

icpm<sup>4</sup>

Orléans - France



INTERNATIONAL SOCIETY  
FOR PLASMA MEDICINE

# 4<sup>th</sup> international conference on plasma medicine

June 17-21  
**2012**

Program





PROGRAM

**Sunday, June 17, 2012**

<i>Time</i>	<i>Event</i>
<b>16:00 - 19:00</b>	<u>Registration</u> at the Agora restaurant located on the Orleans University campus.
<b>19:00 - 21:00</b>	<u>Welcome Reception</u> at the “Le Forum” restaurant above the Agora.

**Monday, June 18, 2012**

<i>Time</i>	<i>Event</i>
<b>08:00 - 08:30</b>	Registration
<b>08:30 - 09:00</b>	Opening Ceremony (Cabannes Hall)
<b>09:00 - 10:00</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairman: Nelson SILVA</i>
09:00 - 09:40	<b>Cold atmospheric plasmas in medicine: where we are today, and where we are heading</b> <i>INVITED: Georg Isbary, Department of Dermatology, Allergology and Environmental Medicine, Hospital Munich Schwabing</i>
09:40 - 10:00	<b>The Suppression of Hypersensitivity Accompanied by Tooth Bleaching using Nonthermal Plasma</b> <i>SOLICITED: Gyoo Cheon Kim, Department of Oral Anatomy, School of Dentistry, Pusan National University, Yangsan</i>
<b>10:00 - 10:25</b>	Coffee break
<b>10:25 - 11:05</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairpersons: Theresa FREEMAN, Satoshi HAMAGUCHI</i>
10:25 - 11:05	<b>Non-thermal Plasmas: Potential Dental Applications</b> <i>INVITED: Nelson Silva, Department of Prosthodontics, NYU School of Dentistry</i>
<b>11:05 - 12:10</b>	<b>Plasma sources for medicine</b>
<i>Cabannes Hall</i>	<i>Chairpersons: Theresa FREEMAN, Satoshi HAMAGUCHI</i>
11:05 - 11:20	<b>Plasma-generated reactive oxygen species for biomedical applications</b> <i>Joao Santos Sousa, Laboratoire de Physique des Gaz et des Plasmas</i>
11:20 - 11:35	<b>Plasma chemistry in atmospheric pressure plasmas with varying air and humidity</b> <i>Tomoyuki Murakami, Tokyo Institute of Technology</i>
11:35 - 11:50	<b>Helium plasma microjet for combined RF radiation and plasma treatment</b> <i>Bernard Despax, Laboratoire Plasma et Conversion d'Energie</i>
11:50 - 12:10	<b>Conformal Atmospheric Pressure Plasmas for Biomedical Applications: Along Surfaces, Inside Tubes and Penetrating Cracks</b> <i>SOLICITED: Mark Kushner, University of Michigan</i>
<b>12:10 - 13:45</b>	Lunch
<b>13:45 - 15:45</b>	<b>Poster Session 1</b>
<b>15:45 - 16:00</b>	Coffee break
<b>16:00 - 17:20</b>	<b>Plasma cell and plasma tissue interaction</b>
<i>Cabannes Hall</i>	<i>Chairmen: Gennady FRIEDMAN, Zdenko MACHALA</i>
16:00 - 16:40	<b>Plasma Pharmacy: The Use of Plasma-treated Products for therapeutic Purposes</b> <i>INVITED: Thomas von Woedtke, Leibniz Institute for Plasma Science and Technology Greifswald</i>
16:40 - 17:20	<b>Evaluating the interaction of low temperature atmospheric pressure plasma with cells for wound healing and disinfection</b> <i>INVITED: Nazir Barekzi, Old Dominion University</i>
<b>17:20 - 18:10</b>	<b>Plasma based sterilization/decontamination</b>
<i>Cabannes Hall</i>	<i>Chairmen: Gennady FRIEDMAN, Zdenko MACHALA</i>
17:20 - 17:35	<b>Managing cytotoxic activity and etching effect of plasma for biomedical applications</b> <i>James Liang, Stevens Institute of Technology</i>
17:35 - 17:50	<b>Electron Spin Resonance (ESR) Measurements of Free Radicals Produced by Atmospheric Nonthermal Plasmas</b> <i>Steven Plimpton, University of Colorado Denver, Anschutz Medical Campus</i>

**Monday, June 18, 2012**

<i>Time</i>	<i>Event</i>
17:50 - 18:10	<b>NanoSIMS50 analyses of Escherichia coli exposed to 18O and 15N afterglows</b> <i>SOLICITED: David Duday, Centre de Recherche Public Gabriel Lippmann</i>
<b>19:30 - Midnight</b>	<b>Monday Free Dinner</b> - A free dinner is organized at the pub and brewery "Au Bureau" situated in Orléans downtown (Royale street), near the old bridge on the Loire river.

**Tuesday, June 19, 2012**

<i>Time</i>	<i>Event</i>
<b>08:15 - 09:55</b>	<b>Plasma based sterilization/decontamination</b>
<i>Cabannes Hall</i>	<i>Chairmen: Mounir LAROUSSE, Steffen EMMERT</i>
08:15 - 08:55	<b>Bactericidal effects of non-thermal plasmas on causative agents of nosocomial infections</b> <i>INVITED: Svetlana Ermolaeva, Gamaleya Institute of Epidemiology and Microbiology</i>
08:55 - 09:15	<b>Production of atomic nitrogen in (100-x)%Ar - x%N<sub>2</sub> flowing afterglows at reduced pressure. Implications for the sterilization of the medical instrumentation</b> <i>SOLICITED: Jean-Philippe Sarrette, Laboratoire Plasma et Conversion d'Energie</i>
09:15 - 09:55	<b>Plasma Applications to Sterilization and to Aesthetics</b> <i>INVITED: Jae Koo Lee, Pohang University of Science and Technology</i>
<b>08:15 - 09:55</b>	<b>Plasma surface modification for biomedical applications</b>
<i>Blaise Hall</i>	<i>Chairpersons: Farzaneh AREFI-KHONSARI, Masaaki NAGATSU</i>
08:15 - 08:55	<b>Enhancing the bioactivity of the surfaces using atmospheric plasma deposited coatings</b> <i>INVITED: Denis Dowling, School of Mechanical and Materials Engineering</i>
08:55 - 09:15	<b>Cell adhesion and morphology on plasma copolymerized PEG-PCL thin films</b> <i>SOLICITED: Jerome Pulpytel, Université Pierre et Marie Curie</i>
09:15 - 09:55	<b>Remote and direct plasma processing of cells: how to induce a desired behavior</b> <i>INVITED: Roberto Gristina, IMIP, CNR</i>
<b>09:55 - 10:25</b>	Coffee break
<b>10:25 - 11:25</b>	<b>Plasma based sterilization/decontamination</b>
<i>Cabannes Hall</i>	<i>Chairmen: Klaus-Dieter WELTMANN, Peter AWAKOWICZ</i>
10:25 - 10:40	<b>Decontamination of teeth and plastic surfaces from biofilms and spores with DC and pulsed corona in air</b> <i>Zdenko Machala, Division of Environmental Physics, Comenius University</i>
10:40 - 10:55	<b>Inactivation Mechanism of Single-Stranded DNA Bacteriophage Treated with Atmospheric Pressure Cold Plasma</b> <i>Hachiro Yasuda, Department of Environmental and Life Sciences, Toyohashi University of Technology</i>
10:55 - 11:10	<b>Atmospheric surface micro-discharge air plasma disinfection against Clostridium difficile spores</b> <i>Tobias Klämpfl, Max-Planck Institute for Extraterrestrial Physics</i>
11:10 - 11:25	<b>Rapid Destructions of Biological Species in the Air using Atmospheric Pressure Non-thermal Plasma</b> <i>Yongdong Liang, College of Engineering, Peking University</i>
<b>10:25 - 11:25</b>	<b>Plasma surface modification for biomedical applications</b>
<i>Blaise Hall</i>	<i>Chairmen: Michael WERTHEIMER, Pietro FAVIA</i>
10:25 - 10:40	<b>Polymerization of acrylic acid by atmospheric pressure plasma jet for cell adhesion applications</b> <i>Farzaneh Arefi-Khonsari, Université Pierre et Marie Curie</i>
10:40 - 10:55	<b>Differentiation of Motoneurons Derived from Embryonic Stem Cells on a Polymerized Surface by Plasma</b> <i>Esmeralda Zuñiga, Universidad Autonoma Metropolitana Unidad, Iztapalapa</i>
10:55 - 11:10	<b>Plasma Treatment for Dental Restoration Application</b> <i>Qingsong Yu, University of Missouri</i>

