

3rd International Conference on Plasma Medicine (ICPM-3)

19th-24th September 2010



Scientific Program



INTERNATIONAL SOCIETY
FOR • PLASMA • MEDICINE



Sections

I	Plasma Cell And Plasma Tissue Interaction
II	Medical Aspects And Results of Plasma In Use
III	Plasma Sources for Medicine
IV	Plasma Surface Modification for Biomedical Application
V	Plasma Based Sterilization/Decontamination



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Scientific Program

Sunday, 19th September 2010

3:00-6:00 pm **Registration**
INP, 4th floor

6:00-7:30 pm **Welcome Reception**
INP, 4th floor

On subsequent days, the Registration Desk will be situated in the Conference Office in the Institute of Biochemistry (1st floor), Felix-Hausdorff-Str. 4, where all invited lectures, presentations and poster session will be held.

Please be prepared to have your presentation on CD-ROM or a portable USB-stick in powerpoint format (or pdf format for presentations). We will provide a PC for your presentations. It is not possible to use own computers.

Monday, 20th September 2010

8:30 am **Welcome and Opening Lecture**
The Research Cluster for Plasma Medicine in Northern Germany
K.-D. Weltmann

Plasma Cell and Plasma Tissue Interaction (I)
Chairman: K.-D. Weltmann

9:15 am **General Lecture**
Plasma Pharmacology
G. Friedman

9:45 am **General Lecture**
Plasma Stimulation for Cell Proliferation and their Possible Applications in Orthopedics
S. Hamaguchi

10:15 am **Break**

Plasma Cell and Plasma Tissue Interaction (II)
Chairman: G. Friedman

10:30 am **General Lecture**
Plasma Health Care - Aims, Constraints, and Progress
G. E. Morfill, J. L. Zimmerman

11:00 am	<p>Invited Lecture</p> <p>Plasma Treatment of Infected Wounds: Antimicrobial and Healing Effects <i>S. C. Davis, L. R. W Plano</i></p>
11:45 pm	<p>Lunch</p> <p>Plasma Cell and Plasma Tissue Interaction (III) Chairman: S. Hamaguchi</p>
1:30 pm	<p>Invited Lecture</p> <p>Models for the Interaction of Dielectric Barrier Discharges with Exposed Cells and Tissues Under Liquids <i>M. J. Kushner, N. Yu. Babaeva</i></p>
2:15 pm	<p>Invited Lecture</p> <p>Microplasma Sources of Singlet Oxygen for Biomedical Applications <i>J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M Touzeau, J.-L. Ravanat</i></p>
3:00 pm	<p>Cell Treatment by a Low Voltage Micro-Plasma Generation in Salt Containing Liquids <i>L. F. Schaper, M. F. Muir, F. J. Currell, W. G. Graham</i></p>
3:15 pm	<p>A Proteomic Approach to Characterize the Physical Plasma-Bacterium Interaction in Liquid Growth Medium <i>T. Winter, K. Kusch, M. Polak, J. Winter, J. Ehlbeck, K.-D. Weltmann, M. Hecker, H. Kusch</i></p>
3:30 pm	<p>Break</p> <p>Plasma Cell and Plasma Tissue Interaction (IV) Chairman: G. E. Morfill</p>
3:45 pm	<p>Bio-Medical Applications of Non-Thermal Plasmas : Cancer Cell Treatment, Tooth Bleaching, and Decontamination <i>G. Park, J. K. Lee</i></p>
4:00 pm	<p>Assessment of the Unsought Negative Effects of Non-Thermal Plasmas on Mammalian Cells. <i>M. Leduc, S. Coulombe, R. Leask</i></p>
4:15 pm	<p>Plasma Control of Cell Migration <i>M. Keidar, O. Volotskova, A. Shashurin, M. A. Stepp</i></p>
4:30 pm	<p>Effect of Culture Medium Exposed to a Plasma Flow on Activity of HeLa Cells <i>T. Sato, M. Yokoyama, K. Johkura</i></p>
4:45 pm	<p>Cellular Responses to the DNA Exposed to Atmospheric Pressure Cold Plasma <i>H. Yasuda, T. Miura, A. Suzuki, T. Suzuki, T. Eki, A. Mizuno</i></p>

