

ICPM 2024 & IWPC 2023
8 - 13 September 2024, Portorož, Slovenia

Tentative schedule

Date Time	Sunday 8.Sep	Monday 9. Sep			Tuesday 10.Sep			Wednesday 11.Sep			Thursday 12.Sep		Friday 13. Sep	
		IWPCT	ICPM	School	ICPM	ICPM	School	ICPM	ICPM	School	ICPM	ICPM	ICPM	ICPM
8.30														
8.45														
9.00				Tutorial Kaushik			Tutorial Keidar				Tutorial Hori	Plenary Robert		
9.15														
9.30														
09:45														
10.00		IWPCT Plenary Tanaka	Invited Sardella		Plenary Bekeschus	Invited Stapelmann	Gherardi Navascues	Plenary Freeman	Invited Han	M. Sales Mathew	Invited Zajickova	Scholtz Isabelli		Bekeschus Shivalya
10.15														Invited Laurita
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- Agriculture
- Cell/tissue interaction
- Regulation
- Surface interaction
- Plasma medical applications
- Decontamination/Inactivation
- Pharmaceutical app
- Plasma activated liquid
- Fundamentals

- ICPM
- ICPM Summer / IWPCT School & Tutorials
- IWPCT
- Activities

PROGRAMME

Monday, 9 September 2024

Section: PLASMA FOR CANCER THERAPY

Hall: **IWPCT**

- 08:55 **Introduction**
Vandana Miller
- 09:00 **Non-thermal gas plasma for cancer treatment and immunomodulations**
Nagendra Kaushik
- 09:45 **Welcome**
Vandana Miller

PLENARY SESSION

Hall: **IWPCT**

Chair: **Lars Boeckmann**

- 10:00 PL-1 **Cancer therapy using plasma-activated solutions**
Hiromasa Tanaka, Masaaki Mizuno, Kenji Ishikawa, Hiroaki Kajiyama, Shinya Toyokuni, and Masaru Hori

Section: **PLASMA FOR CANCER THERAPY**

Hall: **IWPCT**

Chair: **Thomas von Woedtke**

- 10:45 Mon-O-1-1 **Oxidative stress of cancer cells mediated by organic molecules and plasma-modified liquids/hydrogels**
Eloisa Sardella, Roberto Gristina, Michele CasIELlo, Maria Teresa Rotelli, Donato Francesco Altomare, Marcella Rinaldi, Arcangelo Picciariello, Antonella Piscioneri, Sabrina Morelli, Loredana De Bartolo, Viviana Di Giacomo, Giulia Petrucci, Vittoria Perrotti, Pietro Favia
- 11:00 IT-1 **Pleiotropic therapeutic effects of cold atmospheric plasma on cholangiocarcinoma**
Laura Fouassier
- 11:45 Mon-O-1-2 **Investigating the Effects of Plasma-Treated Hydrogel for Dual Oxidative Stress and Doxorubicin Delivery with an *in ovo* Sarcoma Model**
Milica Živanić, Albert Espona-Noguera, Angela Privat-Maldonado, Patrik Matušů, Francesco Tampieri, Evelien Smits, Abraham Lin, Annemie Bogaerts, Cristina Canal
- 12:00 13:00 **Women in plasma medicine meeting**

Section: **PLASMA-BASED DECONTAMINATION AND STERILIZATION**

Hall: **ICPM Session 2**

Chair: **Paula Bourke**

- 10:45 IT-4 **Atmospheric pressure plasmas strategies for medical important biofilm inactivation**
Martina Modic, Nataša Hojnik, Naomi Northage, Vasył Shvalya, James L Walsh, Darla Goeres, Matthew Fields, Uroš Cvelbar
- 11:15 Mon-O-2-1 **Plasma Treatment Effects on Destruction and Recovery of *P. gingivalis* and *S. gordonii* Dual-Species Biofilms**
Yixuan Liao, Hongmin Sun, Meng Chen, Shaoping Zhang, Qingsong Yu
- 11:30 Mon-O-2-2 **Inactivation of *Escherichia coli* by CO₂-He plasma jets**
Eloise Mestre, Inna Orel, Daniel Henze, Laura Chauvet, Sebastian Burhenn, Sébastien Dozias, Fabienne Brulé-Morabito, Judith Golda, Claire Douat
- 11:45 Mon-O-2-3 **Experimental Setup and Efficacy Assessment of a Non-Thermal Plasma System for Bioaerosol Decontamination**

12:00 Mon-O-2-4 **Silvia Giuditta Scaltriti, Gabriele Neretti, Fabio Avino, Ivo Furno**
**Analysis of Cold Atmospheric Plasma Parameters for Effective
Inactivation of *Aspergillus Flavus* and *Fusarium Keratoplasticum***
Jonathan Thomas, Darby Roberts, Brian Gilger, Katharina Stapelmann

12:30 13:30 – **Lunch Break**

Section: **PLASMA FOR CANCER THERAPY**

Hall: **IWPCT**

Chair: **Sander Bekeschus**

14:00 IT-2 **Application of non-thermal plasma during tumorectomies: from the
lab to the clinic**
Audrey Glory, Julie Lafontaine, Jean-Sébastien Boisvert, Sylvain
Coulombe, Erica Patocskai, Philip Wong

14:30 Mon-O-1-3 **Synergistic Effects of Plasma-Treated Water Solutions and
Doxorubicin in Head and Neck Cancer Treatment**
Vittoria Perrotti, Marwa Balaha, Giulia Petrucci, Viviana di Giacomo,
Roberto Gristina, Eloisa Sardella

14.45 Mon-O-1-4 **Plasma Enhance Immunotherapy for Cancer Treatment**
Zhitong Chen, Qiujiu Fang

15:00 Mon-O-1-5 **Medical gas plasma technology synergizes with immune checkpoint
blockade in the treatment of dermatologic malignancies**
Lea Miebach, Julia Berner, Eric Freund, Thomas von Woedtke, Klaus-
Dieter Weltmann, Ramona Clemen, Sander Bekeschus

15:15 Mon-O-1-6 **Revolutionizing pancreatic cancer therapy with the combination of
chemotherapy and cold atmospheric plasma using the turkey in ovo
model**
Ruben Verloy, Emma Peeters, Angela Privat-Maldonado, Sophie Rovers,
Evelien Smits, Annemie Bogaerts

15:30 Mon-O-1-7 **Implementation of Non-Thermal Plasma as an Immunogenic Therapy
Addition to the Standard-of-Care for Head and Neck Squamous Cell
Carcinoma**
H. Verswyvel, M. Bauwens, H. Zaryouh, G. Van Haesendonck, E.
Cardenas De La Hoz, S. Koljenovic, C. Deben, A. Wouters, A. Lin, A.
Bogaerts, E. Smits

15:45 Mon-O-1-8 **Cold plasma endoscopy: investigating intrabody fluid issue for bile
duct cancer local treatment**
Korentin Géraud, Manon Soulier, Marine Camus, Allan Pavy, Laura
Fouassier, Thierry Dufour

Section: **PLASMA-BASED DECONTAMINATION AND STERILIZATION**

Hall: **ICPM Session 2**

Chair: **James L. Walsh**

14:00 Mon-O-2-5 **Plasma-mediated decontamination of animal tissue samples: a novel
approach towards antibiotic-free applications**
Alexander Pogoda, Yuanyuan Pan, Jürgen F. Kolb, Monika Röntgen,
Sybille Hasse

14:15 Mon-O-2-6 **Plasma Sterilization: Studies on Probable Mechanisms and
Biochemical Actions behind Bacterial Inactivation**
Tejal Barkhade, Kushagra Nigam, G. Ravi, S. K Nema, Seema Rawat

14:30 Mon-O-2-7 **Sterilization Mechanisms of *Saccharomyces cerevisiae* in O₂/SF₆ Low-
Pressure Plasmas**
Rafael P. Ribeiro, Nilson C. Cruz, Tania A. Passeti, Elidiane C. Rangel

14:45 Mon-O-2-8 **Liquid laboratory biowaste sterilization by cold plasma: prospects
and obstacles**
Aleksandra Lavrikova, Fabio Avino, Rita Agus, Vivianne Padrun,
Laurence Winkel, Andrew C. Oates, Ivo Furno