Tuesday, June 19, 2012

<i>Time</i>	<i>Event</i>
11:10 - 11:25	<b>Plasma deposited Poly Lactic Acid- like films containing elastin by means of an aerosol assisted DBD</b> <i>Gabriella Da Ponte, Flemish Institute for Technological research</i>
<b>11:25 - 12:25</b>	<b>Plasma sources for medicine</b>
<i>Cabannes Hall</i>	<i>Chairmen: Klaus-Dieter WELTMANN, Peter AWAKOWICZ</i>
11:25 - 12:05	<b>Pulsed Atmospheric-pressure Plasma Streams produced by Plasma Gun: characterization and application for tumor treatment</b> <i>INVITED: Eric Robert, GREMI</i>
12:05 - 12:25	<b>Role of reactive species for bactericidal effect in air surface micro-discharge plasma</b> <i>SOLICITED: Tetsuji Shimizu, Max-Planck Institute for extraterrestrial Physics</i>
<b>11:25 - 12:25</b>	<b>Plasma surface modification for biomedical applications</b>
<i>Blaise Hall</i>	<i>Chairmen: Michael WERTHEIMER, Pietro FAVIA</i>
11:25 - 12:05	<b>Immobilization of Biomolecules onto Magnetic Nanoparticles Functionalized by RF Plasma and Its Medical Application</b> <i>INVITED: Masaaki Nagatsu, Shizuoka University</i>
12:05 - 12:25	<b>Plasma deposition of thermo-responsive films of N-isopropylacrylamide using DBD at atmospheric pressure</b> <i>SOLICITED: Kristina Lachmann, Fraunhofer Institute Surface Engineering and Thin Films</i>
<b>12:25 - 13:50</b>	Lunch
<b>13:50 - 15:50</b>	<b>Poster Session 2</b>
<b>15:50 - 16:05</b>	Coffee break
<b>16:05 - 18:10</b>	<b>Plasma sources for medicine</b>
<i>Cabannes Hall</i>	<i>Chairmen: Michael KONG, Kenneth STALDER</i>
16:05 - 16:45	<b>The design of the PlasmaJet thermal plasma system and its application in surgery</b> <i>INVITED: Peter Gibson, Plasma Surgical Ltd</i>
16:45 - 17:25	<b>Plasma and Bio: Basics and Applications</b> <i>INVITED: Peter Awakowicz, Electrical Engineering and Plasma Technology, Ruhr University Bochum</i>
17:25 - 17:40	<b>"Plasma bullets" propagation inside of tissue and agarose tissue model</b> <i>Danil Dobrynin, Drexel Plasma Institute</i>
17:40 - 17:55	<b>kinpen MED: a plasma source for clinical trials</b> <i>René Bussiahn, Leibniz Institute for Plasma Science and Technology</i>
17:55 - 18:10	<b>Controlling aqueous phase reactive chemical species generated by air surface micro-discharge</b> <i>Yukinori Sakiyama, University of California at Berkeley</i>
<b>Starting at 21:30</b>	After your dinner, you are invited for a drink at the "Bateau Lavoisier" on the Loire River, downtown Orléans

Wednesday, June 20, 2012

<i>Time</i>	<i>Event</i>
<b>08:15 - 09:55</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairmen: Richard SATAVA, Alexander FRIDMAN</i>
08:15 - 08:55	<b>Towards Clinical Trials: Medical Phase I Requirements and Execution</b> <i>INVITED: Julia Zimmermann, Max-Planck Institute for Extraterrestrial Physics</i>
08:55 - 09:15	<b>Battery Operated, Room Temperature Atmospheric Plasma Jet for Biomedical Applications</b> <i>SOLICITED: XinPei Lu, HUST</i>
09:15 - 09:55	<b>Nonthermal Dielectric Barrier Discharge Plasma Enhances Skeletal Cell Differentiation and Autopod Development</b> <i>INVITED: Theresa Freeman, Thomas Jefferson University</i>
<b>09:55 - 10:25</b>	Coffee break
<b>10:25 - 11:15</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairmen: Gregor MORFILL, Thomas VON WOEDTKE</i>
10:25 - 10:45	<b>Preclinical in vivo imaging strategies to boost therapy innovation in cancer research: application to plasma</b> <i>SOLICITED: Alain Le Pape, INSERM U618, TAAM-CIPA</i>
10:45 - 11:00	<b>New therapeutic effects of plasma gas containing nitric oxide</b> <i>Victor Vasilets, Institute for Energy Problems of Chemical Physics RAS</i>
11:00 - 11:15	<b>Selective killing of ovarian cancer cells through induction of apoptosis by nonequilibrium atmospheric pressure plasma</b> <i>Hiromasa Tanaka, Nagoya University</i>
<b>11:15 - 11:45</b>	<b>Plasma cell and plasma tissue interaction</b>
<i>Cabannes Hall</i>	<i>Chairmen: Gregor MORFILL, Thomas VON WOEDTKE</i>
11:15 - 11:30	<b>Targeting the cell cycle by cold atmospheric plasma</b> <i>Olga Volotskova, The George Washington University</i>
11:30 - 11:45	<b>Activities of human cells are modulated by non-thermal atmospheric pressure plasmas</b> <i>Kai Masur, INP Greifswald</i>
<b>11:45 - 12:25</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairmen: Gregor MORFILL, Thomas VON WOEDTKE</i>
11:45 - 12:25	<b>Electrosurgical Plasma Devices-Some Physics, Chemistry, and Medical Applications</b> <i>INVITED: Kenneth Stalder, ArthroCare Corp.</i>
<b>12:25 - 14:00</b>	Lunch
<b>14:00 - 18:30</b>	<u>Official Excursion</u> - All participants and accompanying persons are invited to take part to the conference excursion at the Chamerolles castle which houses a museum dedicated to perfumes.
<b>19:30 - 23:30</b>	<u>Banquet</u> - The ICPM4's banquet will be held in the orangery of the lovely « Domaine de la Fontaine », located along the Loiret river. The Plasma Medicine Award Ceremony will be held during the banquet.

Thursday, June 21, 2012

<i>Time</i>	<i>Event</i>
<b>08:30 - 09:30</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairman: Gerrit KROESEN</i>
08:30 - 09:10	<b>Treatment of chronic venous leg ulcers with a hand-held DBD plasma generator</b> <i>INVITED: Steffen Emmert, Department of Dermatology, Venerology, and Allergology, University Medical Center Göttingen</i>
09:10 - 09:30	<b>Plasma meets Dermatology: Clinical aspects in preventive and curative Medicine</b> <i>SOLICITED: Georg Daeschlein, Department of Dermatology, University Medical Center, Greifswald</i>
<b>08:30 - 09:30</b>	<b>Plasma based sterilization/decontamination</b>
<i>Blaise Hall</i>	<i>Chairman: Roberto GRISTINA</i>
08:30 - 09:10	<b>To die or not to die, that is the question: the paradigm of sterilization</b> <i>INVITED: Jean Barbeau, Université de Montréal</i>
09:10 - 09:30	<b>Innovative disinfection for dental and surgical therapies combined with the plasma treated water and the reduced pH method</b> <i>SOLICITED: Katsuhisa Kitano, Graduate School of Engineering, Osaka University</i>
<b>09:35 - 09:55</b>	<b>ISPM General Assembly (Cabannes Hall)</b>
<b>09:55 - 10:25</b>	Coffee break
<b>10:25 - 11:45</b>	<b>Plasma cell and plasma tissue interaction</b>
<i>Cabannes Hall</i>	<i>Chairwomen: Svetlana ERMOLAEVA, Julia ZIMMERMANN</i>
10:25 - 10:45	<b>Inactivation of microorganisms on skin surface by cold atmospheric plasma</b> <i>SOLICITED: Tim Maisch, Department of Dermatology, University Hospital Regensburg, Germany</i>
10:45 - 11:00	<b>Deciphering non thermal plasma effects on human cell lines by proteomics</b> <i>Kristian Wende, ZIK plasmatis at INP Greifswald</i>
11:00 - 11:15	<b>Atmospheric pressure plasma induced changes in cellular phenotypes</b> <i>Jennifer Shin, Korea Advanced Institute of Science and Technology</i>
11:15 - 11:30	<b>Preliminary study to evaluate atmospheric pressure plasma jet applicability to disrupt liposomal membranes</b> <i>Franck Clément, University of Pau</i>
11:30 - 11:45	<b>Molecular dynamic simulation of the transmembrane pore growth under effect of the electric field</b> <i>Maxim Deminsky, RRC "Kurchatov Institute", Kintech Lab</i>
<b>10:25 - 11:30</b>	<b>Plasma surface modification for biomedical application</b>
<i>Blaise Hall</i>	<i>Chairmen: Jean BARBEAU, Victor VASILETS</i>
10:25 - 10:45	<b>Plasma Modification For Designing Reversible Mechanoresponsive Bioactive Surfaces</b> <i>SOLICITED: Vincent Roucoules, Institut de Science des Matériaux de Mulhouse</i>
10:45 - 11:00	<b>Thromboelastography cups and pins for improved blood coagulation testing: Surface modification by plasma coating</b> <i>Angel Contreras-García, Department of Engineering Physics, Ecole Polytechnique Montreal</i>
11:00 - 11:15	<b>Plasma Surface Modification of Artificial Bones for Bone Regeneration</b> <i>Yu Moriguchi, Department of Orthopaedics, Graduate School of Medicine, Osaka University</i>
11:15 - 11:30	<b>Resistance of plasma polymers to sterilization techniques used in biomedical applications</b> <i>Andrei Choukourov, Charles University in Prague</i>
<b>11:30 - 12:25</b>	<b>Plasma based sterilization/decontamination</b>
<i>Blaise Hall</i>	<i>Chairmen: Jean BARBEAU, Victor VASILETS</i>
11:30 - 11:45	<b>Efficient Ar/O<sub>2</sub> and/or N<sub>2</sub> plasma inactivation of infective human adenoviruses</b> <i>Christian Penny, Centre de Recherche Public - Gabriel Lippmann</i>