5:00 pm	Cold Atmospheric Pressure Plasma Jet Interactions with Plasmid-DNA <i>D. O'Connell, L. J. Cox, W. B. Hyland, S. J. McMahon, W. G. Graham, T. Gans, F. J. Currell</i>
5:15 pm	Non-Thermal Atmospheric-Pressure Plasma as New Strategy in Wound Healing: Influence of Plasma on Cell Adhesion Molecules on Human Keratinocytes <i>B. Haertel, K. Wende, Th. v. Woedtke, K.-D. Weltmann, U. Lindequist</i>
5:30 pm	Atmospheric Pressure Plasma Shows Rapid Regeneration of Human Cells <i>K. Landsberg, M. Neumann, M. Hähnel, C. Scharf, K.-D. Weltmann, Th. v. Woedtke</i>
5:45 pm	Break
Plasma Cell and Plasma Tissue Interaction (V)	
Chairman: R. Brandenburg	
6:00 pm	Evaluating the Effects of Cold Plasma Treatment and Electrical Field Exposure on Wound Healing <i>R.S. Tipa, J. Broers, M. Kamps, G.M.W. Kroesen</i>
6:15 pm	Non-Thermal Atmospheric-Pressure Plasma as New Strategy in Wound Healing: Interaction of Atmospheric Pressure Plasma in HaCaT Human Keratinocytes <i>K. Wende, S. Blackert, B. Haertel, S. Holtz, M. Harms, Th. v. Woedtke, U. Lindequist</i>
6:30 pm	Plasma Agents and Cell Responses in Bio-Decontamination by DC Discharges in Atmospheric Air <i>Z. Machala, M. Pelach, P. Polcic</i>
6:45 pm	Effects of Nonthermal Argon Plasma on Intracellular Pathogens and Host Cells <i>S. Ermolaeva, O. Petrov, N. Kolkova, N. Zigangirova, M. Vasiliev, E. Sysolyatina, V. Fortov, G. Morfill, A. Grigoriev, A. Gintsburg</i>
7:00 pm	CAM-Assay and Modified HET-CAM-Assay as Useful Models to Assess the Plasma Interaction on Angiogenesis And Inflammation <i>C. P. Bender</i>
7:15 pm	Modeling of Plasma Chemistry of Hand Plasma Sterilization Device <i>Y. Sakiyama, D. Graves, T. Shimizu, G. Morfill</i>

Tuesday, 21st September 2010

Medical Aspects and Results of Plasma in Use (I)

Chairman: U. Lindequist

8:30 am	General Lecture Mechanisms of Plasma Interaction with Living Tissue, Application for Wound Treatment A. Fridman
9:00 am	General Lecture Plasma Medicine Project in Région Centre (Centre Region) J.-M. Pouvesle , E. Robert
9:30 am	Break

Medical Aspects and Results of Plasma in Use (II)

Chairman: A. Fridman

9:45 am	Invited Lecture Plasma Energy – A New Frontier in Surgery C. Nezhad
10:30 am	Invited Lecture New Clinical Applications of the Exogenous Nitric Oxide Plasma Therapy A. Shekhter , A. Pekshev , A. Guller , V. N. Vasilets
11:15 am	Invited Lecture From Space to Skin – Results of Plasma in Chronic Ulcers and Plasma Tissue Interaction W. Stolz , G. Isbary , H.-U. Schmidt , T. Shimizu , B. Steffes , J. Zimmermann , W. Bunk , R. Monetti , S. Karrer , J. Heinlin , M. Landthaler , G. Morfill
12:00 noon	Lunch

Medical Aspects and Results of Plasma in Use (III)

Chairman: J.-M. Pouvesle

1:30 pm	General Lecture A Needs Assessment of Applications in Plasma Medicine Which Have Clinical Relevance R. M. Satava
2:00 pm	On the Relation Between Bacterial Load and Clinical Parameters in Chronic Wounds R. A. Monetti , W. H. Bunk , G. Isbary , R. Pompl , T. Shimizu , B. Steffes , J. Zimmermann , W. Stolz , G. Morfill
2:15 pm	Evaluating the Wound Healing Process Under Medical Plasma Treatment Using an Image Analysis Approach W. H. Bunk , R. Monetti , G. Isbary , R. Pompl , T. Shimizu , J. Zimmermann , B. Steffes , W. Stolz , G. Morfill

2:30 pm	Biochemical and Histological Aspects of Plasma Treatment in Dermatology <i>A. Helmke, N. Mertens, D. Hoffmeister, D. Wandke, C. Suschek, B. Busse, W. Viöl</i>
2:45 pm	In Vitro and In Vivo Antitumor Effect of Non Thermal Plasma <i>M. Vandamme, E. Robert, J. Sobilo, V. Sarron, S. Dozias, S. Lerondel, A. Lepape, J.-M. Pouvesle</i>
3:00 pm	Cold Plasma as a New Hygienic Skin Disinfection Tool without Impairing Skin Barrier Function <i>G. Daeschlein, S. Scholz, Th. v. Woedtke, D. Wandke, K.-D. Weltmann, M. Jünger</i>
3:15 pm	Antimicrobial Effect of Air Plasma on Oral Pathogens <i>D. Saxena, R.M. Murata, C. Cheng-Yen, S. Kuo, S. Duarte</i>
3:30 pm	Study on Stop Bleeding and the Prevention for the Adhesion Using the Atmospheric-Pressure Plasma <i>H. Sakakita, Y. Ikehara, S. Tomita, S. Jyo, S. Kiyama</i>
3:45 pm	In Vivo Skin Disinfection by Plasma Tissue Interaction: Comparison of the Disinfection Efficacy of a Tissue Tolerable Plasma and a Disinfectant <i>A. Kramer, O. Lademann, H. Richter, S. Schanzer, A. Patzelt, N.-O. Hübner, K.-D. Weltmann, B. Hartmann, J. Lademann</i>
4:00 pm	Break
	Plasma Sources for Medicine (I) Chairman: R. Satava
4:15 pm	General Lecture On the Uniformity of Plasmas for Biomedical Applications <i>R. Brandenburg, M. Holub, K.-D. Weltmann</i>
4:45 pm	Invited Lecture Plasma Sources for Use in Biomedical and Medical Applications <i>K. H. Becker</i>
5:30 pm	Characterization of Atmospheric Pressure Plasmas and their Relevance for Plasma Medicine <i>S. Reuter</i>
5:45 pm	Poster Session

