

Curriculum vitae of Vittorio Colombo (2014-2020)

Professor Vittorio Colombo was born [REDACTED] got a Master degree in Nuclear Engineering in 1986 and a PhD in Energetics in 1990 at the Politecnico di Torino, Italy and since 2000 he is full professor of Industrial Applications of Plasmas at the School of Engineering and Architecture of the Alma Mater Studiorum - Università di Bologna (SSD: ING-IND/18 – Nuclear Reactor Physics for which he is also Italian coordinator in the relationship with members of the National University Council). He is a member of the Industrial Engineering Department (DIN), of the Industrial Research Centre for Advanced Mechanics and Materials (CIRI-MAM), of the Interdepartmental Center for Agri-food Industrial Research (CIRI-AGRO), of the Research Center on Gynecological Neoplasms and of the National Interuniversity Consortium of Materials Science and Technology (INSTM). Reference person of CIRI-MAM in the regional Clust-ER Agri-Food. Member of the Value Chain Bio-Med-Tech in the regional Clust-ER Health Industries and Wellness and in the Value Chain PRIMPAK in the regional Clust-ER Agri-Food.

FIELDS OF RESEARCH

His research activities deal with industrial, environmental and biomedical applications of plasmas, which are characterized by the common need of innovative and advanced treatments aimed at enhancing specific properties of different materials (from polymers to metals, from ceramics to biological substrates). Plasma is an ionized gas, able to conduct heat and electricity, consisting of electrons, neutrals, radicals and ions. The possibility of precisely controlling plasma chemical and physical characteristics makes plasma technology the ideal candidate to solve such a varied range of needs.

Diagnostics of plasma sources and processes

These activities are aimed at the experimental investigation of plasma-assisted processes supported by the development and exploitation of advanced diagnostic techniques such as: optical emission and optical absorption spectroscopy for the determination of temperature, composition and electron density of the plasma; methods for the electrical characterization of the plasma discharge; imaging methods of the visualization of plasma discharge behaviour and transient phenomena using high-speed cameras, iCCD cameras, multi-imaging methods and Schlieren photography.

Non-equilibrium atmospheric pressure plasma (NTP) sources and processes for the synthesis and modification of materials

In this field, the activities deal with the design and production of NTP sources and their characterization, aimed at garnering a fundamental understanding of plasma physical-chemical aspects and at the optimization of assisted processes; moreover, the AIP group is interested in the scale-up and scale-down of NTP sources and in material characterization for the evaluation of the effectiveness of plasma-assisted processes. Among the processes investigated are: surface modification (cleaning, activation, grafting, biocompatibilization) of polymers, metals and nanostructured materials, plasma-assisted polymerization,

conservation and recovery of cultural heritage materials, pollutants abatement, nanoadditives dispersion and material modification in liquid environment.

Plasma medicine and plasma agriculture

In this field, the activities deal with the development and optimization of NTP sources for pathogen decontamination, therapeutic applications, as a novel non-thermal technology for food product decontamination and plant bacterial diseases. The extraordinary plasma potential is here connected to the various active agents produced and their controllability, which grant to the technology the versatility required by biological applications. In particular, the AIP group is investigating the decontamination of biological materials, industrial products, liquids and gas flows and relies on a proprietary biological laboratory (class 2) for the evaluation of plasma sources decontamination efficacy. Therapeutic applications under study are in the fields of odonto-stomatology, oncology and dermatology, with specific attention for cytotoxicity aspects and in collaboration with various groups from the medical, biological areas, as well as applications in the field of plasma assisted food-packaging, plasma treatment of plants to induce resistance against bacterial diseases with groups from agricultural areas.

INDICATORS OF ESTEEM/EDITORIAL ACTIVITIES/CONFERENCES ORGANIZATION

He has been (2016-2017) President of the International Plasma Chemistry Society-IPCS (<http://www.ispc-conference.org/>) and he is a Fellow of the same IPCS.

