine 8 (ICPM8); invited lecture
  - 2018, 2<sup>nd</sup> International workshop on plasma agriculture (IWOPA-2); invited lecture
  - 2018, 10<sup>th</sup> International symposium on advanced plasma science and its applications for nitrides and nanomaterials (ISPlasma2018); invited lecture
  - 2017, Nanocontact conference – Potential application of plasma and nanomaterials; invited lecture
  - 2017, 17<sup>th</sup> Conference on plasma physics and applications; invited lecture
  - 2016, International conference on plasma medicine 6 (ICPM6); plenary lecture
  - 2016, Training school on advanced diagnostics of discharges with liquids and plasma treated liquid phase; invited lecture
  - 2016, MRS Sprin symposium on surfaces and interfaces for biomedical applications; invited lecture
  - 2016, EMN biomaterials meeting; invited lecture
  - 2016, Workshop on application of advanced plasma technologies in CE agriculture; invited lecture

## INDICATORS OF ESTEEM/EDITORIAL ACTIVITIES

- Member of the International Advisory Board of Plasma Processes and Polymers (Wiley)
- Member of the Editorial Board of Dental Materials (Frontiers)
- Member of the Editorial Board of Applied Sciences (MDPI)

- Editor of the Plasma Chemistry and Plasma Processing special issue on the 24<sup>th</sup> International Symposium on Plasma Chemistry; published in 2020
- Editor of the Applied Sciences special issue *Cold Plasma Treatment for Food Safety and Quality*; published in 2019
- Editor of the Plasma Processes and Polymers special issue *Plasma and agriculture*; published in 2018
- Editor of the Plasma Medicine special issue *Bioplasmas and Plasmas with Liquids* dedicated the Joint Conference of COST ACTIONS CMST TD1208 ‘Electrical Discharges in Liquids for Future Applications’ & MPNS MP1101 ‘Biomedical Applications of Atmospheric Pressure Plasma Technology’; published in 2016
- Editor of the Journal of Physics Conference Series special issue dedicated to the 12th European Plasma Conference - High-Tech Plasma Processes; published in 2012
- Referee for the journals: *Plasma Processes and Polymers*, *Journal of Applied Physics*, *Biomatter*, *Journal of Nanoparticle Research*, *Biointerphases*, *Plasma Medicine*, *Acta Biomaterialia*, *Scientific Reports*, *The European Physical Journal - Applied Physics*, *Plasma Sources Science and Technology*, *Journal of Biophotonics*, *Journal of Physics D: Applied Physics*, *Biomaterials*, *Materials and Design*, *Innovative Food Science and Emerging Technologies*, *Applied Physics Letters*, *IEEE Transactions on Plasma Science*, *JVST-B*, *Polymers*, *Surfaces and Interfaces*, *Reviews of Modern Plasma Physics*. Evaluator of book proposals for *Wiley*, *Springer*.
- Evaluator for international foundations grants: Belgium (The Research Foundation – Flanders, FWO), The Netherlands (Netherlands Organisation for Scientific Research, NWO), France (Institut National de la Santé et de la Recherche médicale - INSERM), Cyprus (Cyprus Research Promotion Foundation), Estonia (Estonian Research Council), Czech Republic (Czech Science Foundation)
- External referee for the doctoral thesis of the Program in Materials Science and Engineering of the Universitat Politècnica de Catalunya

## TEACHING AND MENTORING EXPERIENCE

### Summary

- Teaching: plasma science and applications, numerical analysis
- Tutoring: computer science fundamentals (bachelor level, 4 years)
- Mentoring: co-supervisor of 7 PhD students (3 completed, 4 ongoing); supervisor of 4 post-docs (3 completed, 1 ongoing); supervisor of 10 MS thesis and 11 Bachelor thesis; co-supervisor of 21 MS thesis and 30 Bachelor thesis