Wednesday, 22nd September 2010

Plasma Sources for Medicine (II)

Chairman: T. Kocher

8:30 am	General Lecture Plasma Sources for Medical and Health Applications in the Developing World <i>D. Graves</i>
9:00 am	Invited Lecture Plasma Sources for Medicine <i>G. M. W. Kroesen</i>
9:45 am	Break

Plasma Sources for Medicine (III)

Chairman: D. B. Graves

10:00 am	Dielectric Barrier Discharge for Therapeutic Use: Preliminary Evaluation of Source Efficiency by Plasma Characterization and Simulation <i>P. Rajasekaran, P. Mertmann, N. Bibinov, D. Wandke, W. Viöl, P. Awakowicz</i>
10:15 am	Barrier Corona Discharge Plasma Under Different Humidity and Temperature <i>T. Shimizu, J. Zimmermann, G. Morfill</i>
10:30 am	Quantification of Stable Products Produced by a Non-Thermal Plasma Jet Under Different Environmental Parameters and Admixtures <i>M. Hähnel, K.-D. Weltmann</i>
10:45 am	Cold Atmospheric Argon Plasma Significantly Decreases Bacterial Load of Chronic Infected Wounds in Patients <i>G. Isbary</i>
11:00 am	Production of Nitric Oxide and Reactive Oxygen Species in Liquid by Cold Spark Discharge Plasma <i>D. Dobrynin, N. Shainsky, G. Fridman, G. Friedman, A. Fridman</i>
11:15 am	Survival of Bacillus Atropheus Spores Treated Separately with Vacuum UV Radiation, UV Radiation and Plasma of an Atmospheric Pressure Plasma Jet (APPJ) <i>H. Lange, Th. v. Woedtke, E. Kindel, K.-D. Weltmann</i>
11:30 am	Lunch
1:00 pm	Excursion (Social Events) Guided City Tour, Sailing Trip, Trip to „The Peenemünde Historical Technical Museum“
7:30 pm	Conference Dinner (Award Ceremony)

Thursday, 23rd September 2010

Plasma Surface Modification for Biomedical Application (I)

Chairman: J. Meichsner

8:30 am	<p>General Lecture</p> <p>Plasma-Processes for Optimizing Cell-Substrate Interactions</p> <p><i>P. Favia, E. Sardella, R. Gristina, B. R. Pistillo, M. Nardulli, F. Intranuovo, G. Da Ponte, F. Fanelli, A. Milella, R. D'agostino</i></p>
9:00 am	<p>General Lecture</p> <p>Stem Cell-Mediated Tissue Repair, Enabled Through Plasma-Generated Culture Surfaces</p> <p><i>M. R. Wertheimer, F. Mwale, J. C. Ruiz, H. Wang, A. Petit, J. Antoniou</i></p>
9:30 am	Break

Plasma Surface Modification for Biomedical Application (II)

Chairman: P. Favia

9:45 am	<p>Invited Lecture</p> <p>Low Temperature Atmospheric Pressure Plasma and Advances in Dental Applications</p> <p><i>G.B. Mccombs, M.L. Darby, W. Hynes, M. Laroussi</i></p>
10:30 am	<p>Invited Lecture</p> <p>The Application of Plasma Polymers in Preparing 3D Cell-Polymer Constructs for Tissue Engineering</p> <p><i>M. Alexander</i></p>
11:15 am	<p>Tooth Whitening by a Direct Current Cold Plasma Micro-Jet with the Assistance of Saline Solution</p> <p><i>P. Sun, H. Wu, J. Zhang, J. Fang, J. Pan, Y. Tian, N. Bai, H. Zhou, F. Liu, W. Zhu, K. Becker</i></p>
11:30 am	<p>The Effect of Non-Thermal Plasma Treatment on the Bond Strength of Dental Structures</p> <p><i>N. Silva, P. Coelho, L. Martins, V. Thompson, W. Zhu, E. Kunhardt, K. Becker</i></p>
11:45 am	<p>Oxygen Plasma Effect on the Surface Properties of a Blood Compatible Nanocomposite</p> <p><i>A. S. Mofrad, M. S. Hashtjin, S. Najarian, H. Mirzadeh, A. M. Seifalian</i></p>
12:00 noon	Lunch

Plasma Surface Modification for Biomedical Application (III)