He is also member of: the Board of Directors of the International Society for Plasma Medicine-ISPM, for which he also serves as Secretary and co-chairman of the forthcoming 9-th International Conference on Plasma Medicine, Utrecht, The Netherlands, 2022; the International Advisory Board of Plasma Processes and Polymers journal; the Editorial Board of the Plasma Medicine Journal; the International Scientific Committee of the 15th International Conference on Plasma Surface Engineering – PSE; the European Joint Committee on Plasma and Ion Surface Engineering - EJC/PISE; the Steering Committee of the High Technology Plasma Processes conferences; the International Advisory Committee of the Central European Symposium on Plasma Chemistry (CESPC); member of the International Scientific Committee of the 8th International Conference on Plasma Medicine, Incheon, South Korea, 2021; member of the International Scientific Committee of the 25rd International Symposium on Plasma Chemistry, Kyoto, Japan, 2022.

He has been member of the International Scientific Committee of the 23rd International Symposium on Plasma Chemistry, Montreal 2017.

He has served as chairman of the 24th International Symposium on Plasma Chemistry held in Naples, Italy, 9-14 June 2019 (www.ispc24.com).

He has been Italian delegate member of the COST Actions CMST TD1208 Electrical discharges in liquids for future applications and MPNS MP1101 Biomedical Applications of Atmospheric Pressure Plasma Technology (2012-2016).

He has chaired the Joint Conference of COST ACTIONS CMST TD1208 Electrical discharges with liquids for future applications and MPNS MP1101 Biomedical Applications of Atmospheric Pressure Plasma Technology, BIOPLASMAS AND PLASMAS WITH LIQUIDS, held in Bertinoro, Italy in 2015.

He has been technical Area Coordinator (Industrial, Commercial and Medical Plasma Applications) for International Conference on Plasma Science 2016, Banff, Canada, 2016.

He has been the organizer of the Special Symposium “Advanced plasma processes for biomedical applications” at the 28th Annual Conference of the European Society for Biomaterials (ESB), which was held in Athens, Greece, in September 4-9, 2017.

He is Associate Editor of IEEE Transactions in Radiation and Plasma Medical Sciences (<https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7433213>).

Member of the Editorial Board of the open access journal *Plasma* (<http://www.mdpi.com/journal/plasma>).

Member of the Editorial Board of the open access journal *Plasma Medicine* (<https://www.begellhouse.com/journals/plasma-medicine.html>).

Member of the Editorial Board of the *Plasma Research Express* (<https://iopscience.iop.org/journal/2516-1067>).

He is Italian substitute delegate member of the COST ACTION CA 19110 “Plasma applications for smart and sustainable agriculture” (PLAgri)" (2020).

Referee, in the field of industrial applications of plasmas of the following peer reviewed international journals: The European Physical Journal D, Journal of Physics D: Applied Physics, Journal of Physics A, Plasma Chemistry and Plasma Processing, Plasma Sources Science and Technology, Journal of High Temperature Material Processes, Plasma Processes and Polymers, IEEE Transactions on Plasma Science, Journal of Nanoparticle Research, Physics of Plasmas, Physics Letters A, Powder Technology, Surface & Coatings Technology, Journal of Thermal Spray Technology, Plasma Science and Technology, Journal of Applied Physics, Journal of Clinical Plasma Medicine, Biointerphases, Plasma Science and Technology, Plasma, Plasma Research Express, JoVE, Frontiers in Oncology, IEEE Transactions on Radiation and Plasma Medical Sciences, Journal of Biophotonics.

Evaluator for national foundations grants: Belgium (The Research Foundation – Flanders, FWO), France (INSERM, Plan Cancer/Physique cancer).

Supervisor of 17 PhD students over the last 20 years in the field of plasma technology and external examiner for Italian and international examination of PhD students both in the field of nuclear engineering and plasma technology.

MANAGEMENT ACTIVITIES

Member of the Board of Regents of the PhD course in Health and Technologies (<https://phd.unibo.it/hat/en>).

Coordination and management of the Group for Industrial Applications of Plasmas and of the Laboratory of Industrial Applications of Plasmas (<http://plasmagroup.ing.unibo.it/>), active in thermal plasma fundamental and industrial research and in non-equilibrium atmospheric plasmas for industrial and biomedical applications.

Up to May 2019, he has been President and CEO of the spin-off company AlmaPlasma srl, which he founded in 2013 with co-workers and is participated by Alma Mater Studiorum - Università di Bologna and by Confindustria Emilia Romagna (www.almaplasma.com).

