

## Gemeinsame Plasma-Publikationen

- 1) Helmke A., Hoffmeister D., Mertens N., Emmert S., Schuette J., Vioel W.; The acidification of lipid film surfaces by non-thermal DBD at atmospheric pressure in air. *New Journal of Physics*, **2009**; **11**, 115-125.
- 2) Helmke A., Hoffmeister D., Berge F., Emmert S., Laspe P., Mertens N., Vioel W., Weltmann K-D.; Physical and microbiological characterization of *Staphylococcus epidermidis* inactivation by dielectric barrier discharge. *Plasma Processes and Polymers*, **2011**; **8(4)**, 278 - 286.
- 3) Helmke A., Gruening P., Fritz U., Wandke D., Emmert S., Petersen K., Vioel W.; Low-temperature plasma – a prospective microbicidal tool. *Recent Patents on Anti-Infective Drug Discovery*, **2012**; **7**, 223 - 230.
- 4) Marschewski M., Hirschberg J., Omairi T., Höfft O., Viöl W., Emmert S.\*, Maus-Friedrichs W.\*; Electron spectroscopic analysis of the human lipid skin barrier: Cold atmospheric plasma-induced changes in lipid composition. *Experimental Dermatology*, **2012**; **21**, 921 - 925. \*joint senior authors
- 5) Emmert S., Brehmer F., Hänßle H., Helmke A., Mertens N., Ahmed R., Simon D., Wandke W., Maus-Friedrichs W., Däschlein G., Schön M.P., Viöl W.; Atmospheric pressure plasma in dermatology: Ulcus treatment and much more. *Clinical Plasma Medicine*, **2013**; **1**, 24 - 29.
- 6) Hirschberg J., Omairi T., Mertens N., Helmke A., Emmert S., Viöl W.; Influence of excitation pulse duration of dielectric barrier discharges on biomedical applications. *Journal of Physics D: Applied Physics*, **2013**; **46**, 165201 (8pp).
- 7) Emmert S., Brehmer F., Hänßle H., Helmke A., Mertens N., Ahmed R., Simon D., Wandke W., Schön M.P., Maus-Friedrichs W., Viöl W., Däschlein G.; Treatment of chronic venous leg ulcers with a hand-held DBD plasma generator. *Plasma Medicine*, **2012**; **2**, 19 - 32.
- 8) Tiede R., Hirschberg J., Daeschlein G., von Woedtke T., Vioel W., Emmert S.; Plasma applications: a dermatological view. *Contributions to Plasma Physics*, **2014**; **54**, 118 - 130.
- 9) Mertens N., Mahmoodzada M., Helmke A., Grünig P., Laspe P., Emmert S., Viöl W.; Inactivation of microorganisms using cold atmospheric pressure plasma with different temporal discharge characteristics. *Plasma Processes and Polymers*, **2014**; **10**, 910 - 920.

10) Brehmer F., Hänßle H., Däschlein G., Ahmed R., Pfeiffer S., Görlitz A., Simon D., Schön MP., Wandke D., Emmert S.; Alleviation of chronic venous leg ulcers with a hand-held dielectric barrier discharge plasma generator (PlasmaDerm® VU-2010): Results of a monocentric, two-armed, open, prospective, randomized, and controlled trial (NCT01415622). *J Eur Acad Dermatol Venereol*, **2015**; **29**, 148 - 155.

11) Hirschberg J., Gerhard C., Braun A., Grottker S., Krupp A., Emmert S., Viöl W.; Validation of the Suitability of Stripped Lipid as a Skin Model in Plasma Medical Investigations. *Open Journal of Applied Sciences*, **2015**; **5**, 40 - 49.

12) Tiede R., Mann MS., Viöl W., Däschlein G., Welz C., Wolff H., von Woedtke T., Lademann J., Emmert S.; Plasmamedizin in der Dermatologie. *HAUT*, **2014**; **6**, 283 - 289.

#### **Weitere Plasma-Publikationen Emmert**

1) Daeschlein G., Scholz S., Arnold A., von Podewils S., Haase H., Emmert S., von Woedtke T., Weltmann KD., Jünger M.; In vitro susceptibility of important skin and wound pathogens against low temperature atmospheric pressure plasma jet (APPJ) and dielectric barrier discharge plasma (DBD). *Plasma Process Polym*, **2012**; **9**, 380 – 389.

2) Emmert S., Isbary G., Kluschke F., Lademann J., Westermann U., Podmelle F., Metelmann HR., Däschlein G., Masur K., von Woedtke T., Weltmann KD.; Clinical Plasma Medicine – Position and perspectives in 2012. *Clinical Plasma Medicine*, **2013**; **1**, 3 - 4.

3) Daeschlein G., Napp M., von Podewils S., Lutze S., Emmert S., Lange A., Klare I., Haase H., Gümbel D., von Woedtke T., Jünger M.; In vitro susceptibility of multidrug resistant skin and wound pathogens against low temperature atmospheric pressure plasma jet (APPJ) and dielectric barrier discharge plasma (DBD). *Plasma Processes and Polymers* **2014**; **11**, 175 - 183.

4) Daeschlein G., Scholz S., Emmert S., von Podewils S., Haase H., von Woedtke T., Jünger M.; Plasma medicine in Dermatology: Basic antimicrobial efficacy testing as prerequisite to clinical plasma therapy. *Plasma Medicine*, **2012**; **2**, 33 - 69.