Chairman: M. Wertheimer

1:30 pm	<p>The Formation of the Complex "Protein-Pharmacological Agent" in the Plasma Trap</p> <p><i>T. M. Vasilieva</i></p>
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1:45 pm	<p>Plasma Functionalized, Electrospun Polylactide Non-Wovens with Improved Cell Adhesion Characteristics <i>B. Finke, R. Wyrwa, H. Rebl, N. Mischner, K. Schröder, M. Quaas, K.-D. Weltmann, M. Schnabelrauch, J. B. Nebe</i></p>
2:00 pm	<p>Cell Adhesive Implant Coatings Using Plasma Polymerized Ethylenediamine Thin Films <i>H. Testrich, H. Rebl, F. Wienholtz, B. Nebe, J. Meichsner</i></p>
2:15 pm	<p>Multi-Structural Films with Fast Antimicrobial Shock Effect Deposited by Pulsed Magnetron Sputtering <i>V. Stranak, Z. Hubicka, H. Rebl, C. Zietz, K. Arndt, B. Nebe, R. Bader, A. Podbielski, R. Hippler</i></p>
2:30 pm	<p>Oxygen and Water Plasma Immersion Ion Implantation of Copper Into Titanium for Antibacterial Surfaces of Medical Implants <i>M. Polak, A. Ohl, M. Quaas, G. Lukowski, F. Lüthen, C. Zietz, B. Nebe, K.-D. Weltmann, K. Schröder</i></p>
2:45 pm	<p>Nanostructured Antimicrobial Surfaces of Angiography-Catheter Using Atmospheric Plasma Sources <i>G. T. Lukowski, R. Brandenburg, J. Ehlbeck, K.-D. Weltmann, K. Schröder</i></p>
3.00 pm	Break
	<p>Plasma Based Sterilization/Decontamination (I) Chairman: M. Laroussi</p>
3:15 pm	<p>General Lecture Inactivation of Bacteria and Proteins by Plasma Bullets <i>M. Laroussi, E. Karakas, W. Hynes, L. Greene, A. Munyanyi, G. McCombs</i></p>
3:45 pm	<p>General Lecture Cold Plasmas Based Decontamination of Abiotic Surfaces and Living Tissues: Similarity and Difference in Requirements and Solutions <i>M. G. Kong, Y. Sun, D. L. Bayliss, G. Shama, J. L. Walsh, Z. Cao</i></p>
4:15 pm	<p>Inactivation of Bacteria Using DC Corona Discharge: Role of Ions and Humidity <i>D. Dobrynin, G. Fridman, A. Starikovskiy, G. Friedman, A. Fridman</i></p>
4:30 pm	<p>Kinetics of Reactive Species Generation in Liquids During DBD Treatment and Resulting Antimicrobial Bulk Effects <i>K. Oehmigen, T. Hoder, M. Haehnel, C. Wilke, K.-D. Weltmann, Th. v. Woedtke</i></p>
4:45 pm	<p>Inactivation of Staphylococcus Aureus and Escherichia Coli: Pharmacological Effect of Non-Equilibrium Plasma Treatment of Liquids in Wound Sterilization <i>N. Shainsky, D. Dobrynin, G. Fridman, G. Friedman, A. Rabinovich, A. Fridman</i></p>
5:00 pm	<p>Efficient Bacterial Inactivation in Aqueous Solution with a Reduction of the Solution pH by the Plasma Induced Free Radicals <i>K. Kitano, S. Ikawa, A. Tani, S. Hamaguchi, N. Ohnishi</i></p>

5:15 pm	Non Thermal Atmospheric Pressure Plasma Jet for Bio-Decontamination <i>N. Merbahi, M. Yousfi, J.Ph. Sarrette, S. Cousty</i>
5:30 pm	The Effect of Cold-Plasma From Atmospheric Air on Mature Biofilms <i>S. Duarte, R. M. Murata, C. Cheng-Yen, S.Kuo, D. Saxena</i>
5:45 pm	Break
6:00 pm	ISPM Meeting
7:00 pm	Barbecue - INP Greifswald (Optional)

Friday, 24th September 2010

Plasma Based Sterilization/Decontamination (II)

Chairman: Th. v. Woedtke

8:30 am	Inactivation of Staph. Epidermidis – A Comparative Study of DBD and UV <i>N. Mertens, A. Helmke, D. Hoffmeister, D. Wandke, P. Laspe, S. Emmert, W. Vioel</i>
8:45 am	Interaction of Atmospheric Pressure He/O ₂ Plasma with Vegetative Bacillus Subtilis Cells <i>J. Benedikt, S. Schneider, D. Ellerweg, A. Von Keudell, J.-W. Lackmann, F. Narberhaus, J. Bandow</i>
9:00 am	Optical Diagnostics on Nonequilibrium Atmospheric Pressure Plasma for Disinfection of Penicillium Digitatum <i>M. Ito, T. Ohta, T. Mori, S. Iseki, M. Hori</i>
9:15 am	Bactericidal Effects of Low Temperature Atmospheric Pressure Plasma on Porphyromonas Gingivalis <i>A. Mahasneh</i>
9:30 am	Inactivation of Prions Using Electrical DC Discharges at Atmospheric Pressure and Ambient Temperature <i>V. Scholtz, J. Julák, O. Janoušková, K. Holada</i>
9:45 am	Break

Plasma Based Sterilization/Decontamination (III)