Thursday, June 21, 2012

<i>Time</i>	<i>Event</i>
11:45 - 12:25	<b>On mechanism of inactivation of bio-particles by the plasma exposure and evaluation of the toxicity using single DNA molecules</b> <i>INVITED: Akira Mizuno, Toyohashi University of Technology</i>
<b>11:45 - 12:25</b>	<b>Medical aspects and results of plasma in use</b>
<i>Cabannes Hall</i>	<i>Chairwomen: Svetlana ERMOLAEVA, Julia ZIMMERMANN</i>
11:45 - 12:25	<b>Plasma Health Care: promises and difficulties for haemostasis</b> <i>INVITED: Jean-Pierre Cambus, Hôpital de Rangueil, Toulouse</i>
<b>12:25 - 14:00</b>	Lunch
<b>14:00 - 16:00</b>	<b>Plasma cell and plasma tissue interaction</b>
<i>Cabannes Hall</i>	<i>Chairmen: Akira MIZUNO, David GRAVES</i>
14:00 - 14:40	<b>Burn wound healing: a role for plasma medicine?</b> <i>INVITED: Esther Middelkoop, Dept Plastic, Rec. and Hand Surgery, Research Institute MOVE, VU University Medical Center, Amsterdam</i>
14:40 - 15:20	<b>Interaction of Nanosecond and Sub-nanosecond Pulsed Dielectric Barrier Discharge Plasma with Living Systems</b> <i>INVITED: Gregory Fridman, A.J. Drexel Plasma Institute, Drexel University</i>
15:20 - 15:40	<b>Effects of a He/O<sub>2</sub> atmospheric pressure plasma effluent and its components on bacteria and bio-macromolecules</b> <i>SOLICITED: Julia Bandow, Microbiology, Ruhr University Bochum</i>
15:40 - 16:00	<b>"SAKAKITA Plasma" as a Novel Hemostatic Technique for Minimally Invasive Surgery</b> <i>SOLICITED: Hajime Sakakita, National Institute of Advanced Industrial Science and Technology (AIST)</i>
<b>16:00 - 16:20</b>	Closing Ceremony (Cabannes Hall)





## POSTER SESSIONS

**Monday, June 18**

**Poster session 1**

**Plasma cell and plasma tissue interaction**

- P1 **Plasma gas temperature effect on survival ratio of human cells**  
*Toshihiro Takamatsu, Takaya Oshita, Ryota Sasaki, Naoki Nakashima, Hidekazu Miyahara, Yoshihisa Matsumoto and Akitoshi Okino*
- P2 **Treatment of glioblastoma: New application for CAPs?**  
*Julia Köritzer, Tetsuji Shimizu, Tobias G. Klämpfl, Yang-Fang Li, Veronika Boxhammer, Jin Jeon, Gregor E. Morfill, Julia L. Zimmermann, Jürgen Schlegel*
- P3 **Inactivation of Bacteria in Solution by Atmospheric Pressure Plasma: Density Effects**  
*Veronika Boxhammer, Gregor E. Morfill, J. Randy Jokipii, Tetsuji Shimizu, Yang-Fang Li, Tobias G. Klämpfl, Julia Köritzer, Jürgen Schlegel, Julia L. Zimmermann*
- P4 **Intracellular or Extracellular: a Way to Plasma Protection**  
*Ruonan Ma, Hongqing Feng, Fangting Li, Yongdong Liang, Qian Zhang, Weidong Zhu, Jue Zhang, Kurt H. Becker, Jing Fang*
- P5 **Cell Proliferation Activated by Micro-Spot Atmospheric Pressure Plasma**  
*Chihiro Tsutsui, Toshifumi Komachi, Takumi Kishimoto, Takamichi Hirata, Akira Mori*
- P6 **The separation of photons and reactive particles in the effluent of He/O<sub>2</sub> atmospheric pressure plasma jet**  
*S. Schneider, J-W. Lackmann, F. Narberhaus, J. Bandow, J. Benedikt*
- P7 **Towards a plasma treatment of ocular surface infections**  
*E. Martines, P. Brun, P. Brun, I. Castagliuolo, V. Deligianni, A. Leonardi, S. Spagnolo, E. Tarricone, M. Vono, M. Zuin*
- P8 **Characteristics of reactive oxygen and nitrogen species during nonthermal bioplasma interactions with biological cells immersed in fluids and its influences on the biomolecular surface electron energy structure**  
*Eun Ha Choi, Gyungsoon Park, Ku Yeon Baik, Guangsup Cho, Han Sup Uhm*
- P9 **Non-thermal Plasma-Induced Free Radical Effluent with Hydrogen peroxide Additives**  
*Mark Gołkowski, Czesław Gołkowski, S. Reed Plimpton, Bruce McCollister, Martin Voskuil, Chad Austin, Jori Leszczynski, Jun Ye, Piotr Mastowski, Aleksandra Foltynowicz, Benjamin Sadowitz, Gary Nieman, David Bruch*
- P10 **Validation of Plasma Irradiation Effect on Gene Transfection by Using Microplasma Jet from Capillary Nozzle**  
*Tadashi Okihiro, Jun Matsuda, Kentaro Ikeda, Hideki Motomura, Masafumi Jinno, Kunihide Tachibana, Susumu Satoh, Noboru Saeki*
- P11 **Gene Transfection by Electric Charge Injection Using Electrospray**  
*Hideki Motomura, Tadashi Okihiro, Jun Matsuda, Kentaro Ikeda, Masafumi Jinno, Kunihide Tachibana, Susumu Satoh, Noboru Saeki*
- P12 **Quantitative Investigation of Energy Injection and Gas Flow Rate for the Plasma Used in Gene Transfection**  
*Hideki Motomura, Jun Matsuda, Kentaro Ikeda, Tadashi Okihiro, Masafumi Jinno, Kunihide Tachibana, Susumu Satoh, Noboru Saeki*
- P13 **Effect of a non-thermal atmospheric pressure plasma effluent on both growth media and PC-3 prostate cancer cells**  
*A. R. Gibson, D. O'Connell, H. McCarthy, W. G. Graham*
- P14 **Influence of cold atmospheric plasma treatments on mammalian cells**  
*Mariam Naciri, Claire E. Staunton, Mohamed Al-Rubeai, Denis P. Dowling*
- P15 **Enhanced germination characteristics and seed vigor by Cold Atmospheric Plasma**  
*Anindita Mitra, J. L. Zimmermann, G. E. Morfill*
- P16 **Liquid Mediated Effects on Cells, Bacteria, and Model Membranes by Plasma-born Reactive Species**  
*Malte U. Hammer, Helena Tresp, Ansgar Schmidt-Bleker, Jörn Winter, Mareike A. Ch. Hänsch, Kristian Wende, Lucas Schaper, Bill Graham, Kai Masur*