5) Däschlein G., Napp M., von Podewils S., Scholz S., Arnold A., Emmert S., Haase H., Napp J., Gümbel D., von Woedtke T., Jünger M.; Antimicrobial efficacy of a historical violet wand plasma in comparison with modern plasma devices, low temperature atmospheric pressure plasma jet (APPJ) and dielectric barrier discharge (DBD) device. *Plasma Sources Sci. Technol.*, **2014**; PSST-100128, **in press**.

6) Schiller S., Schubert S., Lehmann J., Seebode C., Smolorz S., Tiede R., Apel A., Laspe P., Emmert S.; Von seltenen genetischen Erkrankungen lernen: Hautkrebs und DNA Reparatur, Ichthyosen und epidermale Differenzierung sowie kaltes Atmosphärendruckplasma als neue Therapiemodalität. *Spitzenforschung in der Dermatologie*, **2014**; 62 - 70.

7) DIN SPEC 91315:2014-06, Allgemeine Anforderungen an medizinische Plasmaquellen. **2014**, Beuth Verlag; <http://www.beuth.de/de/technische-regel/din-spec-91315/203493369?SearchID=681216359>

8) Daeschlein G., Napp M., von Podewils S., Scholz S., Arnold A., Emmert S., Haase H., Napp J., Spitzmueller R., Gumbel D., von Woedtke T. Jünger M.; Antimicrobial efficacy of a historical high-frequency plasma apparatus in comparison with two modern cold atmospheric pressure plasma devices. *Surgical Innovation*, **2015**; e-pub ahead of print.

9) Emmert S.; Plasmamedizin – eine Innovation weit über die Dermatologie hinaus. *J Dtsch Dermatol Ges*, **2015**; **13(2)**, 95 - 96.

### **Buchbeiträge**

10) Tiede R., Emmert S.; Plasmabehandlung zur Wundheilung, für Neurodermitis und Psoriasis sowie Plasma-Anwendungssicherheit. In: Uni-Med. Klinik. **2015**; in press.

11) Daeschlein G., Scholz S., von Podewils S., Arnold A., Klare I., Haase H., Emmert S., von Woedtke T., Jünger M.; Cold plasma - a new antimicrobial treatment tool against multidrug resistant pathogens. In: *Worldwide Research Efforts in the Fighting against Microbial Pathogens: From Basic Research to Technological Developments*. A. Mendez-Vilas (ed.), Pub. BrownWalker Press, **2015**; in press. ISBN-13: 978-1-61233-636-7

### **Weitere Plasma-Publikationen Viöl**

1) S. Tümmel, N. Mertens, Jeijun Wang, W. Viöl: Low temperature plasma treatment of living human cells, *Plasma Process. Polym.*, **2007** 4, S465-S469

2) P. Rajasekaran, P. Mertmann, N. Bibinov, D. Wandke, W. Viöl, P. Awakowicz: DBD plasma source operated in single filamentary mode for therapeutic use in dermatology, *J. Phys. D : Appl. Phys.* 42, **2009** 225201

3) P. Awakowicz, N. Bibinov, M. Born, B. Busse, R. Gesche, A. Helmke, A. Kaemling, V. Kolb-Bachofen, R. Kovacs, S. Kuehn, J. Liebmann, N. Mertens, U. Niemann, C. Opländer, H.-E. Porteanu, J. Scherer, C. Suschek, W. Viöl, D. Wandke: Biological stimulation of the human skin applying health-promoting light and plasma sources, Contributions to Plasma Physics 49 (9) **2009** 641-647

4) P. Rajasekaran, P. Mertmann, N. Bibinov, D. Wandke, W. Viöl, P. Awakowicz: DBD plasma source operated in single homogeneous and filamentary modes for therapeutic use in dermatology, J. Phys. D : Appl. Phys. 42 **2009**

5) P. Rajasekaran, P. Mertmann, N. Bibinov, D. Wandke, W. Viöl, P. Awakowicz: Filamentary and homogeneous modes of Dielectric Barrier Discharge (DBD) in air: Investigation through plasma characterization and simulation of surface irradiation, Plasma Processes and Polymers 7 **2010** 665-675

6) A. Helmke, D. Wandke, M. Mahmoodzada, K.-D. Weltmann, W. Viöl: Impact of electrode design, supply voltage and interelectrode distance on safety aspects and characteristics of a medical DBD plasma source, Contributions to Plasma Physics 53 **2013** 623-638

7) A. Helmke, M. Franck, D. Wandke, W. Viöl: Tempo-spatially resolved ozone characteristics during single-electrode dielectric barrier discharge (SE-DBD) operation against metal and porcine skin surfaces, Plasma Medicine **2014**  
DOI:10.1615/PlasmaMed.2014011946

### **Buchbeiträge**

8) N. Mertens, W. Viöl: Dielectric barrier discharge plasma - a versatile tool for biological applications, Chapter 7 "Biological and Environmental Applications of Gas Discharge Plasmas", Nova Science Publishers, Inc. **2010** 237-261

9) N. Bibinov, P. Rajasekaran, P. Mertmann, D. Wandke, W. Viöl, P. Awakowicz: Basics and biomedical applications of Dielectric Barrier Discharge (DBD), Kapitel 6 im Buch "Biomedical Engineering, Trends in Material Science", Publisher: InTech, ISBN 978-953-307-513-6 **2011** 123-150