Chairman: M. Kong

10:00 am	Bacterial sample deposition and its effects on plasma inactivation <i>D. L. Bayliss, G. Shama, F. Iza, M. Kong</i>
10:15 am	Modification and Bio-Decontamination of Polymers Utilizing Cold Atmospheric Plasma <i>K. Fricke, K. Schröder, Th. v. Woedtke, K.-D. Weltmann</i>

10:30 am	<p>Process Characterization of an Industrial-Grade Decontamination Setup for Thermolabile Medical Goods</p> <p><i>E. Semmler, B. Denis, S. Steves, N. Bibinov, P. Awakowicz, W. Novak</i></p>
10:45 am	<p>Combining Plasma with Water Vapor - A New Approach for Sterilization and Decontamination of Biomedical Instruments</p> <p><i>K. Stapelmann, C. Rizk, N. Bibinov, P. Awakowicz</i></p>
11:00 am	<p>Innovative Plasma Generation in Flexible Endoscope Tubes for Plasma Decontamination and Wound Disinfection.</p> <p><i>J. Winter, M. Polak, R. Schneider, U. Schnabel, J. Ehlbeck, K.-D. Weltmann</i></p>
11:15 am	<p>Closing Ceremony (Best Student Award)</p>
1:30 pm	<p>Workshop - ZIK plasmatis (Seperate Program)</p> <p>INP 4th floor, ZIK plasmatis</p> <p>Chairmen: K. Masur, S. Reuter</p> <p>The newly established centre for innovation competence "plasmatis" will hold a workshop on "Influence of plasma treatment on cell contacts" as part of the 3rd International Conference on Plasma Medicine.</p> <p>The workshop is organized as a "Lab-meeting". People interested in cellular reactions to plasma treatment are invited to visit the lab, get in contact with the methods used in plasmatis and have a fruitful discussion and exchange of ideas.</p> <p>(only for registered participants; places are limited)</p>



Poster

Plasma Cell and Plasma Tissue Interaction

- P1 Non-Thermal Atmospheric-Pressure Plasma as New Strategy In Wound Healing: DNA Interaction of Atmosphericpressure Plasma In HaCaT Human Keratinocytes
K. Wende, S. Blackert, B. Haertel, S. Holtz, M. Harms, Th. v. Woedtke, U. Lindequist
- P2 Non-Thermal Atmospheric-Pressure Plasma as New Strategy In Wound Healing: Cell Proliferation and DNA Interference Under Different Culture Conditions
M. Harms, S. Blackert, B. Haertel, M. Haehnel, Th. v. Woedtke, U. Lindequist, K. Wende
- P3 Interaction of Focused Tandem Shock Waves with Soft Animal Tissue
P. Lukes, P. Sunka, P. Hoffer, V. Stelmashuk, J. Benes, P. Pouckova, J. Zeman
- P3 Inflammatory Response to Cold Plasma In Normal Skin
M. Vandamme, L. Fauconnier, B. Ryffel, E. Robert, J.-M. Pouvesle, V. Quesniaux
- P4 From Afterglow to Plasma: Blood Treatment Application
J.-P. Cambus, F. Clement
- P5 Study of Macrophage Activation and Apoptotic Response Under Cold Atmospheric Pressure Plasma Treatment
A. R. Lupu, N. Georgescu
- P6 Study of Oxidative Stress Markers During Epithelial Regeneration Induced by Atmospheric Pressure Plasma Treatment
I. Topala, A. V. Nastuta, C. Grigoras, N. Dumitrascu

Medical Aspects and Results of Plasma In Use

- P7 Effects of Nonthermal Plasma on Signaling Events in the Eukaryotic Cells
S. Ermolaeva, A. Tuhvatullin, A. Varfolomeev, M. Vasiliev, D. Logunov, O. Petrov, B. Naroditsky, G. Morfill, V. Fortov, A. Griroriev, A. Gintsburg
- P8 Atmospheric Pressure Cold Plasma Jet (APPJ) and Dielectric Barrier Discharge Plasma (DBD) in the Treatment of Microbial Pathogens of Dermatological Diseases In Vitro and In Vivo
G. Daeschlein, S. Scholz, A. Ladwig, K. Kohl, W. Lehnert, M. Tembulatow, A. Arnold, Th. v. Woedtke, D. Wandke, K.-D. Weltmann, M. Jünger
- P9 Risk Assessment of Plasma Treatment In Dermatology: Atmospheric Pressure Cold Plasma Jet (APPJ) and Dielectric Barrier Discharge Plasma (DBD) Treatment and Integrity of Skin Barrier Function
G. Daeschlein, S. Scholz, Th. v. Woedtke, D. Wandke, K.-D. Weltmann, M. Jünger

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- P10 Influencing of the Penetration of *Pseudomonas Aeruginosa* Into a 3-D Epidermis Model and the Inactivation with Tissue Tolerable Plasma

R. Matthes

- P11 Atmospheric Non-Thermal Argon Plasma for the Treatment of Pruritus: A Randomized Two-Sided Placebo-Controlled Study