FUNDED RESEARCH PROJECTS

COST ACTION MP1101 Bioplasma, European networking project. Topic: Intensify the knowledge base relevant to medical and biomedical applications of atmospheric pressure plasma technology (9/2012-9/2015).

Scientific coordinator of the **UNIBO-FARB2** project **Plasma-assisted preparation and modification of molecular and macromolecular materials for biomedical, pharmaceutical and energy applications (PLASMAT)**. 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 (2/2014-7/2016).

COST ACTION TD1208 Electrical discharges with liquids for future applications, european networking project. Topic: Investigate the fundamental mechanisms of the interaction between plasma and liquids and develop innovative and interdisciplinary applications (4/2013-4/2016).

Local coordinator of the **INSPIRED** project (**“INDustrial Scale Production of Innovative nanomaterials for printEd Devices / H2020-NMP-PILOTS-2014**), where UNIBO is involved in design oriented plasma simulation activities for the optimization at industrial level of processes of nano-Cu synthesis assisted by RF thermal plasmas for the production of innovative nanomaterials for printing devices (1/2015 – 1/2019).

MISE industrial project for **SARONG SPA**, (funding for CIRI - Advanced Applications in Mechanical Engineering and Materials Technology). Topic: Electrical, physical and chemical characterization and analysis of the antibacterial effectiveness of lab-scale atmospheric plasma sources for the decontamination of packaging films (2015-2019).

TECNO_EN-P, POR-FESR 2014-2020 regional project (funding for CIRI - Advanced Applications in Mechanical Engineering and Materials Technology). 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 (4/2016 – 4/2018).

ECOPACK LAB, POR-FESR 2014-2020 regional project (funding for CIRI - Advanced Applications in Mechanical Engineering and Materials Technology). Topic: Design and realisation of a laboratory for the study of advanced technologies for the production of active and ecosustainable packaging (4/2016 – 4/2018).

Within a research contract between **AlmaPlasma S.r.L. and GEA-PROCOMAC S.p.A.**, in the frame of POR-FESR 2014-2020 regional project. Topic: 'Integration with the blowing process of the decontamination based on plasma or ozone treatment for PET containers in cleaned bottling line'.

UNIBO-AlmaIDEA project Study of the fundamental mechanisms for anticancer activity of plasma activated mediums for the treatment of peritoneal carcinomatosis Topic: Understanding the role of plasma activated media for a future use as anticancer means in the treatment of peritoneal carcinomatosis in synergy with conventional therapies. (2018-2019).

With AlmaPlasma S.r.L., research activities in the frame of the **Ministero dell'Università e della Ricerca (MIUR) PRIN 2017 project PLASMAFOOD**. Topic: the main objective of **PLASMAFOOD** project is to provide a deeper knowledge about aspects still scarcely investigated about Cold Atmospheric Plasma treatment of foods to fill the gaps identified in the literature and therefore promoting the application of this emerging novel technology. Five different categories of food products were chosen based on their different characteristics, different kinetics of quality degradation and different issues related to safety. In particular, food products are minimally process fruit and vegetables, semidried fruit, dry fruit, fish products and molluscs.

Tutor of a one-year researcher position on the call "Emilia-Romagna finanziamento degli assegni di ricerca annuali approvati con la D.G.R. N.589/2019 a favore dell'Alma Mater Studiorum – Università di Bologna (Alte Competenze per la Ricerca e il Trasferimento Tecnologico POR FSE 2014/2020 Obiettivo tematico 10)": **Design of processes assisted by cold atmospheric plasmas for the in-line decontamination/sterilization of materials in food packaging** (2019- 11469/RER).

Scientific coordinator of a POR-FESR project financed by the Regione Emilia-Romagna on the call "Progetti di ricerca e innovazione per lo sviluppo di soluzioni finalizzate al contrasto dell'epidemia da COVID-19". The project title is: **"Progetto VIKI (Virus Killer): dispositivo di sanificazione a contrasto del trasporto indoor di bioaerosol"** led by the IAP Group of the Interdepartmental Center for Industrial Research Advanced Applications in Mechanical Engineering and Materials Technology (CIRI-MAM).