Year	PhD
Expected 2025	Roberto Montalbetti, <i>Development, optimization and engineering of non-equilibrium plasma sources at atmospheric pressure for the microbial inactivation of bioaerosols</i> ; PhD in Mechanics and Advanced Engineering Sciences, Università di Bologna
Expected 2025	Pasquale Isabelli, <i>Design, development and functional characterization of Cold Plasma Systems to reduce airborne transmission of Hospital Acquired Infections &amp; COVID-19</i> ; PhD in Health and Technology, Università di Bologna
Expected 2023	Cristiana Bucci, <i>Exploitation of PALS (Plasma Activated Liquids) for antineoplastic pro-drugs activation through exogenous reactive oxygen and nitrogen species</i> ; PhD in Health and Technology, Università di Bologna
Expected 2023	Giulia Laghi, <i>Functional characterization of plasma sources for material processing and biomedical applications</i> ; PhD in Mechanics and Advanced Engineering Sciences, Università di Bologna
2021	Alina Bisag, <i>Development and optimization of techniques and design parameters for the engineering of atmospheric pressure plasma devices</i> ; PhD in Mechanics and Advanced Engineering Sciences, Università di Bologna
2020	Federica Barletta, <i>Deposition of thin films by a non-equilibrium atmospheric pressure Plasma Jet: a poly-diagnostic study</i> ; PhD in Mechanics and Advanced Engineering Sciences, Università di Bologna
2020	Tommaso Galligani, <i>Non-equilibrium atmospheric plasma as a novel route to nanomaterial synthesis and processing for biomedical applications</i> ; PhD in Mechanics and Advanced Engineering Sciences, Università di Bologna

## INSTITUTIONAL AND ORGANIZATIONAL ACTIVITIES

Years	Academic duty
From 2021 To: active	Member of the Scientific Board of the Collegio Superiore (Institute for Higher Studies), Università di Bologna
From 2021 To: active	Member of the committee of the State Exams for the qualification to the engineering profession, Università di Bologna
From 2021 To: 2021	Member of the final examination committee for the ITS Maker Foundation
From 2021 To: active	Member of the High Quality Committee of the Master and Bachelor courses of Energy Engineering, Università di Bologna
From 2019 To: active	Responsible for the PhD education and training program of the PhD school in Mechanics and Advanced Engineering Sciences (DIMSAI), Università di Bologna
From 2019 To: active	Responsible for student exchange programs for the Master and Bachelor courses of Energy Engineering, Università di Bologna

From 2018 To: active	Member of the Executive Committee of the PhD school in Mechanics and Advanced Engineering Sciences (DIMSAI), Università di Bologna
From 2018 To: active	Member of work group for the implementation of the strategic development plan of the Department of Industrial Engineering, Università di Bologna
From 2018 To: 2021	Member of the Executive Committee of the Department of Industrial Engineering, Università di Bologna

<b>Years</b>	<b>Organized conference and covered role</b>
2022	9 <sup>th</sup> International Conference on Plasma Medicine; role: member of the Local Organizing Committee
2021	1 <sup>st</sup> Workshop on plasma applications for smart and sustainable agriculture; role: member of the International Scientific Committee
2019	International Symposium on Plasma Chemistry (ISPC24); role: co-chair
2019	ISPlasma2019/IC-PLANTS2019; role: program committee member
2016	14 <sup>th</sup> European Plasma Conference - High-Tech Plasma Processes (HTPP14); role: member of the International Scientific Committee
2016	Gordon Research Seminar on Plasma Processing Science; role: co-chair
2015	Bioplasmas and Plasmas with Liquids – Joint conference of COST actions CMST TD1208 and MPNS MP1101; role: secretary
2012	12 <sup>th</sup> European Plasma Conference - High-Tech Plasma Processes (HTPP12); role: member of the Local Organizing Committee and of the Scientific secretariat