J. Heinlin, G. Isbary, W. Stolz, F. Zeman, M. Landthaler, G. Morfill, T. Shimizu, J. L. Zimmermann, S. Karrer

Plasma Sources for Medicine

- P12 A Cold Intermittent Negative DC Corona Discharge Plasma for Biomedical Applications

R. Bussiahn, R. Brandenburg, T. Gerling, E. Kindel, H. Lange, N. Lembke, K.-D. Weltmann, Th. v. Woedtke, T. Kocher

- P13 Removal of Plaque From Extracted Teeth by Atmospheric Pressure Plasma Jets

T. Kocher, I. Koban, L. Jablonowski, K. Schröder, K. Fricke, E. Kindel, K.-D. Weltmann, A. Kramer, N.-O. Huebner

- P14 Elimination of *E. Faecalis* From Simulated Root Canals by a New Atmospheric Pressure Plasma Jet

L. Jablonowski, I. Koban, E. Kindel, K.-D. Weltmann, A. Kramer, N.-O. Huebner, T. Kocher

- P15 Dielectric Barrier Discharge for Therapeutic Use: Evaluation of Source Efficiency by Plasma Characterization and Simulation

P. Rajasekaran, P. Mertmann, N. Bibinov, D. Wandke, W. Viöl, P. Awakowicz

- P16 Absorbed Power, Electron Densities and Gas Temperature Measurements of Cold Atmospheric Pressure Plasma Jets

S. Hofmann, B. V. Gessel, A. Pageau, P. Bruggeman

- P17 Development of the $\text{Ar}/\text{N}_2/\text{O}_2/\text{H}_2\text{O}$ Plasma-Chemistry for Numerical Simulation of a Plasma Needle

W. Van Gaens, T. Martens, A. Bogaerts

- P18 Diagnostics of the Plasma Gun Operating Conditions: A Pulsed Plasma Jet for Biomedical Applications

V. Sarron, E. Robert, S. Dozias, M. Vandamme, J. M. Pouvesle

- P19 DBD Reactors Studies: From Afterglow to Plasma

F. Clément, A. Ricard, S. Cousty, J.-P. Cambus, M.-D. Linas, B. Held

- P20 Numerical Simulations of the Dynamic He/O_2 -Plasma Chemistry In Cold Atmospheric Pressure Plasmas

J. Waskoenig, K. Niemi, L. Graham, T. Gans

- P21 Quantitative Determination of Atomic Oxygen Densities In Cold Atmospheric Pressure Plasmas

K. Niemi, J. Waskoenig, L. Graham, T. Gans

- P22 Surface DBD Discharge for Preparation of Non-Fouling Plasma Polymer Films

I. N. Gordeev, A. Choukourov, V. Prukner, M. Šimek, H. Biederman

- P23 Diagnostics and Optimisation of Operating Modes of the Low Temperature Argon Plasma Source for Medical Applications
O. F. Petrov, V. E. Fortov, M. M. Vasiliev, A. I. Grigorjev, S. N. Antipov, A. I. Gintsburg, B. S. Naroditsky, S. A. Ermolaeva, A. F. Varfolomeev, M. Yu. Chernukha, D. S. Yurov, A. A. Kaminskaya, Yu. M. Romanova, I. A. Shaginyan, M. M. Moisenovich, A. N. Murashev, I. I. Selezneva, E. I. Mayevsky, G. E. Morfill, T. Shimizu
- P24 Electron Spin Resonance Spectroscopy of Reactive Oxygen Species and Reactive Nitrogen Species Generated In a Direct Current Atmospheric Pressure Plasma Microjet
P. Sun, H. Wu, H. Feng, R. Wang, J. Zhang, J. Fang, W. Zhu, K. Becker
- P25 Physico-Chemical Characterisation of a Multi-Electrode Source of Atmospheric Pressure Non-Thermal Plasma
V. H. Pérez-Ruiz, R. Peña-Eguiluz, R. López-Callejas, A. Mercado-Cabrera, A. E. Muñoz-Castro, S. R. Barocio, R. Valencia-Alvarado, A. D. L. Piedad-Beneítez
- P26 Non-Thermal Atmospheric Plasma Needle Controlled Via Three Axis Robotic Workcell for Treatment of Living Tissues
M. Taghioskoui, J. Perlow, M. Zaghloul, A. Montaser