With the Group for Industrial Applications of Plasmas will participate to a POR-FESR project financed by the Regione Emilia-Romagna on the call "Progetti di ricerca e innovazione per lo sviluppo di soluzioni finalizzate al contrasto dell'epidemia da COVID-19". The project title is: **"Applicazione di trattamenti al plasma freddo atmosferico per la decontaminazione di superfici di alimenti e MOCA (materiali e oggetti a contatto con gli alimenti) da COVID19"** led by the Interdepartmental Center for Agri-food Industrial Research (CIRI-AGRO).

TEACHING AND MENTORING EXPERIENCE

Teaching activities in the course of studies in Energy Engineering:

Laboratory of general technologies of materials and industrial applications of plasmas T - 3 ECTS

Industrial applications of plasmas M - 6 ECTS

Numerical methods for energetics M - 6 ECTS

Laboratory of general technologies of materials and industrial applications of plasmas M - 3 ECTS

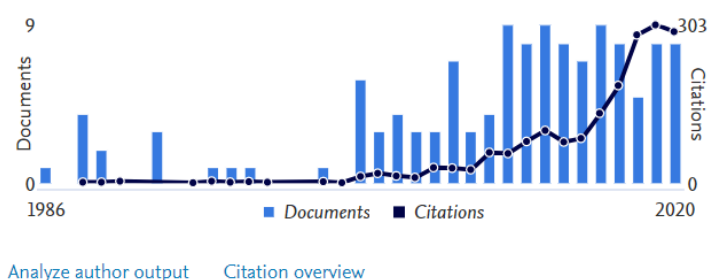
SELECTED PUBLICATIONS ON INTERNATIONAL PEER-REVIEWED JOURNALS

Author (h-index 24 on Scopus) of more than 170 scientific products (around 120 in peer-reviewed international journals) besides a few patents in the field of thermal and non-thermal atmospheric pressure plasmas.

Metrics overview



Document & citation trends



126 Documents Cited by 1180 Documents 254 Co-Authors

Publications 2020

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- E. Malekzad, T. Galligani, F. Barletta; M. Gherardi, V. Colombo, D. Duday, Single step deposition of hexamethyldisiloxane surface gradient coatings with high amplitude of water contact angle over polyethylene foil, Plasma Processes and Polymers, 2020; DOI: <https://doi.org/10.1002/ppap.202000044>
- Galligani, N. H. Abuyazid, V. Colombo, M. Gherardi, R. M. Sankaran, Online ion mobility spectrometry of nanoparticle formation by non-thermal plasma conversion of metal salts in liquid aerosol droplets, Journal of Aerosol Science, 2020; DOI: <https://doi.org/10.1016/j.jaerosci.2020.105631>
- S. Bekeschus, A. Kramer, E. Suffredini, T. von Woedtke e V. Colombo, Gas plasma technology – an asset to healthcare during viral pandemics such as the COVID-19 crisis?, IEEE Transaction on Radiation and Plasma Medical Sciences, 2020; DOI: 10.1109/TRPMS.2020.3002658.
- V. Fasano, R. Laurita, M. Moffa, C. Gualandi, V. Colombo, M. Gherardi, E. Zussman, G. Vasilyev, L. Persano, A. Camposeo, M.L. Focarete, D. Pisignano, Enhanced electrospinning of active organic fibers by plasma treatment on conjugated polymer solutions, ACS Applied Materials & Interfaces, 2020; doi.org/10.1021/acsaami.0c02724
- Stancampiano, D. Forgione, E. Simoncelli, R. Laurita, R. Tonini, M. Gherardi, V. Colombo, The effect of Cold Atmospheric Plasma (CAP) treatment at adhesive-root dentin interface, Journal of Adhesive Dentistry, 2019; DOI: 10.3290/j.jad.a42521
- E. Turrini, R. Laurita, E. Simoncelli, A. Stancampiano, E. Catanzaro, C. Calcabrini, G. Carulli, M. Rousseau, M. Gherardi, F. Maffei, V. Cocchi, M. Lenzi, V. Pellicioni, P. Hrelia, V. Colombo, C.