Bologna, 4/11/2021



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## ANNEX I - LIST OF PUBLICATIONS – MATTEO GHERARDI

1. *Effect of plasma activated water (PAW) on rocket leaves decontamination and nutritional value*, Innovative Food Science and Emerging Technologies, **2021**, 73, 102805
2. *Decontamination of food packages from SARS-COV-2 RNA with a cold plasma-assisted system*, Applied Sciences (Switzerland), **2021**, 11(9), 4177
3. *Studying the plasma-assisted polymerization at atmospheric pressure in Ar/TEOS by active laser diagnostics*, Plasma Processes and Polymers, **2020**, e2000149
4. *Online ion mobility spectrometry of nanoparticle formation by non-thermal plasma conversion of metal salts in liquid aerosol droplets*, Journal of Aerosol Science, **2020**, 150, 105631
5. *Plasma activated water triggers plant defence responses*, Scientific Reports, **2020**, 10(1), 19211
6. *Cold atmospheric plasma inactivation of aerosolized microdroplets containing bacteria and purified SARS-CoV-2 RNA to contrast airborne indoor transmission*, Plasma Processes and Polymers **2020**, 17(10), 2000154
7. *Single-step deposition of hexamethyldisiloxane surface gradient coatings with a high amplitude of water contact angles over a polyethylene foil*, Plasma Processes and Polymers **2020**, e2000044
8. *Cold atmospheric pressure plasma treatment to assist the restoration of the apical region of a root canal in endodontic procedures*, Clinical Plasma Medicine **2020**, 19-20, 100100
9. *Enhanced electrospinning of active organic fibers by plasma treatment on conjugated polymer solutions*, ACS Applied Materials and Interfaces **2020**, 12(23), 26320-26329
10. *Insights into plasma-assisted polymerization at atmospheric pressure by spectroscopic diagnostics*, Plasma Processes and Polymers **2020**, 17(6), 1900174
11. *Editorial of the Special Issue: Papers by plenary and invited lecturers at the 24th International Symposium on Plasma Chemistry (ISPC 24)*, Plasma Chemistry and Plasma Processing **2020**, 40(3), 641-642
12. *Plasma-activated ringer's lactate solution displays a selective cytotoxic effect on ovarian cancer cells*, Cancers **2020**, 12(2), 476
13. *Plasma-activated medium as an innovative anticancer strategy: Insight into its cellular and molecular impact on in vitro leukemia cells*, Plasma Processes and Polymers **2020**, 17(10), 2000007
14. *Experimental investigation on the influence of target physical properties on an impinging plasma jet*, Plasma **2019**, 2(3), 369-379 (non-Scopus indexed)
15. *UV-VIS optical spectroscopy investigation on the kinetics of long-lived RONS produced by a surface DBD plasma source*, Plasma Sources Science and Technology **2019**, 28(9), 095015
16. *Plasma and aerosols: challenges, opportunities and perspectives*, Applied Sciences **2019**, 9(18), 3861
17. *3D modelling of the synthesis of copper nanoparticles by means of a DC transferred arc twin torch plasma system*, Journal of Physics D: Applied Physics **2019**, 52(44), 444001
18. *Can the 'maximum power principle' be applied to pulsed dielectric barrier discharge?* IEEE Transactions on Plasma Science **2019**, 47(8), 8751140, 4052-4057
19. *Plasma activated water as a possible sustainable strategy towards grapevine yellows disease management*, Phytopathogenic Mollicutes **2019**, 9(1), 163-164
20. *Plasma activated water as resistance inducer against bacterial leaf spot of tomato*, PLoS ONE **2019**, 14(5), e0217788
21. *The effect of cold atmospheric plasma (CAP) treatment at the adhesive-root dentin interface*, Journal of Adhesive Dentistry **2019**, 21(3), 229-237
22. *White paper on the future of plasma science and technology in plastics and textiles*, Plasma Processes and Polymers **2019**, 16(1), 1700228
23. *Cold atmospheric pressure plasma treatment modulates human monocytes/macrophages responsiveness*, Plasma **2018**, 1(2), 261-276 (non-Scopus indexed)
24. *Experimental investigation on the interaction of a nanopulsed plasma jet with a liquid target*, Plasma Sources Science and Technology **2018**, 27(12), 125002
25. *Synthesis of copper-based nanostructures in liquid environments by means of a non-equilibrium atmospheric pressure nanopulsed plasma jet*, Plasma Chemistry and Plasma Processing **2018**, 38(6), 1209-1222
26. *Soilwashing and thermal plasma treatment for decontamination of dredged marine sediments from the Midia port – Romania*, Environmental Engineering and Management Journal **2018**, 17(8), 1897-1908
27. *Non-equilibrium atmospheric pressure plasma as innovative method to crosslink and enhance mucoadhesion of econazole-loaded gelatin films for buccal drug delivery*, Colloids and Surfaces B: Biointerfaces **2018**, 163, 73-82
28. *Characterisation of a multijet plasma device by means of mass spectrometric detection and iCCD imaging*, Journal of Physics D: Applied Physics **2018**, 51(48), 484004
29. *Plasma agriculture: A rapidly emerging field*, Plasma Processes and Polymer **2018**, 15(2), 1700174
30. *Schlieren imaging: a powerful tool for atmospheric plasma diagnostic*, EPJ Techniques and Instrumentation **2018**, 5(1), 4 (non-Scopus indexed)
31. *Plasma in dentistry: brief history and current status*, Trends in Biotechnology **2018**, 36(6), 583-585
32. *Novel method for NH-rich coatings engineering by means of aerosol assisted atmospheric pressure plasma deposition*, Materials Letters **2018**, 214, 76
33. *Ultra-small CuO nanoparticles with tailored energy-band diagram synthesized by a hybrid plasma-liquid process*, Plasma Processes and Polymers **2017**, 14(7), 1600224
34. *Cold atmospheric non-equilibrium plasma induces apoptosis and oxidative stress pathway regulation in T-lymphoblastoid leukemia cells*, Oxidative Medicine and Cellular Longevity **2017**, 4271065
35. *Cold atmospheric plasma treatment affects early bacterial adhesion and decontamination of soft relined palatal obturators*, Clinical Plasma Medicine **2017**, 7-8, 36-45