Plasma Surface Modification for Biomedical Application

- P27 Improved Bone Implants by Allylamine Plasma Polymer Coated Titanium Surfaces
B. Finke, K. Schröder, H. Rebl, J. B. Nebe, J. Rychly, A. Fritsche, R. Bader, H. Rothe, U. Walschus, M. Schlosser, A. Ohl, K.-D. Weltmann
- P28 The Osteoblast Response on Argon-Oxygen Plasma Treated Titanium Discs
K. Duske, I. Koban, K.-D. Weltmann, E. Kindel, B. Nebe, T. Kocher
- P29 Mechanical Properties and Release Characteristics of Antimicrobial Plasma Treated Implant Surfaces
C. Zietz, A. Fritsche, B. Finke, V. Stranak, K. Schröder, R. Hippler, R. Bader
- P30 Anti-Adhesive Biomaterial Properties of Plasma Polymerized Hexamethyldisiloxane
J. Kroth, S. Kuhn, M. Rommens, R. Förch
- P31 Analysis of Tooth Surface Modification by an Atmospheric Plasma Jet
A. Lehmann, A. Rueppell, S. Rupf, M. Hannig, A. Schindler
- P32 Deposition of Metalorganic Thin Films Via PECVD for Antibacterial Applications
L. Duque, G. Mulley, T. Jenkins, R. Förch
- P33 Protein Removal on 3D Objects In a Low Pressure Inductively Coupled Plasma and Comparison of Measured Discharge Parameters to Simulation
B. Denis, N. Bibinov, T. Mussenbrock, P. Awakowicz

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- P34 Non Thermal Atmospheric Pressure Plasma Treatment and Characterization of Collagen for Biomedical Applications
F. Delaunay, N. Merbahi, V. Samouillan, J. P. Gardou, J. Dandurand, M. Yousfi, C. Lacabanne
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- P35 Silicon-Containing Calcium Phosphate Coatings Deposited by RF-Magnetron Sputtering: In Vitro Study In a Non-Cellular Simulated Body Fluid
M. A. Surmeneva, R. A. Surmenev, V. F. Pichugin, S. S. Chernousova, M. Eppele
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- P36 Vapor Layer Surface Reaction Effect on Generation of UV and OH In Conductive Electrolyte with 380 kHz RF Power and Sub-Mm Electrode
S.-Y. Yoon, H.-C. Kwon, G.-H. Kim
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- P37 Root Canal Disinfection by a Direct Current Atmospheric Pressure Cold Plasma Micro-Jet
P. Sun, R. Wang, H. Wu, J. Zhang, J. Fang, J. Pan, H. Zhou, N. Bai, F. Liu, W. Zhu, K. Becker
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- P38 Novel Biomedical System Using DNA Encapsulated Carbon Nanotubes Created In Electrolyte Plasmas
R. Hatakeyama, T. Kaneko, Q. Chen, Y. Li
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Plasma Based Sterilization/Decontamination

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- P39 Decontamination of Bacillus Atrophaeus Endospores In Pharmaceuticals and Its Packaging by Means of Pulsed UV Irradiation and Microwave Excited Plasma
J. Ehlbeck, B. Grossjohann, U. Krohmann, T. Neumann, U. Schnabel, K.-D. Weltmann, Th. v. Woedtke, D. Braun
-
- P40 Inactivation of Vegetative Microorganisms and Bacillus Atrophaeus Spores by Air-Generated Nitrogen Oxides (NO_x) Microwave Plasma Gas
U. Schnabel, U. Krohmann, W. Lehmann, M. Andrasch, J. Ehlbeck, K.-D. Weltmann
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- P41 Smell Reduction and Disinfection of Textiles
R.-J. Zahn, T. Koburger, K.-D. Weltmann
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- P42 Has Nonthermal Atmospheric Pressure Plasma an Effect on the Pharmaceutical Quality of Herbal Drugs?
K. Wende, R. Banaschik, R. Brandenburg, Th. v. Woedtke, M. Wurster, U. Lindequist
-
- P43 Antiseptic Efficacy of Different Plasma Sources on Dental Biofilms
I. Koban
-
- P44 Decontamination of Water by High Power DC Diaphragm Underwater Plasma
P. Lukes, M. Clupek, V. Babicky, P. Sunka, E. Spetlikova, V. Janda, D. Vinklarkova, E. Marsalkova, B. Marsalek
-
- P45 Decontamination of the Inner Walls of Small Diameter Tubes by Nitrogen Afterglow Plasma
M. Kirkpatrick, S. Limam, E. Odic, A.-M. Poinu
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- P46 *From Afterglow to Plasma: Antimicrobial Application*
S. Cousty, M.-D. Linas, Jp Sarrette, A. Ricard, B. Held, J.-P. Cambus, F. Clément
-
- P47 *Sterilization of Bacteria Containing Liquids and Biofilms*
S. S. Lazović, N. Puač, M. Miletić, D. Maletić, M. Jovanović, D. Pavlica, D. Vuković, G. Malović, P. Milenković, Z. Lj. Petrović
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- P48 *Characterization of DBD Plasma Discharge Used for the Treatment of Fungus In Old Papers*
R. Sadeq, M. El-Shaer
-
- P49 *Non-Equilibrium Plasma Sterilization of Superficial Tissue Wound and Burns*
S. C. Park, A. Yost, G. Fridman, G. Friedman, A. Fridman
-
- P50 *Non-Thermal Plasma Sterilization of Wounds on Non-Uniform Surfaces and Living Tissue*
A. D. Yost, S. C. Park, G. Fridman, G. Friedman, A. Fridman
-
- P51 *Nonthermal Nanoscale Plasma Discharges In Liquid*
J. Alamia, G. Friedman
-
- P52 *Treatment of Clinical Dermatitis Using a Direct-Current, Atmospheric-Pressure Cold Plasma Micro-Jet*
P. Sun, H. Wu, R. Wang, J. Zhang, J. Fang, Y. Sun, W. Liu, W. Zhu, K. Becker
-
- P53 *Inactivation of Bacteria In Water by a Direct-Current, Atmospheric- Pressure, Cold Plasma Microjet with Various Working Gases*
P. Sun, H. Wu, R. Wang, J. Zhang, J. Fang, N. Bai, H. Zhou, F. Liu, W. Zhu, K. Becker
-
- P54 *Revealing Eukaryocyte Response Pathway Toward a Direct Current, Cold Plasma Jet Using S. Cerevisiae Single Deletion Mutants*
H. Feng, R. Wang, P. Sun, Q. Miao, F. Li, J. Zhang, J. Fang, W. Zhu, K. Becker
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Meeting Points