Fimognari, Cold atmospheric plasma as an innovative anticancer strategy: insight into its cellular and molecular impact on leukemia models, *Plasma Processes and Polymers*, 2020; DOI: 10.1002/ppap.202000007

- Bisag, C. Bucci, S. Coluccelli, G. Girolimetti, R. Laurita, P. De Iaco, A.M. Perrone, M. Gherardi, L. Marchio, A.M. Porcelli, V. Colombo, G. Gasparre, Plasma-activated Ringer's Lactate solution displays a selective cytotoxic effect on ovarian cancer cells, *Cancers*, 12(2),476, 2020 DOI: 10.1016/j.cpme.2020.100100

Publications 2019

- Barletta, F., Leys, C., Colombo, V., Gherardi, M., Britun, N., Snyders, R., Nikiforov, A., Insights into plasma-assisted polymerization at atmospheric pressure by spectroscopic diagnostics, *Plasma Processing and Polymers*, 2019, DOI: 10.1002/ppap.201900174
- E. Simoncelli, A. Stancampiano, M. Boselli, M. Gherardi, V. Colombo, Experimental investigation on the influence of target physical properties on an impinging plasma jet, *Plasma*, Special Issue "Low Temperature Plasma Jets: Physics, Diagnostics and Applications" DOI: 10.3390/plasma2030029
- A. Stancampiano, T. Galligani, M. Gherardi, Z. Machala, P. Maguire, V. Colombo, JM Pouvesle and E. Robert, Plasma and aerosols: challenges, opportunities and perspectives, *Applied Sciences*, Special Issue "Progress in Spray Science and Technology" DOI: 10.3390/app9183861
- E. Simoncelli, J. Schulpen, F. Barletta, R. Laurita, V. Colombo, A. Nikiforov, M. Gherardi, UV-VIS optical spectroscopy investigation on the kinetics of long-lived RONS produced by a surface DBD plasma source, accepted for publication on *Plasma Sources Science and Technology* DOI: 10.1088/1361-6595/ab3c36
- M. Boselli, V. Colombo, M. Gherardi, 3D modelling of the synthesis of copper nanoparticles by means of a DC transferred arc twin torch plasma system, accepted for publication on *Journal of Physics D: Applied Physics*, Special Issue on Thermal-Plasma-Material Interactions DOI: 10.1088/1361-6463/ab3607
- S. Madian Perez, E. Biondi, R. Laurita, M. Proto, F. Sarti, M. Gherardi, A. Bertaccini and V. Colombo, Plasma activated water as resistance inducer against bacterial leaf spot of tomato, *PlosONE* (2019) DOI: 10.1371/journal.pone.0217788
- A. Stancampiano, D. Forgiione, E. Simoncelli, R. Laurita, R. Tonini, M. Gherardi, V. Colombo, The effect of Cold Atmospheric Plasma (CAP) treatment at adhesive-root dentin interface, *Journal of Adhesive Dentistry* (2019) DOI: 10.3290/j.jad.a42521
- D. Dobrynin, D. Vainchtein, M. Gherardi, V. Colombo, A. Fridman, Can the "Maximum Power Principle" be Applied to Pulsed Dielectric Barrier Discharge?, *IEEE Transactions on Plasma Science* (2019) DOI: 10.1109/TPS.2019.2921939

Publications 2018

- L. Crestale, R. Laurita, A. Liguori, A. Stancampiano, M. Talmon, A. Bisag, M. Gherardi, A. Amoroso, V. Colombo, L. G. Fresu, Cold atmospheric pressure plasma treatment modulates human monocytes/macrophages responsiveness, accepted for publication on [Plasma, special issue Plasma Medicine DOI: 10.3390/plasma1020023](https://doi.org/10.3390/plasma1020023)
- A. Stancampiano, E. Simoncelli, M. Boselli, V. Colombo, M. Gherardi, Experimental investigation on the interaction of a nanopulsed plasma jet with a liquid target, [Plasma Sources Science and Technology \(2018\) DOI:10.1088/1361-6595/aae9d0](https://doi.org/10.1088/1361-6595/aae9d0)
- A. Stancampiano, N. Selaković, M. Gherardi, N. Puač, Z. Lj. Petrović, V. Colombo, Characterisation of a multijet plasma device by means of mass spectrometric detection and iCCD imaging, [Journal of Physics](https://doi.org/10.1088/1361-6595/aae9d0)

[D: Applied Physics: Special issue on recent developments in plasma sources and new plasma regimes \(2018\) DOI:10.1088/1361-6463/aae2f2](#)