- P17 **Feed Gas Humidity: A Hidden Parameter affects Cold Atmospheric Pressure Plasma Jet and Plasma-Treated Human Skin Cells**  
*Jörn Winter, Kristian Wende, Malte U. Hammer, Helena Tresp, Kai Masur, Klaus-Dieter Weltmann, Stephan Reuter*
- P18 **Genotoxicity of Atmospheric Pressure Cold Plasma Evaluated with Yeast Reporter Assay System**  
*Hiroki Yamaguchi, Hachiro Yasuda, Toshihiko Eki, Hirofumi Kurita Kazunori Takashima, Akira Mizuno*
- P19 **Effects of low-temperature atmospheric pressure plasma on cell physiology *in vitro***  
*Maxi Höntsch, Thomas von Woedtke, Klaus-Dieter Weltmann, J. Barbara Nebe*
- P20 ***In vitro* anti mitogenic and apoptotic effects by using plasma jets**  
*Philippe Kémoun, Sarah Cousty, Jean-Pierre Cambus, Laurent Marlin, François Virard, Marine Luzi, Franck Clément*
- P21 **Atmospheric Plasma Jet Exposures: Beyond the Skin**  
*Sophie Bennhar, Vincent Roucoules, Laurent Marlin, Panagiotis Svarnas, Alain Mavon, Franck Clement*
- P22 **Intravital Fluorescence Microscopy for the Assessment of Microcirculation and Leukocyte-Endothel Interaction after Application of Tissue Tolerable Plasma in the HET-CAM**  
*C. Bender, D. Pavlovic, A. Wegner, P. Hinz, A. Ekkernkamp, A. Kramer, A. Sckell*
- P23 **Microsecond-Pulsed DBD Plasma Induces Osteogenic Differentiation in Mesenchymal Cells**  
*Natalie Shainsky, Gary Friedman, Greg Fridman, Alexander Fridman, Marla J Steinbeck, Theresa A Freeman*
- P24 **Apoptosis induced by Nanosecond Dielectric Barrier Discharge Plasma**  
*Ilya Marinov, Arnaud Duval, Olivier Guaitella, Antoine Rousseau, Anne Janin, Svetlana Starikovskaia*
- P25 **Cold plasma for bacterial inactivation and its effects on keratinocytes**  
*Bouke Boekema, Coen van Gils, Sven Hofmann, Peter Bruggeman, Esther Middelkoop, Gerrit Kroesen*
- P26 **Cold Atmospheric Plasma in the Treatment of Malignant Glioma**  
*Alan Siu, Olga Volotskova, Michael Keidar, Jonathan H. Sherman*
- P27 **Comparison of the effect of cold atmospheric plasmas on mammalian and bacterial cells**  
*Denis P. Dowling, Mariam Naciri, Claire E. Staunton, Varun Lahoti, Ahmed Chebbi and Mohamed Al-Rubeai*
- P28 ***In vitro* antitumor activity of plasma Gun**  
*Marc Vandamme, Laura Brullé, Delphine Riès, Eric Robert, Vanessa Sarron, Sébastien Dozias, Stéphanie Lerondel, Jean-Michel Pouvesle, Alain Le Pape*
- P29 **Numerical Simulation of Reactive Species in Liquids in Contact with Atmospheric Pressure Plasmas**  
*Tatsuya Kanazawa and Satoshi Hamaguchi*
- Medical aspects and results of plasma in use**
- P30 **Non-thermal atmospheric argon plasma treatment as a novel approach to improving wound healing: Results of a first randomized placebocontrolled clinical trial on skin graft donor sites**  
*Julia Heinlin, Julia L. Zimmermann, Florian Zeman, Wolfram Bunk, Georg Isbary, Michael Landthaler, Tim Maisch, Roberto Monetti, Gregor E. Morfill, Tetsuji Shimizu, Julia M. Steinbauer, Wilhelm Stolz, Sigrid Karrer*
- P31 **Treatment of Diseases by Inhalation of Atmospheric Pressure Plasma Flow**  
*Takamichi Hirata, Shigeru Murata, Chihiro Tsutsui, Akane Kondo, Akira Mori*
- P32 **Low-temperature atmospheric plasma increases the expression of antiaging genes of skin cells without causing cellular damages**  
*Jeong-Hae Choi, Hyun-Wook Lee, Jae-Koo Lee, Jin-woo Hong, Gyoo-cheon Kim*

- P33 **The Exposure to the Non-Thermal Atmospheric Pressure Plasma Can Control the Proliferation of Mammalian Cells**  
*Yonghao Ma, Chang-Seung Ha, Hae June Lee, Kiwon Song*
- P34 **The Effects of In-vivo Application of Nonequilibrium Atmospheric Plasmas on Corneal Wound Healing in New Zealand White Rabbits**  
*J. Barratt, D. Belyea, S. Grewal, C. Geist, M.A. Stepp, A. Shashurin, M. Keidar*

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- P35 **Plasma sterilization of pharmaceutical products: from basics to production**  
*Benjamin Denis, Simon Steves, Nikita Bibinov, Egmont Semmler, Wenzel Novak, Peter Awakowicz*
- P36 **Low Temperature Non-Thermal Plasmas at Atmospheric Pressure: Diagnostics and Medical Applications**  
*Oleg Petrov, Svetlana Ermolaeva, Mikhail Vasiliev, Elena Sysolyatina, Igor Samoilo, Ravil Amirov, Andrei Mukhachev, Tetsuji Shimizu, Boris Naroditsky, Gregor Morfill, Anatoly Grigoriev, Vladimir Fortov, Alexander Gintsburg*
- P37 **Insight in the complex argon/humid air plasma chemistry, by means of numerical fluid modeling**  
*Wouter Van Gaens, Annemie Bogaerts*
- P38 **Characterization and Simulation of Plasma Chemistry Produced by Surface Micro Discharge**  
*Leila Taghizadeh, Tetsuji Shimizu, Yang-Fang Li, Julia L Zimmermann and Gregor E Morfill*
- P39 **How to tailor low temperature plasma at atmospheric pressure for a given biomedical application?**  
*M. Yousfi, N.Merbahi, O. Eichwald*
- P40 **Preliminary study of the argon gas flow from an atmospheric plasma jet applicator**  
*Adam Ian Williams, Steve Morris, Chris Hancock, Daniel Brown, Jonathan Tennyson*
- P41 **Measurement of active species concentrations in nitrogen and argon/nitrogen flowing afterglows at reduced pressure**  
*Laure Barreyre, Hayat Zerrouki, Gérald Ledru, Jean-Philippe Sarrette and André Ricard*
- P42 **Transition from non-uniform to uniform discharge in nanosecond pulsed FE-DBD and linear corona non-equilibrium plasmas**  
*Marco Boselli, Vittorio Colombo, Emanuele Ghedini, Matteo Gherardi, Romolo Laurita, Fabio Rotundo, Paolo Sanibondi*
- P43 **Effluent composition, thermal output and fluid-dynamics of a dual gas plasma needle device for biomedical applications: Part I**  
*Marco Boselli, Vittorio Colombo, Emanuele Ghedini, Matteo Gherardi, Romolo Laurita, Fabio Rotundo, Lorenzo Sabbatucci, Paolo Sanibondi*
- P44 **Effluent composition, thermal output and fluid-dynamics of a dual gas plasma needle device for biomedical applications: Part II**  
*Marco Boselli, Vittorio Colombo, Emanuele Ghedini, Matteo Gherardi, Romolo Laurita, Fabio Rotundo, Lorenzo Sabbatucci, Paolo Sanibondi*
- P45 **Chemical pathways governing the production of Reactive Oxygen Species (ROS) in atmospheric pressure He+O<sub>2</sub>+H<sub>2</sub>O plasmas**  
*Kirsty McKay, Dingxin Liu, Mingzhe Rong, Felipe Iza, Michael G. Kong*
- P46 **Development of microdischarges in silicon operating in DC for medical applications**  
*M. K. Kulsreshath, L. Schwaederle, L. J. Overzet, T. Tillocher, S. Dozias, V. Felix, P. Lefauchaux, O. Aubry, R. Dussart*
- P47 **Space and time resolved characterization of *in-air* Pulsed Atmospheric Plasma Streams for biomedical applications**  
*Delphine Riès, Eric Robert, Carina Watson, Charles Bailey III, Sébastien Dozias, Vanessa Sarron, Marc Vandamme, Jean-Michel Pouvesle*
- P48 **Dynamics of Pulsed Atmospheric pressure Plasma Streams generated by a Plasma Gun**  
*Vanessa Sarron, Eric Robert, Delphine Riès, Sébastien Dozias, Marc Vandamme, Jean-Michel Pouvesle*

- P49 **Cold plasma type reactors and sources suitable for medical applications**  
*Dragos Astanei, Marius Ursache, Stephane Pellerin, Eugen Hnatiuc, Vasile Burlui, Bogdan Hnatiuc, Jean-Louis Brisset, Krzysztof Dzierzega*