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|---|---|
| 1 | INP Greifswald
Welcome Reception/Workshop/Barbecue |
| 2 | Institute of Biochemistry
Lecture Hall/Conference Office |
| 3 | Cafeteria
Conference Dinner |





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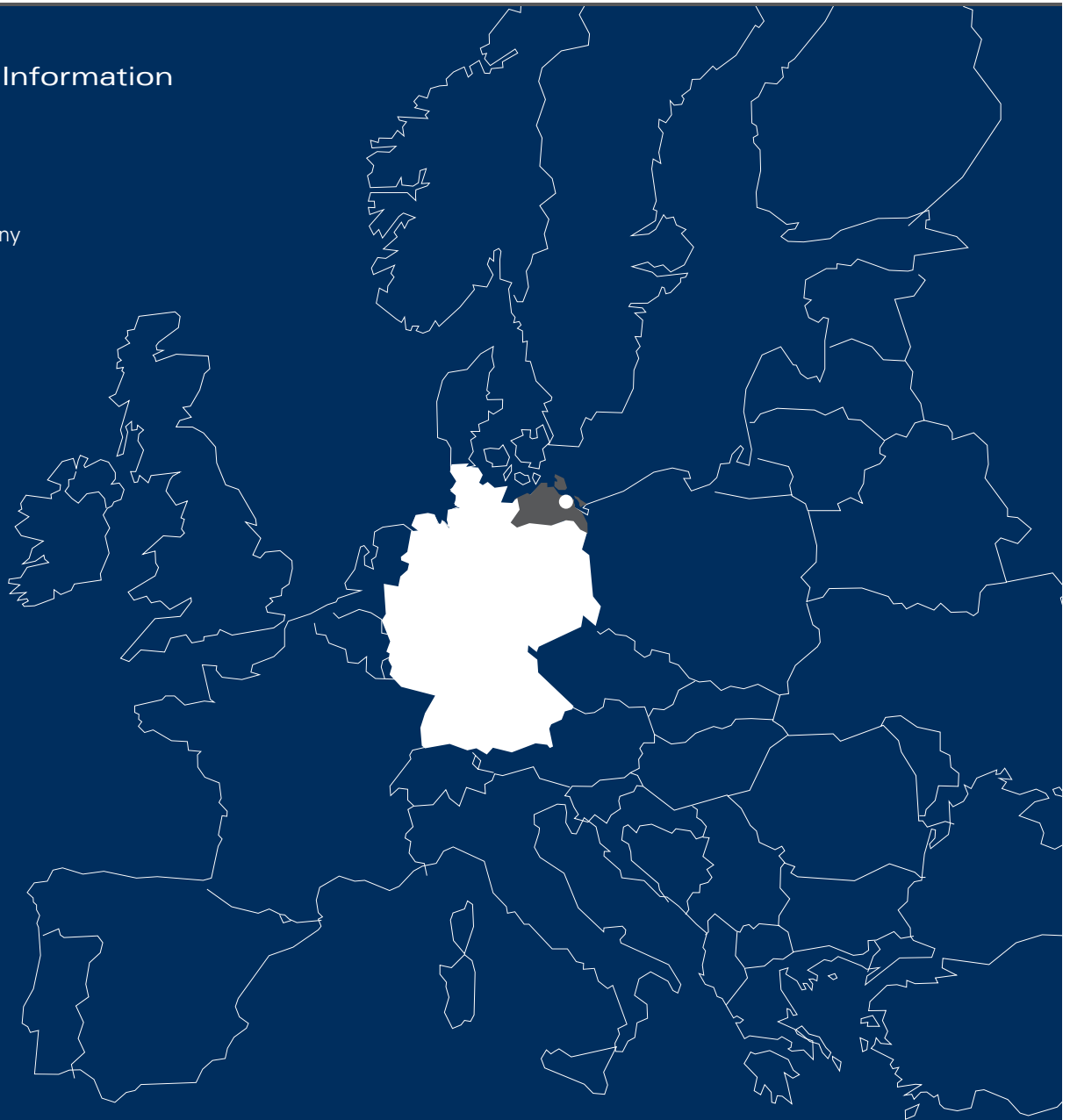
3rd International Conference on Plasma Medicine (ICPM-3)

19th-24th September 2010

ICPM-3 Contact Information

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ICPM-3
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