- A. Liguori, T. Galligani, DB Padmanaban, R. Laurita, T. Velusamy, G. Jain, M. Macias-Montero, D. Mariotti, M. Gherardi, Synthesis of Copper-Based Nanostructures in Liquid Environments by Means of a Non-equilibrium Atmospheric Pressure Nanopulsed Plasma Jet, [Plasma Chemistry and Plasma Processing \(2018\) DOI:10.1007/s11090-018-9924-0](#)
- U. Cvelbar, J. L. Walsh, M. Černák, H. W. de Vries, S. Reuter, T. Belmonte, C. Corbella, C. Miron, N. Hojnik, A. Jurov, H. Puliyalil, M. Gorjanc, S. Portal, R. Laurita, V. Colombo, J. Schäfer, A. Nikiforov, M. Modic, O. Kylian, M. Polak, C. Labay, J. M. Canal, C. Canal, M. Gherardi, K. Bazaka, P. Sonar, K. K. Ostrikov, D. Cameron, S. Thomas, K.-D. Weltmann, White paper on the future of plasma science and technology in plastics and textiles, [Plasma Processes and Polymers \(2018\), DOI: 10.1002/ppap.201700228](#)
- E. Traldi, M. Boselli, E. Simocelli, A. Stancampiano, M. Gherardi, V. Colombo, G. S. Settles, Schlieren imaging: a powerful tool for atmospheric plasma diagnostic, [EPJ Techniques and Instrumentation: Thematic Series on Novel Plasma Diagnostics \(2018\), DOI:10.1140/epjti/s40485-018-0045-1](#)
- L. S. Dolci, A. Liguori, S. Panzavolta, A. Misericocchi, N. Passerini, M. Gherardi, V. Colombo, A. Bigi, B. Albertini, 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 \(2018\), DOI: 10.1016/j.colsurfb.2017.12.030](#)
- F. Barletta, A. Liguori, Ch. Leys, V. Colombo, M. Gherardi, A. Nikiforov, Novel method for NH-rich coatings engineering by means of aerosol assisted atmospheric pressure plasma deposition, [Materials Letters \(2018\), DOI: 10.1016/j.matlet.2017.11.116](#)

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- A. Liguori, A. Cochis, A. Stancampiano, R. Laurita, B. Azzimonti, R. Sorrentino, E. Varoni, M. Petri, V. Colombo, M. Gherardi, L. Rimondini, Cold atmospheric plasma treatment affects early bacterial adhesion and decontamination of soft reline palatal obturators, [Clinical Plasma Medicine \(2017\), DOI: 10.1016/j.cpme.2017.08.001](#)
- E. Turrini, R. Laurita, A. Stancampiano, E. Catanzaro, C. Calcabrini, F. Maffei, M. Gherardi, V. Colombo, C. Fimognari, Cold Atmospheric Plasma Induces Apoptosis and Oxidative Stress Pathway Regulation in T-Lymphoblastoid Leukemia Cells, [Oxidative Medicine and Cellular Longevity \(2017\), DOI: 10.1155/2017/4271065](#)
- M. Gherardi, R. Tonini, V. Colombo, Plasma in dentistry: brief history and current status, [Trends in Biotechnology \(2017\), DOI: 10.1016/j.tibtech.2017.06.009](#)
- I. Adamovich, S. Baalrud, A. Bogaerts, P. Bruggeman, M. Cappelli, V. Colombo, U. Czarnetzki, U. Ebert, J. Eden, P. Favia, D. Graves, S. Hamaguchi, G. Hieftje, M. Hori, I. Kaganovich, U. Kortshagen, M. Kushner, N. Mason, S. Mazouffre, S. Mededovic Thagard, H. Metelmann, A. Mizuno, E. Moreau, A. Murphy, B. Niemira, G. Oehrlein, Z. Petrovic, L. Pitchford, Y. Pu, S. Rauf, O. Sakai, S. Samukawa, S. Starikovskaia, J. Tennyson, K. Terashima, M. Turner, R. Van de Sanden, A. Vardelle, The 2017 Plasma Roadmap: Low Temperature Plasma Science and Technology, [Journal of Physics D: Applied Physics \(2017\), DOI: 10.1088/1361-6463/aa76f5](#)
- T. Velusamy, A. Liguori, M. Macias-Montero, D. Babu Padmanaban, D. Carolan, M. Gherardi, V. Colombo, P. Maguire, V. Svrcek, D. Mariotti, Ultra-small CuO nanoparticles with tailored energy-band diagram synthesized by a hybrid plasma-liquid process, [Plasma Processes and Polymers \(2017\), DOI: 10.1002/ppap.201600224](#)
- S. Bianconi, M. Boselli, V. Colombo, M. Gherardi, Numerical investigation of the joint impact of thermophoresis and radiative losses in induction plasma synthesis of copper nanoparticles, [Journal of Physics D: Applied Physics, 50, 165204 \(2017\), DOI: 10.1088/1361-6463/aa616f](#)