- 15:00 Mon-O-2-9
- 15:15 Mon-O-2-10 **Advancing Bacterial Mitigation on Hospital Floors with a DBD Plasma Sheet**
Keerthana Dandamudi, Rachana Dandamudi, Bhavya Bellannagari, Sohail Zaidi
- 15:30 Mon-O-2-11 **Implementation of Atmospheric Pressure Plasma-Activated Gaseous Media into Advanced Decontamination Processes**
Zlata Kelar Tučeková, Lukáš Vacek, Michal Pazderka, Jakub Kelar, Filip Růžička, Mirko Černák
- 15:45 Mon-O-2-12 ***Candida albicans* biofilm eradication through cold atmospheric plasma: The impact of voltage and exposure time in the antifungal mode of action**
Manca Lunder, Rok Fink, Sebastian Dahle
- 16:00 Mon-O-2-13 **Promoting the inactivation effects of non-thermal plasma on filamentous fungi using staining solutions**
Eliška Lokajová, Jana Jirešová, Vladimír Scholtz
- 16:15 Mon-O-2-14 **Comparison between the Antimicrobial Effect of Plasma Activated Water on Amniotic Membrane Contaminated by *Klebsiella pneumoniae* and *Escherichia coli***
Felipe Almeida, Anelise Doria, Luciana Sant'Anna

Section: **REGULATORY ISSUES AND STANDARDS IN PLASMA MEDICINE**

Hall: **ICPM Session 2**

Chair: **Eun-ha Choi**

- 16:30 Mon-O-3-1 **Standardization in Plasma Medicine: From DIN Spec to IEC standard**
Kai Masur, Mareike Meister, Eun Ha Choi, Sybille Hassel, Thomas von Woedtke

16:45 – 17:00

Coffee Break

Section: **PLASMA FOR CANCER THERAPY**

Hall: **IWPCT**

Chair: **Audrey Glory**

- 17:00 IT-3 **Physical Plasma in Clinics – Requirements, Tech-transfer, Acceptance**
Martin Weiss
- 17:30 Mon-O-1-9 **Understanding the effects of plasma species on gap junction channels in the propagation of cancer cell death**
Maria C. Oliveira, Angela Privat-Maldonado, Annemie Bogaerts
- 17:45 Mon-O-1-10 **Identification of gas plasma resistance mechanisms in human squamous cell carcinoma cells**
Julia Berner, Lea Miebach, Marcel Kordt, Kristian Wende, Brigitte Vollmar, Sander Bekeschus
- 18:00 Mon-O-1-11 **Large-scale transcriptomic profiling of 35 cancer cell lines reveals similar gene sets predisposing for sensitivity to plasmas and H₂O₂ but not HOCl**
Debora Singer, Anke Schmidt, Thomas Von Woedtke, Klaus-Dieter Weltmann, Steffen Emmert, Sander Bekeschus
- 18:15 Mon-O-1-12 **Cold Plasma-based Redox Therapy for Breast-to-Bone Metastasis Tumor Growth Control**
Laura Bouret, Jean-Baptiste Billeau, Michael Weber, Derek Rosenzweig, Stephan Reuter
- 18:30 Mon-O-1-13 **Numerical modeling of plasma-induced immunogenic cell death**
Tomoyuki Murakami

Section: **REGULATORY ISSUES AND STANDARDS IN PLASMA MEDICINE**

Hall: **ICPM Session 2**

Chair: **Eun-ha Choi**

- 17:00 Mon-O-3-2 **By any other name: a search for optimal plasma nomenclature**
Caroline Corcoran, Rachel Bennett, Vandana Miller, Fred C. Krebs, and Will Dampier
- 17:15 Mon-O-3-3 **DIN SPEC 91315 Revised – A New Method for Risk Assessment of Reactive Gas Species Emission by CAP Sources**
Andreas Helmke, Thomas Borchardt, Jannik Schulz, Wolfgang Viöl
- 17:30 Mon-O-3-4 **Standardized Treatment Procedures for In Vitro Analysis of Different Cold Plasma Technologies: Is It Even Possible?**
Thoralf Bernhardt, Philipp Ficht, Anna Staffeld, Thomas Borchardt, Andreas Helmke, Mareike Meister, Sybille Hasse, Sander Bekeschus, Steffen Emmert, Lars Boeckmann
- 17:45 – 18.45 **Special Session on Regulatory issues**

PLENARY SESSION

Hall: **IWPCT**

Chair: Uroš Cvelbar

- 18:45 PL-2 **Star Wars in Dermatology – Plasma medicine**
Steffen Emmert, Alexander Thiem, Sander Bekeschus, Lars Boeckmann

19:30 – 21:30 **Welcome Reception**

Tuesday, 10 September 2024

PLENARY SESSION

Hall: **ICPM Session 1**

Chair: **Gerrit Kroesen**

- 10:00 PL-3 **Plasma for Biology and Medicine – Now and Next**
Sander Bekeschus, von Woedtke, Steffen Emmert, Klaus-Dieter Weltmann

Section: **PLASMA LIQUID INTERACTIONS, PLASMA-ACTIVATED LIQUIDS**

Hall: **ICPM Session 1**

Chair: **Annemie Bogaerts**

- 10:45 IT-5 **Plasma-Liquid Interactions in The Presence of Organic Matter – Including Chemical, Biological, and Electrical Interactions**
Katharina Stapelmann, Sophia Gershman, Vandana Miller
- 11:15 Tue-O-4-1 **Efficient Generation and Characterization of Plasma-Activated Water Using a Surface Dielectric Barrier Discharge System**
Benedito Botan Neto, Michaela Shiotani Marcondes, Luan Gonçalves de Lima, Felipe de Souza Miranda, Douglas Marcel Leite, André Luis Pereira, Cristiane Yumi Koga-Ito, Rodrigo Sávio Pessoa
- 11:30 Tue-O-4-2 **Exploring the Potential of Plasma-Activated Water: Impact of Gas Composition on Reactive Species Generation, Antimicrobial Efficacy, and Cytotoxicity**
Felipe de Souza Miranda, Victoria Kelly Fonseca Tavares, Diego Morais da Silva, Noala Vicensoto Moreira Milhan, Nilton Franccelosi Azevedo Neto, Rodrigo Sávio Pessoa, Cristiane Yumi Koga-Ito
- 11:45 Tue-O-4-3 **Synergizing Dielectric Barrier and Gliding Arc Discharges: Advancements in Plasma-Activated Water Generation**

- 12:00 Tue-O-4-4 **Nilton F. Azevedo Neto, Felipe S. Miranda, Pedro W. P. Moreira Junior, Clodomiro A. Junior, Cristiane Y. K. Ito, Rodrigo S. Pessoa**
Chemical and Bactericidal Properties of Cell Culture Media DMEM and RPMI Modified by He/O₂ Plasma Treatment
Petr Lukeš, Barbora Tarabová, Zuzana Kovalová, Vít Jirásek

Section: **PLASMA SURFACE INTERACTIONS/MODIFICATIONS FOR BIOMEDICAL APPLICATIONS**

Hall: **ICPM Session 2**

Chair: **Lenka Zajíčková**

- 10:45 Tue-O-5-1 **Insights into the use of aerosolized precursors in atmospheric pressure plasma polymerization: process control and coating stability**
Giulia Laghi, Chiara Buganè, Gianmarco Rossi, Lucia Barbera, Riccardo Gallerani, Guglielmo Guido Condorelli, Romolo Laurita, Matteo Gherardi
- 11:00 Tue-O-5-2 **Production of reactive oxygen species and its controlled delivery by functionalized thin films deposited by plasma technology**
Paula Navascués, Flaela Kalemi, Dirk Hegemann
- 11:15 Tue-O-5-3 **Commercial Medical Applications of Surface Treatment by Cold Plasma**
Amnon Lam
- 11:30 Tue-O-5-4 **Biomimetic surfaces for improved biological response**
Ita Junkar, Niharika Rawat, Metka Benčina, Janez Kovač, Katja Lakota, Polona Žigon, Valentina Puca, Rossella Grande, Vittoria Perrotti, Aleš Igljč
- 11:45 IT-6 **Hydrogels in plasma medicine: focus on the chemical interaction between reactive species and biopolymers**
Francesco Tampieri, Alfio G. Arcoria, Albert Espona-Noguera, Cristina Canal