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- P50 **Extraction of Penicillin G by polypropylene fibers treated with nitrogen plasma**  
*Naima Hachache, Youcef Bal, Dominique Debarnot, Fabienne Poncin-Epaillard*
- P51 **Radial control of cell colonization inside 3D scaffolds by means of plasma processes**  
*Francesca Intrantuovo, Marco Domingos, Antonio Gloria, Roberto Gristina, Paulo J. Bartolo, Pietro Favia*
- P52 **Atmospheric Plasma Jet SiO<sub>x</sub>-Thin-Film Deposition on Enamel**  
*Antje Lehmann, Manuela Volkmer, Stefan Rupf, Georg Böhm, Thomas Arnold, Axel Schindler*
- P53 **Cold plasma technology for fast immobilization of enzymes**  
*Adil Elagli, Céline Vivien, Kalim Belhacene, David George, Anthony Treizebre, Philippe Suptot, Pascal Dhulster, Renato Froidevaux*
- P54 **Comparison of various deposition strategies to prepare non-fouling plasma polymer films by atmospheric-pressure surface DBD**  
*Ivan Gordeev, Milan Šimek, Václav Prukner, Andrei Choukourov, Hynek Biederman*
- P55 **The quartz crystal microbalance with dissipation unit (QCM-D) as a tool for the evaluation of surface biocompatibility**  
*Metod Kolar, Darij Kreuh, Alenka Vesel, Miran Mozetič, Aleš Doliška, Karin Stana-Kleinschek*
- P56 **Non-sticking antibacterial protection of biomedical devices**  
*Cristina C. Surdu-Bob, Danut Turcu, Marius Badulescu, Cristin Coman, Catalin Luculescu, Alexandru Anghel*
- P57 **Plasma processing of 3D scaffolds to address specific cell response suitable for long term implants and tissue engineering**  
*E. Sardella, R. A. Salama, V. Giampietro, R. Gristina, R. d'Agostino, P. Favia*
- P58 **Aging of PEO-like plasma polymer films prepared by atmospheric and low pressure discharges**  
*Ivan Gordeev, Milan Šimek, Václav Prukner, Anna Artemenko, Andrei Choukourov, Hynek Biederman*
- P59 **Fibroblasts attachment on carbon nanowalls surface functionalized by reactive plasma**  
*E.C. Stancu, S. Vizireanu, S.D. Stoica, G. Dinescu, A.M. Stanciuc, L. Moldovan*
- P60 **Plasma based deposition of patterned organic fluorine-free (super)hydrophobic-(super)hydrophilic surfaces**  
*J.Berndt, E. Kovacevic, H.Acid, L.Boufendi*
- P61 **Plasma polymer deposition on scaffolds of poly(D,L)lactic acid. Effect on the adhesion and the proliferation of fibroblasts, osteoblasts and keratinocytes**  
*D. D'Angelo, E. Aimo Boot, F. Renò, M. Rizzi, M. Biasizzo, F. Trotta, G. Gottardi*
- P62 **Plasma preparation of titanium surfaces for stents**  
*Uroš Cvelbar, Martina Modic, Gregor Filipič, Saša Lazović, Danijela Vujošević*
- P63 **Nanostructured antibacterial coating of endoscopes by using atmospheric plasma sources**  
*Gerold Lukowski, Jörg Ehlbeck, Jörn Winter, Ulrike Lindequist, Martin Polak, Klaus-Dieter Weltmann*

#### **Plasma based sterilization/decontamination**

- P64 **Bio-physical Analysis of yeast responses to non-thermal plasma at atmospheric pressure**  
*Young-Hyo Ryu, Young-June Hong, Jin-Young Lee, Han-Sup Uhm, Gyungsoon Park, Eun-Ha Choi*
- P65 **Plasma-Microbubble Generator for Water Purification**  
*Hiroyuki Yoshiki, Kouki Okuda, Kazushige Sato*
- P66 **Study of the Disinfection Abilities of Water Treated by Atmospheric Pressure Cold Plasma**  
*Qian zhang, Hongqing Feng, Peng Sun, Ruonan Ma, Weidong Zhu, Jue Zhang, Jing Fang*

- P67 **Dental treatment using LF plasma jet with the reduced pH method -Disinfection of Dentin-**  
*Tomoko Ohshima, Hiromitsu Yamazaki, Satoshi Ikawa, Hiroyasu Yamaguchi, Asiri Jayawardena, Nobuko Maeda, Katsuhisa Kitano*
- P68 **Investigation of the antiseptic efficacy on *in vitro* biofilms of tissue tolerable plasma combined with common antiseptic solutions**  
*Matthes R., Bender C., Koban I., Kramer A.*
- P69 **Inactivation of *Aspergillus Fumigatus* with Low-Temperature plasma**  
*H. Ghomi, S. Zahedi Azad, N. Navab Safa, Sh. Mohammadi, Sh. Mirpour*
- P70 **Effect of cold atmospheric plasma treatment on dental pulp in rat molars**  
*S. Rupf, M. Georg, M. Hannig, M. W. Laschke, A. Lehmann, A. Rueppell, A. Schindler*
- P71 **Interaction of pulsed electrical discharge produced at gas-liquid interface with bacteria in water**  
*Eva Spetlikova, Petr Lukes, Martin Clupek, Sandra Ondrckova, Vaclav Janda*
- P72 **Convective and diffusive transport of oxidative species from a plasma jet**  
*Yves Creighton, Jos van der Vossen*
- P73 **On the Use of Plasma Sterilization for Planetary Protection: Investigation of the Destruction of Bacterial Spores from a Laboratory Strain and a Spacecraft Assembly Isolate by a Low-Pressure VHF-CCP**  
*Katharina Stapelmann, Nikita Bibinov, Ralf Möller, Peter Awakowicz*
- P74 **Plasma Synergy with Conventional Therapies for Cancer and Wound Sterilization**  
*Sharmin Karim, Ting-Ying Chung, Douglas S. Clark, David B. Graves*
- P75 **Parametric investigation of a N<sub>2</sub> flowing post discharge source for decontamination of the inner surface of the small diameter tubes**  
*Soukayna Limam, Michael J. Kirkpatrick, Anne-Marie Pointu, Emmanuel Odic*
- P76 **Comparison of bacteria inactivation using two distinct devices of low temperature plasma jets at atmospheric pressure**  
*N. Merbahi, M. Yousfi, J. Ph. Sarrette, S. Cousty, H. Zarrouki*
- P77 **Bactericidal properties of cometary discharge with inserted grid**  
*Jaroslav Julák, Vladimír Scholtz, Eva Kvasničková, Vítězslav Kříha, Jaroslav Jíra*
- P78 **ROS and RNS formed in water sprayed through transient spark in air and their bactericidal effects**  
*Z. Machala, P. Lukeš, B. Tarabová, E. Špetlíková, K. Hensel, L. Šikurová*
- P79 **Determination of Plasma Parameters of a Low-Pressure VHF-CCP used for Sterilization**  
*Marcel Fiebrandt, Katharina Stapelmann, Nikita Bibinov, Peter Awakowicz*
- P80 **An innovative method of cold plasma for sterilization of medical devices**  
*Marie-Paule Gellé, Zouhaier Ben Belgacem, Mohamed Boudifa, Sophie Gangloff, Dominique Laurent-Maquin*
- P81 **Plasma treatment for agriculture applications**  
*Henryka Stryczewska, Joanna Pawlat, Kenji Ebihara*

**Tuesday, June 19**

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**Plasma cell and plasma tissue interaction**