- R. Laurita, A. Misericocchi, M. Ghetti, M. Gherardi, A. Stancampiano, V. Purpura, D. Melandri, P. Minghetti, E. Bondioli, V. Colombo, Cold Atmospheric Plasma treatment of infected skin tissue: evaluation of sterility, viability and integrity, [IEEE Transactions on Radiation and Plasma Medical Sciences \(2017\)](#), DOI: [10.1109/TRPMS.2017.2679010](#)
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- E. Traldi, M. Boselli, M. Gherardi, V. Colombo, A Simulative and Experimental Approach for the Design and Optimization of Atmospheric Pressure Low Power RF Thermal Plasma Processes, [Special Issue on plasma modeling, Plasma Processes and Polymers \(2016\)](#), DOI: [10.1002/ppap.201600167](#)
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- R. Laurita, F. Alviano, C. Marchionni, P.M. Abruzzo, A. Bolotta, L. Bonsi, V. Colombo, M. Gherardi, A. Liguori, F. Ricci, M. Rossi, A. Stancampiano, P.L. Tazzari, M. Marini, Study of the effect on human mesenchymal stem cells of an atmospheric pressure plasma source driven by different voltage waveforms, [J. Phys. D: Applied Phys. Special Issue on plasma medicine \(2016\)](#), DOI: [10.1088/0022-3727/49/36/364003](#)
- E. Ranucci, M. L. Focarete, C. Gualandi, N. Bloise, N. Mauro, P. Ferruti, A. Manfredi, M. Sampaolesi, A. Liguori, R. Laurita, M. Gherardi, V. Colombo, L. Visai, Poly-L-Lactic Acid Nanofiber-Polyamidoamine Hydrogel Composites: Preparation, Properties and Preliminary Evaluation as Scaffolds for Human Pluripotent Stem Cell Culturing, [Macromolecular Bioscience \(2016\)](#), DOI: [10.1002/mabi.201600061](#)
- L. Dolci, A. Liguori, A. Merlettini, L. Calzà, M. Castellucci, M. Gherardi, V. Colombo, M. L. Focarete, Antibody immobilization on poly(L-lactic acid) nanofibers advantageously carried out by means of a non-equilibrium atmospheric plasma process, [J. Phys. D: Applied Phys. Special issue on Plasma Inspired Biomaterials](#) DOI: [10.1088/0022-3727/49/27/274003](#)
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INVITED AND KEYNOTE TALKS AT INTERNATIONAL CONFERENCES (2014-2020)

- EU COST MP1101 Workshop on Atmospheric Plasma Processes and Sources for Biomedical Applications with special emphasis on Functional Coatings for Biomaterials, Ljubljana, Slovenia, 2014
- 5th International Conference on Plasma Medicine (ICPM5), Nara, Japan, 2014
- 14th International Conference on Plasma Surface Engineering (PSE 2014), Garmisch-Partenkirchen, Germany, 2014
- ICRP-9 International Conference on Reactive Plasma, Honolulu, USA, October 2015
- 2-nd International Workshop on Applied Science and Entrepreneurship, Ghent, Belgium, 2015
- NANOCONTACT conference: Potential Application of Plasma and Nanomaterials, Brno, Czech Republic, 2017
- 8th International Symposium on Plasma Bioscience (IAPB 2018)
- 2018 MRS Fall Meeting & Exhibit, Boston, U.S.A. (1)
- 2018 MRS Fall Meeting & Exhibit, Boston, U.S.A. (2)
- 2020 3rd International Workshop on Plasma Agriculture, Greifswald, Germany
- 2020 Frontiers in Redox Biochemistry and Medicine, Plasma-Redox Workshop, Greifswald, Germany
- 2021 8th International Conference on Plasma Medicine, Incheon, South Korea