12:30 – 13:30 **Lunch Break**

14:00 – 16:45 **POSTER SESSION**

- Tue-P-1 **Plasma Jet Treatment of the Inner Wall of Montgomery Tracheal Implant (T-Tube)**
Konstantin G. Kostov, Ananias A. Barbosa, Paulo F. G. Cardoso, Antje Quade, Daniel Legendre, Diego M. Silva, Cristiane Y. Koga-Ito
- Tue-P-2 **Development of a decontaminating coating activated by cold plasma for biohazard control**
A. Baraze, C. Muja, F. Saint, S. Allix, T. Maho, P. Guillot
- Tue-P-3 **Cold plasma enamel surface treatment to increase fluoride varnish uptake**
Sara Fathollah, Hossein Abbasi, Sadegh Akhoundi, Aboutorab Naeimabadi, Sahar Emamjome
- Tue-P-4 **Evaluation of the Antimicrobial Effect of Room Temperature and Refrigerated Plasma Activated Water**
Felipe Almeida, Anelise Doria, Luciana Sant'Anna
- Tue-P-5 **Inactivation of microorganisms on fabrics using plasma-activated nebulized mist driven by different plasma gases**
Pengyu Zhao, Sihong Ma, Yikang Jia, Li Guo
- Tue-P-6 **Investigation of cold plasma treatment on antimicrobial peptides as strategy for selective bacterial targeting**
D. Doll, N. Nawrath, F. M. Fuchs, P. Awakowicz, A. R. Gibson, N. Metzler-Nolte

- Tue-P-7 **Reduction in bacterial survival on the surface of F9 filters after being exposed to cold atmospheric plasma treatment**
Ingrid Curril, Andreas Helmke, Mrotzek, Julia, Schulz Jannik and Wolfgang Viöl
- Tue-P-8 **Comparative Study on Bacterial Inactivation using O₂ and N₂-added He/Ar Plasma**
Krishnaveni Parvataneni, Sohail H. Zaidi
- Tue-P-9 **The influence of non-thermal plasma on fungal growth on building materials**
Jana Jirešová, Eliška Lokajová, Kamila Zdeňková, Vladimír Scholtz
- Tue-P-10 **Evaluation of Resistance Development in Bacteria Against Cold Atmospheric Plasma in Consequence of Repetitive Plasma Treatment Methods**
Seyma Ecem Irmak, Utku Kürşat Ercan
Machine Learning Assessment of Cold Atmospheric Plasma Efficacy on Breast Cancer: Exploring Receptor Status Correlations for Optimized Treatment Strategies
Gizem Dilara Özdemir, Fatoş Başdeli, Zehra Ece Şen, Mehmet Akif Özdemir, Utku Kürşat Ercan
- Tue-P-11 **Plasma-activated liquids reduce the viability of biofilms associated with endodontic infections**
Ana Bessa Muniz, Lady Daiane Pereira Leite, Mariana Raquel da Cruz Vegian, Diego Morais da Silva, Noala Vicensoto Moreira Milhan, Felipe de Souza Miranda, Rodrigo Sávio Pessoa, Cristiane Yumi Koga-Ito
- Tue-P-12 **Helium Cold Atmospheric Plasma Effectively Acts on Multispecies Cariogenic Biofilms Formed *in situ***
Leandro Wagner Figueira, Ana Bessa Muniz, Maria Aparecida Rodrigues de Holanda, Thalita Mayumi Castaldelli Nishime, Konstantin Georgiev Kostov, Cristiane Yumi Koga-Ito
- Tue-P-13 **The Effect of Bisphenol a Degraded by Non-Thermal Plasma on Yeast**
Jana Makuková, Ivana Kyzeková, Stanislav Kyzek, Oleksandr Galmiz, Dominik Juračka, Sára Pišteková, Michal Galamboš, Zdenko Machala, Andrea Ševčovičová
- Tue-P-14 **Combined Antimicrobial Properties of Ultraviolet radiation and Plasma-Activated Water**
Ramin Mehrabifard, Bernard Gitura Kimani, Zdenko Machala
- Tue-P-15 **Synergistic Enhancement of Antibiotic Efficacy Against Biofilms with Cold Plasma**
Thomas P. Thompson, Katie Harvey, Jordanne-Amee Maybin, Ross M. Duncan I, Paula Bourke, Noreen J. Hickok, Theresa A. Freeman, Brendan F. Gilmore
- Tue-P-16 **Role of long living species in the inactivation of bacteria: comparison of different plasma sources**
Leonardo Zampieri, Rita Agus, Brayden Myers, Ivo Furno, Claudia Riccardi, Emilio Martines
- Tue-P-17 **Antimicrobial Activity of SDBD Plasma Treatment on Planktonic and Biofilm Forms of Escherichia coli**
Oleksandr Galmiz, Bernard Gitura Kimani and Zdenko Machala
- Tue-P-18 **Bacterial decontamination by a He plasma jet operating in different concentrations of O₂**
Diego Morais da Silva, Augusto Stancampiano, Sébastien Dozias, Konstantin Georgiev Kostov, Cristiane Yumi Koga-Ito, Eric Robert
- Tue-P-19 **Electrical Characterization and Efficacy Assessment of a Cold Atmospheric Plasma System for Closed Environment Sanitization**
Silvia Giuditta Scaltriti, Gabriele Neretti, Fabio Avino, Ivo Furno
- Tue-P-20 **Cold Plasma: A promising Approach to Mitigate Common Ragweed Pollen Allergens**
Nataša Hojnik, Janez Zavašnik, Vasyl Shvalya, Jernej Šribar, Igor Križaj, James Walsh

- Tue-P-21 **Plasma-induced Modifications of Alginate Biopolymer: Atomic Level Modeling**
Francesco Tampieri, Shakhrizoda Matnazarova, Cristina Canal, Annemie Bogaerts, Maksudbek Yusupov
- Tue-P-22 **Cold plasma for the treatment of house dust mite allergens**
Jernej Šribar, Nataša Hojnik, Igor Križaj, James Walsh
- Tue-P-23 **Mitigating Bacteria from Hospital Floors: Plasma Approach**
Keerthana Dandamudi, Rachana Dandamudi, Sohail Zaidi
- Tue-P-24 **Non-thermal Plasma-Activated Water Against *Candida auris* Isolates from Healthcare-Associated Infections**
Andra-Cristina Bostănaru-Iliescu, Adrian Fifere, Adriana Elena Anița, Valentin Năstasă, Dragos Constantin Anița, Robert Capotă, Florica-Mirela Doroftei, Bogdan Minea, Eugen Hnatiuc, Mihai Mareș
- Tue-P-25 **Effect of NTP exposure on the electronic components**
Ladislav Fišer, Vladimír Scholtz, Jana Jirešová
- Tue-P-26 **Establishing the role of the stringent response in non-thermal plasma treatment**
Lauren Walsh, Felicity Tso, Vandana Miller, Donald C. Hall Jr
- Tue-P-27 **Cold Atmospheric Plasma Jet with Pulsed Voltage and Gold Nanoparticles Enhance Cytotoxic Anticancer Effect**
I Schweigert, M Biryukov, A Polyakova, N Krychkova, E Gorbunova, A Epanchintseva, I Pyshnaya, Dm Zakrevsky, E Milakhina, O Koval
- Tue-P-28 **Ferroptosis Drives Cell Death After Cold Atmospheric Plasma Treatment in Cervical Cancer Cells**
Marcel Arnholdt, Martin Weiss
- Tue-P-29 **Cold Plasma Deposition of Topotecan: A Novel Approach for Local Cancer Drug Delivery to Glioblastoma Cells**
Beatriz Pinheiro Lopes, Liam O'Neill, Fiona O'Neill, Paula Bourke, Daniela Boehm
- Tue-P-30 **Non-thermal plasma as a partner in crime for anti-cancer therapies: Optimization in the 3D spheroid tumor model for HNSCC**
Bauwens M., Verswyvel H., De Waele J., Wouters A., Bogaerts A., Smits E.
- Tue-P-31 **Combination therapy of medical gas plasma and cisplatin enhances tumor toxicity and immunogenicity in human bladder cancer cells**
Nadine Gelbrich, Julia Edelmann, Martin Burchardt, Sander Bekeschus
- Tue-P-32 **Exploring the Therapeutic Potential of Surface DBD Plasma in B16F10 cells Treatment: A Comparative Study of Direct and Indirect Approaches**
Luan Gonçalves de Lima, Michaela Shiotani Marcondes, Rafaela Campos Queiroz, Dayane Batista Tada, Clodomiro Alves Júnior, Rodrigo Sávio Pessoa
- Tue-P-33 **Cold gas plasma alters tyrosine kinase activity in lung cancer cells**
Paul Schulan, Kristian Wende, Ramona Clemen, Sander Bekeschus
- Tue-P-34 **The impact of cold piezoelectric plasma on cancer cell viability: a study on cholangiocarcinoma**
Manon Soulier, Bouchra Lekbaby, Imane Houari, Henri Decauchy, Allan Pavy, Alexia Coumes, Laura Fouassier, Thierry Dufour
- Tue-P-35 **Combination Treatment of Head and Neck Cancer Cell Lines with Cold Plasma and Chemotherapeutics**
Elena A. Vochitu, Nishtha Gaur, Robert D. Short, Sarah L. Allinson
- Tue-P-36 **Anti-yeast activity of transient spark PAW combined with UV-A and natural phenolics on planktonic yeast *Wickerhamomyces anomalus***
Bernard Gitura Kimani, Ramin Mehrabifard, Zdenko Machala
- Tue-P-37 **In Vitro Adaptive Plasma Cancer Treatment with Real-Time In-Situ Diagnostics using Impedance Measurements**
Zichao Hou, Taeyoung Lee, Michael Keidar
- Tue-P-38 **Evaluation of pyrazolopyrimidinones as anticancer prodrugs activated by cold atmospheric plasma**