36. *Cold Atmospheric Plasma treatment of infected skin tissue: evaluation of sterility, viability and integrity*, IEEE Transactions on Radiation and Plasma Medical Sciences **2017**, 1(3), 275-279 (non-Scopus indexed)
37. *Atmospheric pressure non-equilibrium plasma cleaning of 19th century daguerreotypes*, Plasma Processes and Polymers **2017**, 14(3), 1600027
38. *A simulative and experimental approach for the design and optimization of atmospheric pressure low power RF thermal plasma processes*, Plasma Processes and Polymers **2017**, 14(4-5), 1600167
39. *Design-oriented modelling of different quenching solutions in induction plasma synthesis of copper nanoparticles*, Plasma Chemistry and Plasma Processes **2017**, 37(3), 717-738
40. *Numerical investigation of the joint impact of thermophoresis and radiative losses in induction plasma synthesis of copper nanoparticles*, Journal of Physics D: Applied Physics **2017**, 50(16), 165204
41. *Atmospheric pressure non-equilibrium plasma as a green tool to crosslink gelatin nanofibers*, Scientific Reports **2016**, 6, 38542
42. *A study of the effect on human mesenchymal stem cells of an atmospheric pressure plasma source driven by different voltage waveforms*, Journal of Physics D: Applied Physics **2016**, 49, 364003
43. *Antibody immobilization on PLLA nanofibers advantageously carried out by means of a non-equilibrium atmospheric plasma process*, Journal of Physics D: Applied Physics **2016**, 49, 274003
44. *Atmospheric plasma assisted PLA/Microfibrillated cellulose (MFC) multilayer biocomposite for sustainable barrier application*, Industrial Crops and Products **2016**, 93, 235-243
45. *Poly-L-Lactic Acid Nanofiber-Polyamidoamine Hydrogel Composites: Preparation, Properties and Preliminary Evaluation as Scaffolds for Human Pluripotent Stem Cell Culturing*, Macromolecular Bioscience **2016**, 16(10), 1533-1544
46. *Co-deposition of plasma-polymerized polyacrylic acid and silver nanoparticles for the production of nanocomposite coatings using a non-equilibrium atmospheric pressure plasma jet*, Plasma Processes and Polymers **2016**, 13(6), 623-632
47. *Deposition of plasma-polymerized polyacrylic acid coatings by a nonequilibrium atmospheric pressure nanopulsed plasma jet*, Plasma Processes and Polymers **2016**, 13(3), 375-386
48. *Plasma processing of electrospun Li-ion battery separators to improve electrolyte uptake*, Plasma Processes and Polymers **2016**, 13(1), 124-133
49. *Chemical analysis of reactive species and antimicrobial activity of water treated by nanosecond pulsed DBD air plasma*, Clinical Plasma Medicine **2015**, 3(2), 53-61
50. *Preliminary investigation of the antibacterial efficacy of a handheld plasma gun source for endodontic procedures*, Clinical Plasma Medicine **2015**, 3(2), 77-86
51. *Atmospheric non-equilibrium plasma promotes cell death and cell-cycle arrest in a lymphoma cell line*, Plasma Processes and Polymers **2015**, 12(12), 1354-1363
52. *Solid-state crosslinking of polysaccharide electrospun fibers by atmospheric pressure non-equilibrium plasma: a novel straightforward approach*, Plasma Processes and Polymers **2015**, 12(11), 1195-1199
53. *Practical and theoretical considerations on the use of ICCD imaging for the characterization of non-equilibrium plasmas*, Plasma Sources Science and Technology **2015**, 24, 064004
54. *Investigation of the antimicrobial activity at safe levels for eukaryotic cells of a low power atmospheric pressure inductively coupled plasma source*, Biointerphases **2015**, 10(2), 029519
55. *Characterization of a cold atmospheric pressure plasma jet device driven by nanosecond voltage pulses*, IEEE Transactions on Plasma Science **2015**, 43(4), 713-725
56. *High-speed multi-imaging of repetitive unipolar nanosecond-pulsed DBDs*, IEEE Transactions on Plasma Science, Images in Plasma Science **2014**, 42(10), 2744-2745
57. *iCCD imaging of the transition from uncoupled to coupled mode in a plasma source for biomedical and materials treatment applications*, IEEE Transactions on Plasma Science, Images in Plasma Science **2014**, 42(10), 2746-2747
58. *High-speed and Schlieren imaging of a low power inductively coupled plasma source for potential biomedical applications*, IEEE Transactions on Plasma Science, Images in Plasma Science **2014**, 42(10), 2748-2749
59. *Carboxyl surface functionalization of poly(L-lactic acid) electrospun nanofibers through atmospheric non-thermal plasma affects fibroblast morphology*, Plasma Processes and Polymers **2014**, 11(3), 203-213
60. *Investigation of thermal non-equilibrium in a plasma arc welding process: modelling and diagnostics*, IEEE Transactions on Plasma Science **2014**, 42(5), 1237-1244
61. *Schlieren high-speed imaging of a nanosecond pulsed atmospheric pressure non-equilibrium plasma jet*, Plasma Chemistry and Plasma Processes **2014**, 34(4), 853-869
62. *Cast Al-based nanocomposites reinforced with thermal plasma synthesized ceramic nanoparticles*, Material Science Forum **2014**, 783-786, 1567-1572
63. *Atmospheric pressure non-equilibrium plasma treatment to improve the electrospinnability of poly(L-lactic acid) polymeric solution*, Plasma Processes and Polymers **2014**, 11(3), 247-255
64. *Two-dimensional time-dependent modelling of fume formation in a pulsed gas metal arc welding process*, Journal of Physics D: Applied Physics **2013**, 46(22), 224006
65. *High-speed imaging investigation of transient phenomena impacting plasma arc cutting process optimization*, Journal of Physics D: Applied Physics **2013**, 46(22), 224010
66. *Evaluation of precursor evaporation in Si nano-particle synthesis by radio-frequency induction thermal plasmas*, Plasma Sources Science and Technology **2013**, 22(3), 035010
67. *Two-temperature modelling and optical emission spectroscopy of a constant current plasma arc welding process*, Journal of Physics D: Applied Physics **2013**, 46, 224009
68. *Study of the role of dielectric material in a dielectric barrier discharge (DBD) plasma source for dermatological applications*, Proceedings of IEEE International Conference on Solid Dielectrics, ICSD **2013**, 6619836, 595-598
69. *Study of the effect of atmospheric pressure plasma treatment on electrospinnability of poly-L-lactic acid solutions: voltage waveform effect*, Proceedings of IEEE International Conference on Solid Dielectrics, ICSD **2013**, 6619847, 358-361