- P101 **Molecular dynamics simulation of plasma-bacteria cell wall interaction**  
*M. Yusupov, E. C. Neyts, A. Bogaerts*
- P102 **Modified Scaffolds in Radial Flow Bioreactor for 3D Mammalian Cell Culture**  
*Odin Ramírez Fernández, Rafael Godínez Fernández, Juan Morales Corona, Luis Enrique Gómez Quiroz, María Concepción Gutiérrez Ruiz, Esmeralda Zúñiga Aguilar, Roberto Olayo González*
- P103 **Cell-Adhesion and Bone Integration on Different Plasma Coatings**  
*C. Zietz, T. Lindner, A. Fritsche, B. Finke, H. Testrich, S. Lenz, F. Espig, J. Meichsner, R. Bader*
- P104 **In-vitro investigations of different non-thermal atmospheric pressure plasma sources on human keratinocytes**  
*Susanne Blackert, Ute Greim, Beate Haertel, Thomas von Woedtke, Ulrike Lindequist*
- P105 **Differential Sensitivity of Lymphocyte Subpopulations to surface DBD Plasma**  
*Beate Haertel, Frauke Volkmann, Thomas von Woedtke, Ulrike Lindequist*
- P106 **DBD plasma treatment of HaCaT keratinocytes: reactive oxygen species rather than ozone increase integrin expression**  
*Beate Haertel, Susanne Blackert, Lea Talmann, Katrin Oehmigen, Thomas von Woedtke, Ulrike Lindequist*
- P107 **Differential Effect of Non-Thermal Atmospheric-Pressure Plasma on Angiogenesis**  
*Beate Haertel, Katrin Eiden, Anne Deuter, Thomas von Woedtke, Ulrike Lindequist*
- P108 **The Effects of Air and Nitrogen Plasma Jets on Living Cancer Cells**  
*Kangil Kim, Hak Jun Ahn, Minuk Jo, Jong-Soo Lee, Sang Sik Yang*
- P109 **Dose dependent killing of leukemia cells by low temperature atmospheric pressure plasma**  
*Nazir Barekzi and Mounir Laroussi*
- P110 **Effects of nitrous acid and nitric acid in an air-water plasma system on Hela cell viability**  
*Takehiko Sato, Mayo Yokoyama, Kohei Johkura*
- P111 **Plasmid DNA degradation induced by a plasma microjet**  
*Claire Douat, Pierre-Marie Girard, Michel Fleury, Gérard Beauville, Vincent Puech*
- P112 **Selective killing of melanoma cells with Air plasma and anti-HER2 antibody conjugated gold nanoparticle**  
*B. B. R. Choi, M. S. Kim, J. K. Lee, U. K. Kim, G. C. Kim*
- P113 **Impact of cold atmospheric pressure plasma on human skin cell-lines**  
*Annemarie Barton, Lena Bundscherer, Kai Masur, Ulrike Lindequist, Axel Kramer, Klaus-Dieter Weltmann*
- P114 **Cellular growth on rough surfaces after removing of biofilms by brush and/or atmospheric pressure plasma**  
*Kathrin Duske, Lukasz Jablonowski, Ina Koban, Klaus-Dieter Weltmann, Barbara J. Nebe, Thomas Kocher*
- P115 **On anomalous asymmetric rf current of the plasma mediated electrosurgery device**  
*Y. B. Seol, B. K. Na, J. H. Kim, H. Y. Chang, S. J. You*
- P116 **Apoptosis Induction on Fibroblast Cells by Atmospheric Pressure Plasma Treatment Using Nanosecond Pulsed Power Generator**  
*Ipppei Yagi, Takuma Yasuda, Ryo Ono, Tetsuji Oda, Chihiro Tsutsui, Takamichi Hirata, Koichi Takaki*
- P117 **Impact of non-thermal atmospheric pressure plasma on T lymphocytes and monocytes**  
*L. Bundscherer, A. Barton, K. Wende, K. Masur, U. Lindequist, A. Kramer, K.-D. Weltmann*
- P118 **Study of protein aggregation and enzymatic activity after exposure to dielectric barrier plasma jet in helium**  
*Roxana Jijie, George Bogdan Rusu, Ionut Topala, Valentin Pohoata, Nicoleta Dumitrascu*

- P119 **Ex vivo survival of human lymphocytes after plasma treatment**  
*Sander Bekeschus, Kai Masur, Axel Kramer, Klaus-Dieter Weltmann*
- P120 **Modulation of B10R mouse macrophage signalling pathways using nonthermal atmospheric pressure plasma treatments**  
*Isabelle C. Lacaille, Sylvain Coulombe, Martin Olivier*
- P121 **Common versus noble- *Bacillus subtilis* differentially responds to air and argon gas plasma**  
*Theresa Winter, Jörg Bernhardt, Jörn Winter, Ulrike Mäder, Rabea Schlüter, Klaus-Dieter Weltmann, Michael Hecker, Harald Kusch*
- P122 **HIV-1 infected macrophages under cold atmospheric plasma jet treatment**  
*Olga Volotskova, Larisa Dubrovsky, M.A. Stepp, Michael Bukrinsky, Michael Keidar*
- P123 **In vivo treatment of cells with plasmas in liquids**  
*William G. Graham, Lucas Schaper, Mark Muir, Frederick J. Currell*
- P124 **Cell Proliferation Enhanced by Atmospheric-Pressure Plasma Application for Cells of Interest in Orthopedics**  
*Kazuto Masuda, Satoshi Hamaguchi, Yu Moriguchi, Tatsuya Kanazawa, Ayumi Ando, Kiyoshi Okada, Akira Myoui, Hideki Yoshikawa*
- P125 **Atmospheric-pressure plasma application on intra-cellular biochemistry**  
*Byung Keun Na, Youbin Seol, Hong Young Chang*
- P126 **Plasma Treatment of Skin Lipids**  
*N.Mertens, M.Marschewski, J.Hirschberg, T.Omairi, O.Höfft, W.Maus-Friedrichs, S.Emmert, V.Viöl*
- P127 **Differential Apoptosis Effects of DBD Plasma on Normal and Cancer Cells**  
*Kamonporn Panngom, Ku YounBaik, Young Hyo Ryu, Eun Ha Choi*
- P128 **Air DBD plasma selective effects on different cell lines**  
*D. Pignatelli, R. Gristina, G. Dilecce, B.R. Pistillo, S. De Benedictis, P. Favia*

#### Medical aspects and results of plasma in use

- P129 **Cold Plasma Selectivity and Application for Cancer Therapy**  
*Michael Keidar, Olga Volotskova, Alexey Shashurin, Mary Ann Stepp, Rafael Guerro-Preston, Barry Trink, R Walk, P Srinivasan, A Sandler*
- P130 **Plasma characterization of an argon plasma coagulation (APC) system with oxygen admixture in low amount**  
*Sandra Keller, Nikita Bibinov, Alexander Neugebauer, Klaus Fischer, Markus D. Enderle, Peter Awakowicz*
- P131 **In Vivo Skin Test by Using a Portable Cold Atmospheric Plasma Device**  
*Yang-Fang Li1, David Taylor, Julia L. Zimmermann, Hans-Ulrich Schmidt, Veronika Boxhammer, Jin Jeon, Tobias Klämpfl, Tetsuji Shimizu1, Georg Isbary, Gregor Morfill*
- P132 **Effects of combined plasma jet and gemcitabine treatments on tumor proliferation of a murine orthotopic pancreatic carcinoma model**  
*Laura Brullé, Delphine Ries, Marc Vandamme, Eric Robert, Stéphanie Lerondel, Eric Martel, Alain Le Pape, Jean-Michel Pouvesle*
- P133 **Antitumor activity of DBD and plasma Gun on colorectal tumors**  
*Marc Vandamme, Laura Brullé, Delphine Riès, Eric Robert, Vanessa Sarron, Sébastien Dozias, Stéphanie Lerondel, Jean-Michel Pouvesle, Alain Le Pape*

#### Plasma sources for medicine

- P134 **An Atmospheric Pressure Plasma Brush**  
*X. Lu and S. Wu*
- P135 **DBD Cell Designs for Efficient UV/VUV Production suitable to Biomedical Treatment and Sterilization**  
*Anand K. Srivastava, Shashank Sharma, H. K. Dwivedi*
- P136 **Diagnostics of cold non-equilibrium atmospheric plasma jets**  
*Alexey Shashurin, M. N. Shneider, A. Dogariu, R. B. Miles, O. Volotskova, M. Keidar*
- P137 **Measurements of streamer head potential in the cold nonequilibrium atmospheric plasmas**  
*Alexey Shashurin, M. N. Shneider, M. Keidar*