- Natalia Bednarz, Ciara McEvoy, Gemma K. Kinsella, Daniela Boehm, Paula Bourke, John C. Stephens, James Curtin
- Tue-P-39 **Novel combination therapy of non-thermal plasma and immune checkpoint inhibitors for melanoma**
- Tue-P-40 **Sensitization of vulvar cancer cells with ATM kinase inhibitor prior PAL treatment**
Lisa Van der Heyden, Angela Privat-Maldonado, Evelien Smits, Annemie Bogaerts
- Tue-P-41 **Impact of plasma-activated phosphate-buffered saline on viability of human cancer and non-cancerous cells**
Hortense Decool, Johanna Renner, Martin Weiss
- Tue-P-42 **Numerical modeling on the mechanism of plasma-induced cell death**
Ippei Saito, Motohiro Tomita, Tomoyuki Murakami
- Tue-P-43 **The beneficial effect of successive Cold Atmospheric Plasma treatments on in vitro behaviour of human gingival fibroblasts**
Andreea-Mariana Negrescu, Leonardo Zampieri, Anisoara Cimpean, Emilio Martines
- Tue-P-44 **A Minimally Invasive Surgical Platform Against Pancreatic and Biliary Tract Cancers Using Cold Atmospheric Plasma**
Vasilios Vavourakis, Charalambos Anastassiou, Thierry Dufour, Laura Fouassier, Panagiotis Svarnas
- Tue-P-45 **Effects of Cold Atmospheric Argon Plasma Jet Treatment on the Biological Activity of Human Gingival Fibroblasts**
Neusa Silva, Joana Marques, Mariana Brito da Cruz, Henrique Luís, António Mata, Susana Sérgio
- Tue-P-46 **Safety evaluation of plasma activated water on skin and breathing: an in-vivo study**
Mahdiyeh Bakhtiyari-Ramezani, Sara Hejri, Aboutorab Naeimabadi

16:45 – 17:00

Coffee Break

Section: **PLASMA LIQUID INTERACTIONS, PLASMA-ACTIVATED LIQUIDS**

Hall: **ICPM Session 1**

Chair: **Petr Lukeš**

- 17:00 Tue-O-4-5 **Plasma-Generated Nitric Oxide Water for Biological Applications: Infection Control and Cosmetic Innovations**
Nagendra Kumar Kaushik, Neha Kaushik, Linh Nhat Nguyen, Tirtha Raj Acharya, Manorma Negi, Shweta Bharat Borkar, Paritosh Patel, Apurva Jaiswal, Eun Ha Choi
- 17:15 Tue-O-4-6 **Assessing the antiviral effect of plasma-conditioned media against herpes simplex 1 infection in polarized vaginal epithelial cells**
Caroline Corcoran, Brian Wigdahl, Vandana Miller, Fred C. Krebs
- 17:30 Tue-O-4-7 **Plasma activated water pre-treatment substantially enhances phage activity against *Proteus mirabilis* biofilms**
Akash Shambharkar, Thomas P. Thompson, Laura McClenaghan, Paula Bourke, Brendan, F. Gilmore, Timofey Skvortsov
- 17:45 Tue-O-4-8 **The effects of plasma-activated liquid on urinary tract infection and colitis in mice**
Zdenko Machala, Michal Pastorek, Barbora Gromová, Slavomír Pásztor, Peter Celec, Eubomíra Tóthová, Barbora Konečná, Roman Gardlik
- 18:00 Tue-O-4-9 **Plasma Activated Water is Effective against Redoubtable Nosocomial Microorganisms**
Andra-Cristina Bostănaru-Iliescu, Adrian Fifere, Valentin Năstasă, Laura-Elena Ursu, Florica-Mirela Doroftei, Bogdan Minea, Eugen Hnatiuc, Mihai Mareş
- 18:15 Tue-O-4-10 **Inactivation pathways of *Escherichia coli* and *Staphylococcus aureus* induced by transient spark discharge in liquids**
Karol Hensel, Aleksandra Lavrikova, Helena Bujdákova

- 18:30 Tue-O-4-11 **Decontamination of Healthcare Textiles Using Plasma-Activated Water**
Markus Ahrens, Sonja Börtl, Petra Mela
- 18:45 Tue-O-4-12 **Utilizing the Potential of Plasma-Treated Water for Enhanced Maize Growth and Stress Tolerance**
Zuzana Okruhlicová, Zuzana Lukačová, Karol Hensel
- 19:00 Tue-O-4-13 **Microbiological and pH Assessment in Pineapple Jams and Zucchini Preserves Treated with Plasma Activated Water**
Pedro Inácio Rodrigues Melo, Nathalia Cristina de Carvalho Sousa, Felipe Santos de Almeida, Anelise Cristina Osório César Doria, Sônia Khouri Sibelino

Section: **PLASMA MEDICAL APPLICATIONS – CLINICAL AND ANIMAL STUDIES**

Hall: **ICPM Session 2**

Chair: **Thomas von Woedtke**

- 17:00 Tue-O-6-1 **Non-Invasive Physical Plasma (NIPP) Improves Conventional Wound Management of Cut and Bite Wounds in European Hedgehogs: Results of a Prospective, Non-Randomized Monocentric Wildlife Clinical Trial**
Jürgen Eichler, Björn Rulik, Alexander Abazid, Matthias B. Stope
- 17:15 Tue-O-6-2 **Evaluation of Non-Thermal Plasma for Diabetic Wound Healing: From Preclinical Studies to Clinical Trials**
Sara Fathollah, Shahrir Mirpour, Parvin Mansouri, Mahmood Ghoranneviss, Mohammad Reza Amini, Piotr Sawosz
- 17:30 Tue-O-6-3 **Cold Plasma Therapy for Venous Ulcers: Early Clinical Trial Outcomes**
Ana Megia-Macias, Osvaldo Daniel Cortázar, Bernardo Hontanilla
- 17:45 Tue-O-6-4 **Safety and efficacy study of Plasma-activated Lactate Ringer's Solution (PAL) for application on animal and human skin**
Kae Nakamura, Katsumi Ebisawa, Masaaki Mizuno, Nobuhisa Yoshikawa, Hiromasa Tanaka, Kazunobu Hashikawa, Shinya Toyokuni, Masaru Hori, Yuzuru Kamei, Hiroaki Kajiyama
- 18:00 Tue-O-6-5 **An Innovative Method for Molecular Introduction into Fish Eggs Using Surface Discharge Treatment**
Yoshihisa Ikeda, Takuro Doi, Yugo Kido, Taiju Saito, Masafumi Jinno
- 18:15 Tue-O-6-6 **Treatment of psoriasis with an ALOE device: pilot research**
A.V. Kazak, L.V. Simonchik, S. A. Kazel
- 18:30 Tue-O-6-7 **Cold atmospheric-pressure plasma and plasma treated liquids for veterinary applications**
Kristina Trebulová, Zdenka Kozáková, Kamila Klementová, Ivana Paličková, Alois Čížek, Jan Hrudka, Eric Robert, Augusto Stancampiano, Inna Orel, František Krčma
- 18:45 Tue-O-6-8 **Air Sterilisation and Treatment by Non-Thermal Atmospheric Plasma**
Naigui Shang, Minkwan Kim, John Lawson, Bharathram Ganapathisubramani, Rodolphe Hervé, Charles W. Keevil
- 19:00 Fri-O-9-6 **Expanding plasma-driven biocatalysis using unspecific peroxygenase from *Collariella virescens* and a capillary plasma jet**
Sabrina Klopsch, Tim Dirks, Davina Stoesser, Steffen Schüttler, Judith Golda, Julia E. Bandow