70. *Plasma assisted nanoparticle dispersion in polymeric solutions for the production of electrospun lithium battery separators*, Proceedings of IEEE International Conference on Solid Dielectrics, ICSD **2013**, 6619880, 718-721
71. *Comparing the effects of different atmospheric pressure non-equilibrium plasma sources on PLA oxygen permeability*, Journal of Physics: Conference Series **2012**, 406, 012038
72. *RF thermal plasma treatment of dredged sediments: vitrification and silicon extraction*, Journal of Physics: Conference Series **2012**, 406, 012039
73. *Modelling for the optimization of the reaction chamber in silicon nanoparticle synthesis by radio-frequency induction thermal plasma*, Plasma Sources Science and Technology **2012**, 21(5), 055007
74. *Dynamic analysis of droplet transfer in GMAW: modelling and experiments*, Plasma Sources Science and Technology **2012**, 21(5), 055015
75. *Fluid-dynamic characterization of a radio-frequency induction thermal plasma system for nanoparticle synthesis*, Plasma Sources Science and Technology **2012**, 21(4), 045010
76. *Advances in plasma arc cutting technology: the experimental part of an integrated approach*, Plasma Chemistry and Plasma Processing **2012**, 32(3), 411-426
77. *A two-dimensional nodal model with turbulent effects for the synthesis of Si nano-particles by inductively coupled thermal plasmas*, Plasma Sources Science and Technology **2012**, 21(2), 025001
78. *Three-dimensional time-dependent large eddy simulation of turbulent flows in an inductively coupled thermal plasma torch with reaction chamber*, IEEE-TPS Images in Plasma Science **2011**, 39(11), 2894-2895
79. *High-speed imaging in PAC: multiple view and tomographic reconstruction of pilot arcing transients*, IEEE Transactions on Plasma Science, Images in Plasma Science **2011**, 39(11), 2916-2917

Bologna, 4/11/2021



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