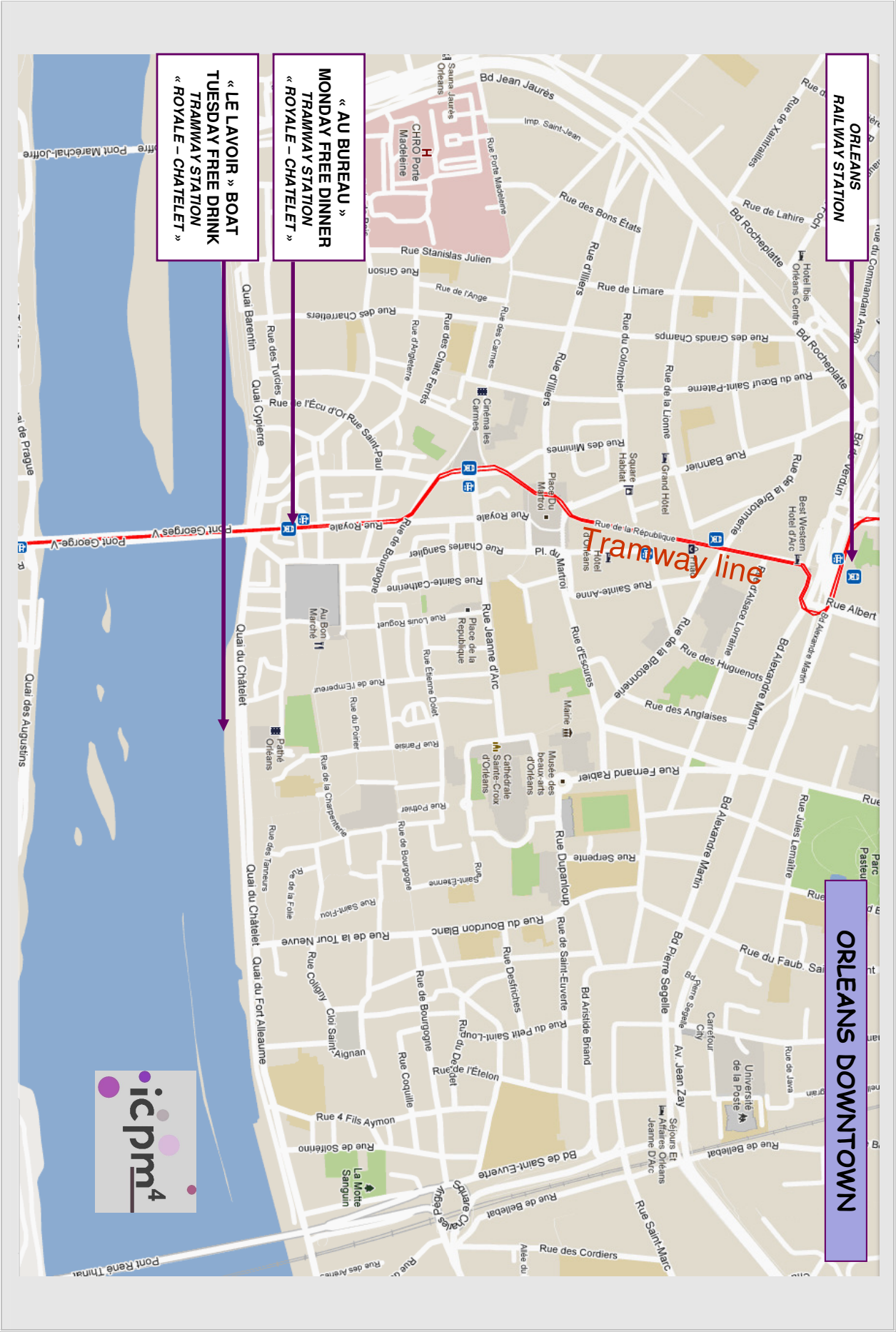
- P138 **Oxidizing species in late Ar-O<sub>2</sub>-N<sub>2</sub> afterglow for bacterial treatment**  
*Cédric Noël, Kinga Kutasi, Thierry Belmonte*
- P139 **Spectral diagnostics of atmospheric-pressure argon plasma generated by a microwave plasma torch**  
*Mikhail Vasiliev, Maxim Alyapyshev, Oleg Petrov, Svetlana Ermolaeva, Elena Sysolyatina, Boris Naroditsky, Tetsuji Shimizu, Gregor Morfill, Anatoly Grigoriev, Vladimir Fortov, Alexander Gintsburg*
- P140 **Design and Performance Characteristics of a Novel Atmospheric Plasma Device for Biomedical Applications**  
*Vitalii Zablotskii, Oleksandr Churpita, Sarka Kubinova, Alexandr Dejneka, Eva Sykova*
- P141 **Diagnostic and Design of Plasma Generated Reactive Species in Liquids to Investigate Cellular Effects of Plasma Treatment**  
*Stephan Reuter, Jörn Winter, Malte U. Hammer, Kai Masur, Kristian Wende, Ansgar Schmidt-Bleker, Helena Tresp, Mareike A. Ch. Hänsch, M. Dünnbier, Sylvain Iseni, Thomas von Woedtke, Klaus-Dieter Weltmann*
- P142 **Atmospheric Pressure Plasma Jet for Non-Thermal Resistant Materials**  
*Joanna Pawłat, Radosław Samoń, Tomasz Gizewski, Henryka Stryczewska*
- P143 **Measurements of atomic nitrogen in an atmospheric-pressure plasma jet**  
*Erik Wagenaars, Timo Gans, Deborah O'Connell, Kari Niemi*
- P144 **Temporal kinetics of light emission from plasma at the interface with animal tissues**  
*Ionut Topala, Andrei Vasile Nastuta, Roxana Jijie, Valentin Pohoata, Nicoleta Dumitrascu*
- P145 **Ozone detection and production rate measurement by Mid-Infrared absorption spectroscopy in a plasma jet operating at atmospheric pressure**  
*Sylvain Iséni, Jörn Winter, Mario Dünnbier, Klaus-Dieter Weltmann, Stephan Reuter*
- P146 **Space resolved ozone detection in the effluent of a cold atmospheric pressure plasma jet**  
*M. Dünnbier, J. Winter, S. Iseni, A. Schmidt-Bleker, K.-D. Weltmann, S. Reuter*
- P147 **Plasma-Generated Reactive Species in physiological Solutions**  
*Helena Tresp, Malte U. Hammer, Ansgar Schmidt-Bleker, Jörn Winter, Mareike A. Ch. Hänsch, Kristian Wende, Lucas Schaper, Bill Graham, Kai Masur, Thomas von Woedtke, Klaus-Dieter Weltmann, Stephan Reuter*
- P148 **Biofilm removal from rough titanium surfaces with dental decontamination methods and/or atmospheric pressure plasma**  
*Lukasz Jablonowski, Katja Fricke, Kathrin Duske, Ina Koban, Rabea Schlüter, Klaus-Dieter Weltmann, Thomas von Woedtke, Thomas Kocher*

#### **Plasma surface modification for biomedical applications**

- P149 **Plasma needle treatment of Staphylococcus Aureus (ATCC 25923) biofilms**  
*Dejan Maletić, Maja Miletić, Nevena Puač, Nenad Selaković, Saša Lazović, Dragana Vuković, Pavle Milenković, Gordana Malović, Zoran Lj. Petrović*
- P150 **Plasma models applied to polymer deposition and surface control for biological applications**  
*Christine Charles, Donna J. Menzies, Thomas Gengenbach, John S. Forsythe, Nick Birbilis, Graham Johnson, Gail McFarland, Richard Williams, Celesta Fong, Patrick Leech, Keith McLean, Benjamin W. Muir*
- P151 **Tailoring crystalline structure in N-doped TiO<sub>2</sub> thin films: application to photocatalytic and biological reactions**  
*Rod Boswell, Christian-Sarra-Bournet and Christine Charles*
- P152 **A multi-approach of the bacteria non-adhesion phenomenon onto hydrophobic polymeric surfaces**  
*Fabienne Poncin-Epaillard, Jean-Marie Herry, Pascal Marmey, Gilbert Legeay, Dominique Debarnot, Marie-Noelle Bellon-Fontaine*
- P153 **Superiority of plasma chemistry over surface topography-characteristics of human osteoblast-like cells**  
*Henrike Rebl, Birgit Finke, J. Barbara Nebe*