Wednesday, 11 September 2024

PLENARY SESSION

Hall: **ICPM Session 1**

Chair: **Masaru Hori**

- 10:00 PL-4 **Cold plasma as a combinatorial therapy to combat orthopaedic infection**
Carly J. Smith, Amanda Watkins, Autumn Melvage, Amanda Connelly, Thomas P. Schaer, Brendan Gilmore, Daniela Boehm, Paula Bourke, Noreen Hickok, [Theresa A. Freeman](#)

Section: **FUNDAMENTALS OF ATMOSPHERIC PLASMA**

Hall: **ICPM Session 1**

Chair: **Michael Keidar**

- 10:45 IT-7 **Innovative Solutions in Agriculture and Biomedicine: Leveraging Electrical Discharges in Gases for Plasma Applications**
Sabnaj Khanam, Madeeha Iqbal, Khadija Akter, Juie Rana, Anchal Bhatnagar, Young Jun Hong, Eun Ha Choi, [Ihn Han](#)
- 11:15 Wed-O-7-1 **Online diagnostics of the production of reactive species in a micropulsed plasma jet**
Leonardo Zampieri, [Emilio Martines](#)
- 11:30 Wed-O-7-2 **Establishing a set of measurements to monitor plasma source duplicates in collaborative groups through systematic investigation and correlation of parameters**
[Helena Jablonowski](#), Ulfilas Hoffmann, Robert Bansemer, Katayoon Hadian Rasnani, Michael Schmidt, Raphael Ratajl, Sander Bekeschus, Torsten Gerling, Klaus-Dieter Weltmann, Thomas von Woedtke
- 11:45 Wed-O-7-3
- 12:00 Wed-O-7-4 **Identification of relevant plasma components in plasma-induced microcirculation enhancement**
[Thomas Borchart](#), Ole Grams, Andreas Helmke, Steffen Emmert, Wolfgang Viöl

Section: **PLASMA-CELL AND PLASMA-TISSUE INTERACTIONS – BIOLOGICAL AND BIOCHEMICAL REACTIONS**

Hall: **ICPM Session 2**

Chair: **Kristian Wende**

- 10:45 Wed-O-8-1 **Combining Plasma, Micelles, and Chitosan into PCCM-125: Long-Term Nitric Oxide Delivery and Angiogenesis-Independent Wound Healing in Human Corneal Epithelial Cell Model**
Maher Hadaya, Jinjie He, Israel Ojalvo, Sindi Beqo, Mo Hadaya, Aarna Doshi, Alexander A. Fridman, [Christopher M. Sales](#)
- 11:00 Wed-O-8-2 **Using Principal Component Analysis to Investigate the Morphological Changes in Cells Exposed to Non-Thermal Plasma**
[Amal Mathew](#), Hrushikesh Deshpande, Julia Sutter, Sophia Gershman, Mikhail Schneider, Fred Krebs, Katharina Stapelmann, Vandana Miller
- 11:15 Wed-O-8-3 **Plasma-treated hydrogels: manufacturing therapeutic 3D scaffolds for tissue regeneration**
Albert Espona-Noguera, Marina Valls, Francesco Tampieri, Milica Živanić, [Cristina Canal](#)
- 11:30 Wed-O-8-4 **Novel skin model for plasma medicine and cosmetics**
Lisa Hermans, Vinodini Vijayarangan, Angela Privat-Maldonado, Sebastien Dozias, Julien Lemaire, Eric Robert, Annemie Bogaerts, [Augusto Stancampiano](#)
- 11:45 Wed-O-8-5 **Multipectrode DBD Plasma Torch Design with Drug Delivery Option for Wound Healing and Sterilization**
[Srida Aliminati](#), Sohail Zaidi

12:00 **Modelling by Electrical Equivalent Circuit Network of Cell Death by Plasma Irradiation**
Taiki Hirohata, Sota Tanaka, Hideki Motomura, Yoshihisa Ikeda, Masafumi Jinno

12:30 – 13:30 **Lunch Break**
13:45 – 21:30 **Conference trip + Wine tasting and food**

Thursday, 12 September 2024

PLENARY SESSION

Hall: **ICPM Session 1**

Chair: **Hiromasa Tanaka**

09:00 PL-5 **From transient and localized plasma surface interaction to deep tissue biological effects in Plasma Medicine**
E. Robert, J.G. Bauzin, G. Collet, S. Dozias, P. Escot Bocanegra, A. Hocine, F. Prieur, J.M. Pouvesle, A. Rouillar¹, A. Stancampiano, V. Vijayarangan

Section: PLASMA-CELL AND PLASMA-TISSUE INTERACTIONS – BIOLOGICAL AND BIOCHEMICAL REACTIONS

Hall: **ICPM Session 1**

Chair: **Steffen Emmert**

9:45 IT-8 **The Mechanisms of Cold Atmospheric Plasma in Promoting Healing of Infectious Wounds**

Lanlan Nie, Xi Chen, Xinpei Lu

10:15 IT-9 **Plasma Polymers as Surface Finishes for Tissue Engineering Materials**

Lenka Zajíčková, Lucie Janů, Martina Janůšová, Jiřina Medalová, Patrik Matušů, Jan Příbyl, Šimon Klimovič, Beáta Beliančinová, David Nečas

10:45 Thu-O-8-1 **Plasma-activated cryomicroneedles for transdermal drug delivery**

Jishen Zhang, Dingxin Liu, Hao Zhang, Li Guo, Mingzhe Rong

11:00 Thu-O-8-2 **A Cold Atmospheric Plasma Jet – Composite Hydrogel Dressing for Controlled delivery of Platinum based Drugs into the Epithelium**

Hao Naing Tun Thet, Elena Vochitu, Nishtha Gaur, Sarah Allinson, Rob Short, Toby Jenkins

11:15 Thu-O-8-3 **CAP impact on the primary teeth enamel**

Joanna Pawłat, Michał Kwiatkowski, Piotr Terebun, Dawid Zarzeczny, Elżbieta Grządka, Agnieszka Starek-Wójcicka, Marta Krajewska, Monika Machoy, Agnieszka Mazur-Lesz

11:30 Thu-O-8-4 **Direct Cold Atmospheric Plasma Treatment vs Plasma-activated Hydrogels in Wound Treatment**

Nishtha Gaur, Naing Tun Thet, Sarah Allinson, Alex Robson, Toby Jenkins, Craig Williams, Gordon Ramage, Endre Szili, Rob Short

11:45 Thu-O-8-5 **Absorption of FD-150 into White Blood cells by Microplasma**

Jaroslav Kristof, Mahedi Hasan, Sadia Afrin Rimi, Abubakar Hamza Sadiq, Alam Md Jahangir, Kazuo Shimizu

12:00 Thu-O-8-6 **Pores and Filaments – The quest for a reliable and reproducibly patterned plasma-permeabilization of the skin**

Monika Gelker, Astrid Ichter, Robert Köhler, Wolfgang Viöl

Section: **FUNDAMENTALS OF ATMOSPHERIC PLASMA**

Hall: **ICPM Session 2**

Chair: **Uroš Cvelbar**

- 09:45 Thu-O-7-1 **Portable and affordable cold air plasma source for biomedical applications**
Myron Klenivskiy, Josef Khun, Laura Thonová, Eva Vaňková, Vladimír Scholtz
- 10:00 Thu-O-7-2 **Cold plasma systems for bioaerosol decontamination: scale-up of a portable room-scale device**
Pasquale Isabelli, K. De Baerdemaeker, Francesco Tomelleri¹, F. Devlieghere, Matteo Gherardi, Romolo Laurita
- 10:15 Thu-O-7-3 **From Idea to Prototype – Clinic plasma treatment on-demand – the potential of the new portable device MOBIPLAS**
Klaus-Dieter Weltmann, Robert Bansemer, Hannes Bendt, Julia Berner, Sander Bekeschus, Thomas von Woedtke
- 10:30 Thu-O-7-4 **Electrical, Optical and Thermal Characterization of Argon-Hydrogen Plasma Jets for Medical and Biomedical Applications**
Fellype do Nascimento, Konstantin Georgiev Kostov
- 10:45 Thu-O-7-5 **System for *In Situ* Measurements During Skin Wound Treatment by Cold Atmospheric Plasma**
Suneel Kumar, Dhruv Patel, Dnyaneshwari Rananavare, Jonathan Thomas, Jascha Brettschneider, Julia Sutter, Fred Krebs, Vandana Miller³, Katharina Stapelmann, Francois Berthiaume
- 11:00 Thu-O-7-6 **Computational study of a pulsed atmospheric pressure dielectric barrier discharge interacting with liquid**
Sarah Van Hove, Ivan Tsonev, Annemie Bogaerts
- 11:15 Thu-O-7-7 **Computational modelling of *in-vitro* treatment with a plasma jet: elucidating the effects of the treatment setup**
Pepijn Heirman, Annemie Bogaerts
- 11:30 Thu-O-7-8 **Developing a conductive treatment method for pathological specimens using plasma for the diagnosis using electron microscopy**
Sanae Ikehara, Kazuhiko Azuma, Syota Ohki, Hiroki Kondo, Yoko Iizumi, Toshiya Okazaki, Masaru Hori, Komei Baba, Yuzuru Ikehara
- 11:45 Thu-O-7-9 **Characterization of 3-pin Atmospheric Pressure Plasma Jet used for production of Plasma Activated Water by ICCD imaging**
Amit Kumar, Nikola Škoro, Gordana Malović, Nevena Puač
- 12:00 Thu-O-7-10 **Multimodal linking of biological imaging data in plasma medicine**
Mohsen Ahmadi, Robert Wagner, Anke Schmidt, Sander Bekeschus, Markus M. Becker

12:30 – 13:30 **Lunch Break**

14:00 – 16:45 **POSTER SESSION**

- Thu-P-1 **Atmospheric Pressure Plasma Synthesis of Gold Nanoparticles for SERS Recognition of Bacterial DNA**
Jelena Štrbac, Vasyl Shvalya, Martina Modic, Janez Zavašnik, Damjan Vengust, Uroš Cvelbar
- Thu-P-2 **Label-Free SERS Detection of Carcinogens by Plasma-Made Nanostructures**
Neelakandan M Santhosh, Vasyl Shavlyya, Martina Modic, Nataša Hojnik, Jaka Olenik, Janez Zavašnik, Martin Košiček, Uroš Cvelbar
- Thu-P-3 **The use of atmospheric pressure plasmas for the control of antibiotic-resistant bacteria in the agri-food sector**
Z. Aliyeva, T. Maho, P. Guillot, C. Muja
- Thu-P-4 **Treatment of fresh and marine water microalgae by combined gliding arc discharge plasma and pulsed electric field**

- Thu-P-5 **Liutauras Marcinauskas, Kamilė Jonynaitė, R. Celiešiūtė-Germanienė, Mindaugas Aikas, Žydrūnas Kavaliauskas, Rolandas Uscila, Skirmantas Keršulis, Arūnas Stirkė, Antanas Strakšys, Voitech Stankevič**
Characterizing Reactive Species Distribution in Plasma-Based Surface Decontamination for Enhanced Food Safety
Caterina Maccaferri, Filippo Capelli, Ana Sainz García, Matteo Gherardi, Fernando Alba Elías, Romolo Laurita
- Thu-P-6 **Cold atmospheric microplasma mediated drug delivery through blood-brain barrier**
Alam Md Jahangir, Yamano Tomoki, Abubakar Hamza Sadiq Sadia Afrin Rimi, Mahedi Hasan, Jaroslav Kristof, Kazuo Shimizu
- Thu-P-7 **Study on the changes of cell membrane lipids for delivering large molecules drug by using microplasma irradiation**
Sadia Afrin Rimi, Mamun Md Al, Alam Md Jahangir, Abubakar Hamza Sadiq, Mahedi Hasan, Jaroslav Kristof, and, Kazuo Shimizu
- Thu-P-8 **Boosting transdermal drug penetration by cold plasma – insights on the molecular level**
Kristian Wende, Paula Marx, Johanna Striesow, Patricia Lopalco, Thomas von Woedtke, Sander Bekeschus
- Thu-P-9 **Development of a Cold Atmospheric Plasma Responsive Polyacrylate Hydrogel System for On-Demand Drug Delivery**
Natasha Harwood, Maciek Kopec, Toby Jenkins
- Thu-P-10 **Plasma-Designed Nanosensors for SERS Detection of Hazardous Chemicals**
Martin Košiček, Vasyl Shvalya, Damjan Vengust, Oleg Baranov and Uroš Cvelbar
- Thu-P-11 **Rapid Plasma-Driven Fabrication of Gas Sensors for Safety Against Hazardous Gases**
Ardita Kurtishaj Hamzaj, Edoardo Donà, Neelakandan M Santhosh, Vasyl Shvalya, Martin Košiček, Uroš Cvelbar
- Thu-P-12 **Synergistic Application of Cold Atmospheric Plasma and Vancomycin in MRSA biofilms**
Katie Harvey, Thomas P. Thompson, Paula Bourke, Noreen J. Hickok, Theresa A. Freeman, Brendan F. Gilmore
- Thu-P-13 **Comparative Studies of two Low Temperature Microwave Plasma Devices at Atmospheric Pressure for Medical Applications**
Neda Babučić, Kinga Kutasi, Nikola Škoro, Nevena Puač
- Thu-P-14 **Electrical and optical characterization of a plasma source for the biological decontamination of waste water in volume**
Maria Saba, Thomas Maho, Philippe Guillot
- Thu-P-15 **Comparative bio-application study of various non-thermal plasma generating devices using reference protocol**
Anna Machková
- Thu-P-16 **The equivalent electrical circuit for describing the dielectric barrier discharge plasma jet**
Marija Puač, Nikola Škoro, Kinga Kutasi and Nevena Puač
- Thu-P-17 **Experimental characterization of a flat DBD plasma source**
Zhanel Aliyeva, Cristina Muja, Thomas Maho, Philippe Guillot
- Thu-P-18 **Thrust force generated by surface dielectric barrier discharge**
Juš Polanšek, Uroš Cvelbar
- Thu-P-19 **Thermal Stress and its Role in Plasma Bacterial Inactivation: High resolution Characterization**
A. Rouillard, A. Stancampiano, S. Dozias, A. Devos, J.G Bauzin, A. Hocine, E. Robert, P. Escot Bocanegra
- Thu-P-20 **Scale-up of non-thermal plasma and photocatalysis for bacteria inactivation and VOCs removal**
Thomas Vazquez, Aleksandra Lavrikova, Dalimír Wiederman, Jan Babic, and Zdenko Machala
- Thu-P-21 **Characterization of a cold atmospheric air plasma jet supplied by microsecond voltage pulses**
Gabriele Neretti, Arturo Popoli, Andrea Cristofolini