- P154 **Evolution of thermal properties and secondary structure of collagen with atmospheric plasma jet treatment**  
*J.P. Gardou, V. Samouillan, N. Merbahi, M. Yousfi, J. Dandurand, C. Lacabanne*
- P155 **3D electrospun PET nano-fibrous mats with plasma-polymer coating for vascular graft applications**  
*Houman Savoji, Afra Hadjizadeh, Marion Maire, Sophie Lerouge, Abdellah Aji, Michael R. Wertheimer*
- P156 **Silver nanoparticle loaded antibacterial polymer mesh using plasma polymerization process**  
*Claude Jolival, Virendra Kumar, Jérôme Pulpytel, Reza Zefari, Farzaneh Arefi-Khonsari*
- P157 **Late Ar-O<sub>2</sub> afterglow for amino acids treatment**  
*Thierry Belmonte, David Duday, Gilles Frache, Franck Clément, Cédric Noël, Patrick Choquet, Ana Maria Maliska*
- P158 **Plasma Synthesis of Superparamagnetic Iron Oxide Nanoparticles**  
*Pingyan Lei and Steven L. Girshick*
- P159 **Cell repulsive/cell adhesive behavior on films deposited by an Atmospheric Pressure DBD fed with TEGDME aerosol**  
*G. Da Ponte, E. Sardella, F. Fanelli, R. Gristina, P. Favia*
- P160 **Plasma-generated Species and its Effect on Surface Chemistry and Morphology of Polymers exposed to Atmospheric Pressure Plasma - A Prospective Application for Biomedical Purposes**  
*Katja Fricke, Stephan Reuter, Helena Tresp, Ina Koban, Lukasz Jablonowski, Daniel Schröder, Volker Schulz-von der Gathen, Axel Kramer, Thomas Kocher, Klaus-Dieter Weltmann, Thomas von Woedtke*
- P161 **XPS investigation of adsorption of albumin on polymer surface**  
*Nina Recek, Alenka Vesel, Miran Mozetic, Morana Jaganjac, Lidija Milkovic, Ana Cipak*
- P162 **Treatment of *Paulownia tomentosa* seeds in the low pressure CCP reactor**  
*Saša Lazović, Nevena Puač, Dejan Maletić, Suzana Živković, Zlatko Giba, Uroš Cvelbar, Miran Mozetič, Janez Kovač, Tatjana Filipič, Gordana Malović, Zoran Lj. Petrovič*
- Plasma based sterilization/decontamination**
- P163 **Bacterial inactivation using corona discharges applied in water**  
*Vanessa Joubert, Cyril Cheype, Jean Bonnet, Denis Packan, Jean-Pierre Garnier, Justin Teissié, Vincent Blanckaert*
- P164 **Influence of Ozone on Suspended Microorganisms caused by DBD Treatment: A Comparison with Ozone Gassing**  
*Katrin Oehmigen, Ronny Brandenburg, Klaus-Dieter Weltmann, Thomas von Woedtke*
- P165 **Inactivation of enterohemorrhagic *Escherichia coli* (EHEC) by non-thermal atmospheric pressure plasmas**  
*Uta Schnabel, Katrin Oehmigen, Udo Krohmann, Kathrin Naujox, Oliver Schmitt, Ivo Steinmetz, Jörg Ehlbeck, Thomas von Woedtke, Klaus-Dieter Weltmann*
- P166 **Analysis of the long-time lethal Effects of Plasma treated Sodium Chloride Solutions**  
*Mareike A. Ch. Hänsch, Thomas von Woedtke, Katrin Oehmigen, Klaus-Dieter Weltmann*
- P167 **Atmospheric-Pressure Cold Plasma as New Strategy in Disinfection of *Fusarium spp***  
*Weifeng Nian, Jingwen Tan, Peng Sun, Yi Sun, Jue Zhang, Wei Liu, Jing Fang, WeiDong Zhu*
- P168 **Inactivation of Plant Pathogenic Fungi by Non-Thermal Atmospheric-Pressure Plasma Jet**  
*Kangil Kim, Jisoo Hong, MinUk Jo, Eunpyo Moon, Sang Sik Yang*
- P169 **Chemical Modifications in Non-Thermal DBD Plasma Treated Water and Antimicrobial Effects**  
*Utku K. Ercan, Arben Kojtari, Hai-Feng Ji, Greg Fridman, Ari D. Brooks, Suresh G. Joshi*
- P170 **Inactivation of various microorganisms with the N<sub>2</sub>-O<sub>2</sub> discharge flowing-afterglow**  
*P. Levif, J. Séguin, K. Lefebvre, M. Moisan, J. Barbeau*
- P171 **Decontamination of pathogenous prions and pyrogen molecules by the flowing afterglow of a reduced-pressure N<sub>2</sub>-O<sub>2</sub> cold-plasma**  
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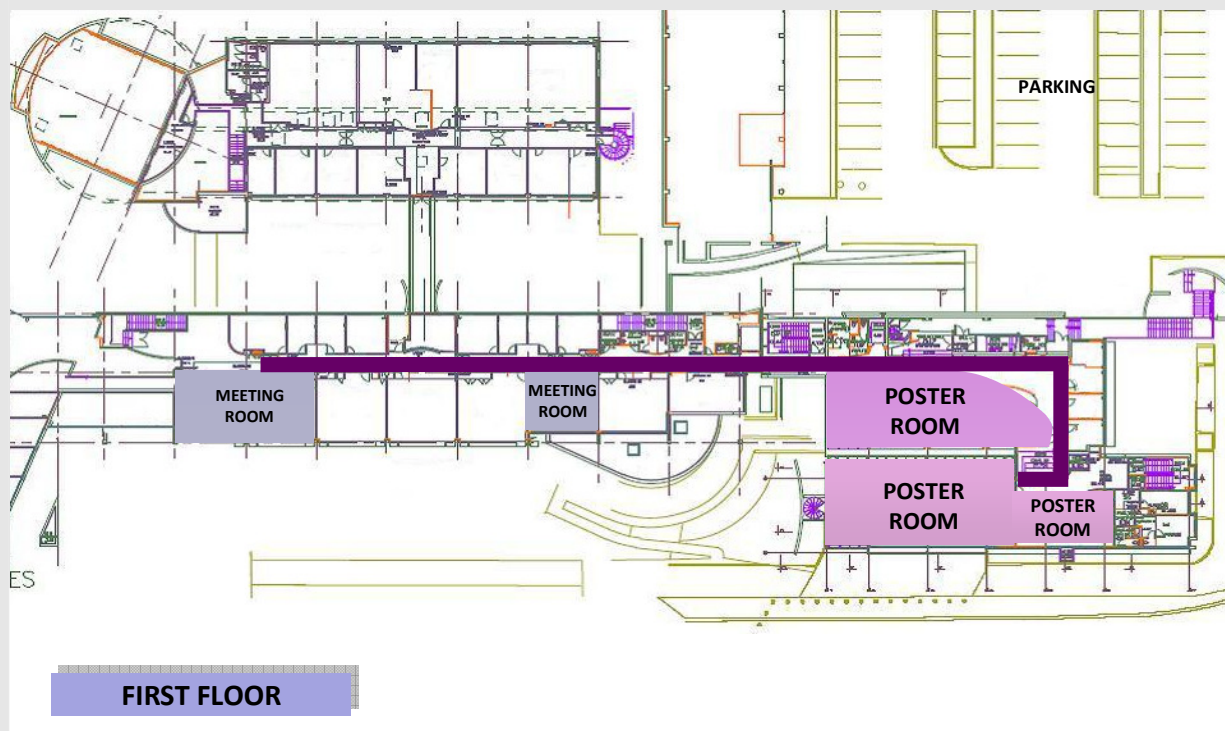
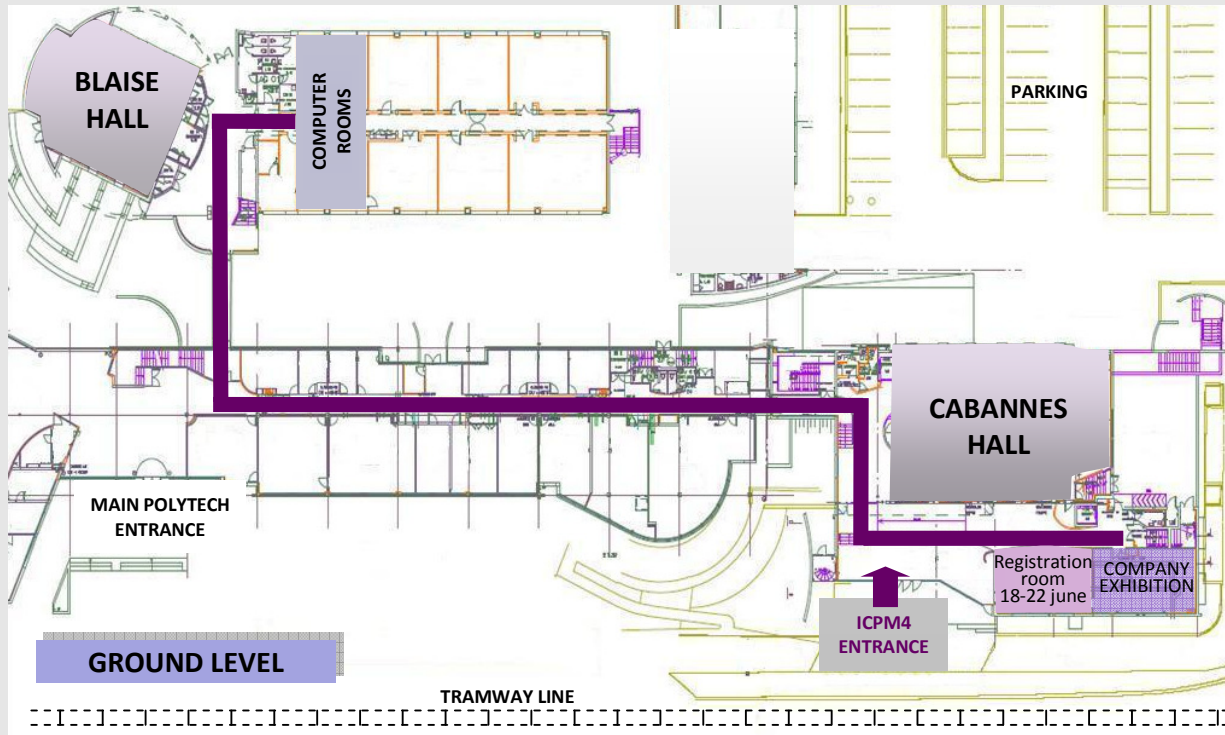
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