- Thu-P-22 **Evaluating Antimicrobial Effects of Plasma-Activated Liquids Using Surface-Wave Microwave Plasma Jet: A Comparative Analysis of Deionized Water and Saline Solution**
Michaela Shiotani Marcondes, Luan Gonçalves de Lima, Lady Daiane Pereira Leite, Victória Kelly Fonseca Tavares, Clodomiro Alves Júnior, Felipe de Souza Miranda, Cristiane Yumi Koga Ito, Rodrigo Sávio Pessoa
- Thu-P-23 **Underwater Discharge Plasma for in situ Generation of Micro-nanobubbles**
Mengying Zhu, Mingyan Zhang, Dingxin Liu, Renwu Zhou
- Thu-P-24 **Application of plasma-activated water on oral pathogens**
Li Guo, Yikang Jia, Pengyu Zhao, Dingxin Liu
- Thu-P-25 **Plasma-activated medium for intraoperative adhesion prophylaxis**
Franziska Kessler, Martin Weiss
- Thu-P-26 **Proteomics and single-cell microscopy analysis for the investigation of plasma-activated water inactivation mechanism of *Escherichia coli***
Rita Agus, Aleksandra Lavrikova, Fabio Avino, Brayden Myers, Ivo Furno
- Thu-P-27 **Development of a Plasma Functionalised Liquid for prevention and control of MRSA biofilm device-associated infections**
Orla Nic Shiurdain, Sean Kelly, Peter Dobbyn, Soukaina Barroug, Daniela Boehm, Paula Bourke
- Thu-P-28 **Addition of ROS scavengers provides an insight into the antimicrobial effect of plasma treated liquids**
Moritz Wilch, Rinat Ortmann, Monika Gelker, Wolfgang Viöl
- Thu-P-29 **Disinfection of *Enterococcus faecalis* on baby bottle nipples using atmospheric low-temperature plasma bubbled-up water**
Taiki Osawa, Ziyu Liu, Kai Fukuchi, Akane Yaida, Yuriko Matsumura, Atsuo Iwasawa, Norihiko Ito, Akitoshi Okino
- Thu-P-30 **Developing a Chicken Juice-Based Infection Model to Assess the Antimicrobial Effects, Mechanisms of Actions, and Modes of Delivery of Plasma Functionalized Liquid**
Soukaina Barroug, Orla Nic Shiurdain, Sean Kelly, and Paula Bourke
- Thu-P-31 **Antibacterial effect of Plasma Activated Water against *L. monocytogenes* and *E. Faecalis***
Ana Sainz-García, Elisa Sainz-García, Félix Gallarta-González, Alpha Verónica Pernía Espinoza, Rodolfo Múgica-Vidal, Ignacio Muro-Fraguas, Ana González-Marcos, María López, Yolanda Sáenz, Fernando Alba-Eliás
- Thu-P-32 **Evaluation of Plasma Activated Liquids for Decontamination of Flexible Endoscopes**
Naomi Northage, Vasyl Shvalya, Martina Modic, Malcolm J. Horsburgh, James L. Walsh
- Thu-P-33 **Investigation of toxicity effects of Plasma Activated Water on a water model plant *Lemna Minor***
Olivera Jovanović, Arian Morina, Nikola Škoro and Nevena Puač
- Thu-P-34 **Effect of plasma-activated water produced in an Air-Operated DBD Coaxial Reactor on *Candida albicans* Biofilms**
Victoria Kelly Fonseca Tavares, Felipe de Souza Miranda, Augusto Stancampiano, Jean-Michel Pouvesl3, Pablo Escot Bocanegra, Eric Robert, Rodrigo Savio Pessoa, Cristiane Yumi Koga-Ito
- Thu-P-35 **The influence of Cold Atmospheric Plasma treatment on patient-derived 3-dimensional organoids**
Jana Baroen, Angela Privat-Maldonado, Evelien Smits, Annemie Bogaerts
- Thu-P-36 **Cold atmospheric plasma treatment of chronic wounds—investigation of the effects of reactive oxygen and nitrogen species on fibrosis-related cellular signaling pathways**
Juliette Letellier-Bao, Stephan Reuter, Caroline Boudoux, Anie Philip
- Thu-P-37 **Hemostasis by plasma treatment shortens the wound healing duration by bypassing the inflammatory response and proliferation of bone marrow- derived fibroblasts**

- Thu-P-38 **Emiri Yamamoto**, Shinsuke Akita, Sanae Ikehara, Kazuhiko Azuma, Syota Ohki¹, Yoshihiro Nakano, Shigehito Sakai, Takashi Yamaguchi, Nobuyuki Mitsukawa, Emilio Martinez, Yuzuru Ikehara
Enhancing Wound Healing with Bioprinted Chitosan Hydrogels Treated by Cold Atmospheric Plasma Jets
Noor Mohamad, Masoumeh Ezati, Amir Hashemi, Kateřina Polášková, Inna Zumberg, Vratislav Čmiel, Jan Schäfer, Lenka Zajíčková
- Thu-P-39 **Using atmospheric-pressure plasma for precise and less invasive suture wounds**
Ignacio Muro-Fraguas, Rodolfo Múgica-Vidal, Ana Sainz-García, Elisa Sainz-García, Ana González-Marcos, Letricia Barbosa-Pereira, Ana Rodríguez-Bernaldo de Quirós, Patricia Vazquez-Loureiro, Antia Lestido-Cardama, Fernando Alba-Eliás
- Thu-P-40 **The *plasmACT* European Doctoral Network (2024-2027) – Plasma Medicine Against Actinic Keratosis**
Sander Bekeschus, Lars Boekmann, Annemie Bogaerts, Steffen Emmert, Angela Privat-Maldonado, Eric Robert, Klaus-Dieter Weltmann, Thomas von Woedtke, Diana Albrecht, Evelin Smits, Augusto Stancampiano, Ana Sobota, Kristian Wende
- Thu-P-41 **Non-thermal Plasma Induces Oxidative Stress Markers Relevant to Wound Healing**
Gagana Karkada, Julia Sutter, Jonathan Thomas, Suneel Kumar, Fred C. Krebs, Francois Berthiaume, Katharina Stapelmann, Vandana Miller
- Thu-P-42 **The beneficial effect of successive Cold Atmospheric Plasma treatments on *in vitro* behaviour of human gingival fibroblasts**
Andreea-Mariana Negrescu, Leonardo Zampieri, Anisoara Cimpean, Emilio Martinez
- Thu-P-43 **Mouse Skin Response to Cold Plasma**
Andrea Jurov, Špela Kos, Tanja Blagus, Ivana Sremački, Gregor Filipič, Nataša Hojnik, Anton Nikiforov, Christophe Leys, Maja Čemažar, Gregor Serša, Uroš Cvelbar
- Thu-P-44 **Effect of plasma activated ringer lactate and saline solutions on the migration and proliferation of murine melanoma cells (B16F10)**
Diego V Neves, Kaique Hergesel, Daiane Lima, Maria Vitoria Fragoso, Keren Moura, Juliana Praxedes, Amanda Lima, Breno Ferrari, Fernando Pradela, Leonilda Santos, Elidiane C Rangel, Elaine Oliveira, Nilson C Cruz
- Thu-P-45 **Plasma Controlled Nanogold for Detection and Recognition of Explosives with Machine Learning Assisted SERS**
Jaka Olenik, Vasyl Shvalya, Martina Modic, Damjan Vengust, Martin Košiček, Uroš Cvelbar, James L. Walsh
- Thu-P-46 **The influence of extracellular DNA on the sensibility of antibiotic resistant bacteria to cold atmospheric plasma**
Ibtissam Courti, Thomas Maho, Florent P. Sainct, Philippe Guillot, Cristina Muja
- Thu-P-47 **Reconstructed Epidermis Permeation Studies Using a Plasma Jet and Spray Device**
Vinodini Vijayaragan, Amaury Rouillard, Sebastien Dozias, Augusto Stancampiano, Pablo Escot-Bocanegra, Catherine Grillon, Eric Robert
- Thu-P-48 **Role of plasma and the carrier gas on CO binding with human hemoglobin**
Inna Orel, Eloise Mestre, Titaina Gibert, Sebastien Dozias, Roberto Motterlini, Claire Douat

16:45 – 17:00

Coffee Break

Section: **PLASMA-CELL AND PLASMA-TISSUE INTERACTIONS – BIOLOGICAL AND BIOCHEMICAL REACTIONS**

Hall: **ICPM Session 1**

Chair: **Theresa Freeman**

- 17:00 Thu-O-8-7 **Effects of Cold Atmospheric Argon Plasma Jet Treatment on the Biological Activity of Human Gingival Fibroblasts**
Neusa Silva, Joana Marques, Mariana Brito da Cruz, Henrique Luís, António Mata, Susana Sérgio

- 17:15 Thu-O-8-8 **Modification of Cellular Receptors as a Potential Antiviral Mechanism of Non-Thermal Plasma**
Julia Sutter, Keziah K. Adjei, Benjamin S. Haslund-Gourley, Stephen R. Jennings, Fred C. Krebs, Mary Ann Comunale, Brian Wigdahl, Vandana Miller
- 17:30 Thu-O-8-9 **Plasma Patch Device for Skin Disease Therapy**
Seunghun Lee, Ju-yeon Choi, Ki-Ho Baek, Sang-Hyun Kim, Sung-hoon Jung, Joo-young Park, Do-geun Kim
- 17:45 Thu-O-8-10 **The Effect of Cold Atmospheric Plasma (CAP) and Plasma Activated Liquid (PAL) on the Proliferation of Mesenchymal Stem Cells (MSCs)**
Sara Alsiyabi, Daniela Boehm
- 18:00 Thu-O-8-11 **Plasma jet characteristics and treatment consequences depend on target properties of several hydrogel and vertebrate tissue models**
Alice Martinet, Lea Miebach, Klaus-Dieter Weltmann, Thomas von Woedtke, Steffen Emmert, Sander Bekeschus
- 18:15 Thu-O-8-12 **Oxidative damage in nucleic acids in human lung cancer cells irradiated with cold atmospheric pressure plasma**
Hirofumi Kurita, Yuka Hijii, Khulan Bidbayasakh, Sumire Arai
- 18:30 Thu-O-8-13 **Synergistic Enhancement of Antibiotic Efficacy Against Biofilms with Cold Plasma**
Thomas P. Thompson, Katie Harvey, Jordanne-Amee Maybin, Ross M. Duncan, Paula Bourke, Noreen J. Hickok, Theresa A. Freeman, Brendan F. Gilmore

Section: **PLASMA FOR PHARMACEUTICAL APPLICATIONS, BIOCHEMICAL AND BIOMOLECULAR ENGINEERING**

Hall: **ICPM Session 2**

Chair: **Matteo Gherardi**

- 17:00 IT-9 **Albumin aggregation by cold atmospheric plasma**
Tetsuji Shimizu
- 17:30 Thu-O-9-1 **Effects of OH radicals on Plasma Gene/Molecular Transfection**
Takuto Tokura, Masaki Yamashita, Yoshihisa Ikeda, Susumu Satoh, Masafumi Jinno
- 17:45 Thu-O-9-2 **Plasma deposition of anti-proliferative drugs for vascular stents**
Fiona O'Neill, Chloe Frewen, Liam O'Neill, Paula Bourke
- 18:00 Thu-O-9-3 **Plasma-activated Hydrogels: A Versatile Drug Delivery Platform for Multiple Clinical Indications**
Nishtha Gaur, Naing T. Thet, Alexander Robson, Jontana Allkja, Craig Williams, Gordon Ramage, Toby Jenkins, Robert D. Short
- 18:15 Thu-O-9-4
- 18:30 Thu-O-9-5 **Effect of low level of oxidation on protein structures and their function**
Maryam Ghasemitarei, Tapio Ala Nissila, Annemie Bogaerts

20:30 – 23:30

Conference Dinner

Friday, 13 September 2024

Section: **PLASMA AGRICULTURAL APPLICATIONS**

Hall: **ICPM Session 1**

Chair: **Nevena Puac**

- 09:45 IT-11 **Cold Atmospheric Pressure plasmas uses in the food sector**

- 10:15 Fri-O-10-1 **Romolo Laurita**, Alina Bisag, Filippo Capelli, Caterina Maccaferri, Giorgia Gozzi, Silvia Tappi, Beatrice Cellini, Pietro Rocculi, Marco Dalla Rosa, Lucia Vannini Junior Bernardo Molina-Hernandez, Jessica Laika, Lilia Neri, Clemencia Chaves-López, Antonella Ricci, Massimo Mozzon, Lama Ismaiel, Ancuta Nartea, Cinzia Mannozi, Luca Belleggia, Cristiana Cesaro, Roberta Foligni, Matteo Gherardi Vittorio Colombo
Bactericidal and Plant-Growth Effects of Amino-Acid Solutions Irradiated by Electrically-Neutral Oxygen Radicals
Masafumi Ito, Naoyuki Iwata, Kenji Ishikawa, Yasuhiro Nishikawa, Motoyuki Shimizu, Hironaka Tsukakoshi, Masashi Kato, Masaru Hori
- 10:30 Fri-O-10-2 **Modeling of *Aspergillus brasiliensis* growth and inhibition by non-thermal plasma**
Zdeňková Kamila, Lokajová Eliška, Jirešová Jana, Klenivskiy Myron, Vladimír Scholtz
- 10:45 Fri-O-10-3 **Potential of non-thermal plasma in the induction of adaptive response in plant seeds**
Stanislav Kyzek, Kristína Vargová, Júlia Serdahelyová, Matúš Chalachan, Veronika Medvecká, Petra Šrámková, Sára Pišteková, Jana Makuková, Ivana Kyzeková, Anna Zahoranová, Andrea Ševčovičová, Eliška Gálová

Section: **PLASMA FOR PHARMACEUTICAL APPLICATIONS, BIOCHEMICAL AND BIOMOLECULAR ENGINEERING**

Hall: **ICPM Session 2**

Chair: **Eric Robert**

- 09:45 Fri-O-9-1 **Plasma-oxidized proteins cause alterations in antigen-presenting cell maturation**
Ramona Clemen, Kevin Arlt, Thomas von Woedtke, Sander Bekeschus
- 10:00 Fri-O-9-3 **Genome Content Sensitive DNA Optical Analysis with Nanoplasmonics**
Vasyl Shavlya, Martina Modic, Cene Skubic, Janez Zavašnik, Uroš Cvelbar
- 10:15 Fri-O-9-4 **Plasmonic Sensors for small and large entities from Molecules to Monitoring of Biofilm Growth on Surfaces and Their Plasma Cleaning**
Aabha Bajaj, Mohammad Abutoama, Anand M. Srivastav, Marwan J. Abuleil, Martina Modic, Vasyl Shvalya, Uroš Cvelbar, Ibrahim Abdulhalim
- 10:30 Fri-O-9-5 **Oxidative modification of proteins – a general concept in plasma medicine?**
Kristian Wende, Zahra Nasri, Johanna Striesow, Thomas von Woedtke, Ramona Clemen, Sander Bekeschus
- 10:45
- 11:00 Fri-O-9-7 **Local plasma jet application in the oral cavity to combat respiratory virus infections**
Thomas von Woedtke, Nancy Mounogou Kouassi, Sander Bekeschus, Ulfilas Hoffmann, Robert Bansemer, Torsten Gerling, Veronika Hahn, Henry Skowski, Michael Schmidt, Raphael Rataj, Katayoon Hadian Rasnani, Helena Jablonowski, Manuel Hein, Jessica Akoh Arrey, Uwe Mamat, Klaus-Dieter Weltmann, Ulrich E. Schaible, Gülsah Gabriel

Section: **PLASMA LIQUID INTERACTIONS, PLASMA-ACTIVATED LIQUIDS**

Hall: **ICPM Session 1**

Chair: **Zdenko Machala**

- 11:00 Fri-O-4-1 **Metabolic Disorders in *E. coli* Induced by Electrically Neutral Oxygen Radicals Irradiation of Tryptophane-Containing Solutions**
Kenji Ishikawa, Masafumi Ito, Naoyuki Iwata, Yasuhiro Nishikawa, Motoyuki Shimizu, Hironaka Tsukakoshi, Masashi Kato, Masaru Hori, Hiromasa Tanaka

- 11:15 Fri-O-4-3 **Atmospheric pressure plasma – a chance for wastewater management in an industrial context?**
Michal Szulc, Carmen Kirner, Jochen Schein
- 11:30 Fri-O-4-4 **Combining sub-lethal doses of cold atmospheric plasma with vancomycin-loaded liposomes to eradicate MRSA biofilms**
Ross Duncan, Thomas P. Thompson, Vicky Kett, Brendan Gilmore
- 12:30 – 13:30 **Lunch Break**
- 14:00 – 15:00 **Closing**
Chairs: **Gerrit Kroesen, Uroš Cvelbar**