Dr. Masur, Kai

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Kai Masur is the leader of the research group “Plasma Wound Healing” at the Leibniz Institute for Plasma Science and Technology (INP Greifswald). From 2009 until 2014, he was group leader of the young research group “Cellular Effects” of the Center for Innovation Competence “ZIK plasmatis” - responsible to establish the molecular biology unit at the INP Greifswald. Nowadays he also is the field executive, establishing the new branch office and research laboratories for applied clinical plasma medicine directly at the clinic diabetes unit and wound centre of the clinic in Karlsburg (Klinikgruppe Dr. Guth GmbH & Co. KG).

He has published more than 80 peer-reviewed articles, has over 2200 citations and a H-index of 26. Kai Masur is member of the scientific board at the NZPM - National Center for Plasma Medicine in Germany. During his leadership at the ZIK plasmatis, his group conducted research to identify molecular targets within cells treated with cold atmospheric pressure plasma in order to identify the mode of action of cold plasmas. These data supported the certification of the first cold plasma jet as a class2a medical device. The group “Cellular Effects” was also in charge for analysing the security and efficacy of this plasma source, including mutagenicity test. His group provided first data for a save clinical application of the cold atmospheric plasma jet kINPen® Med. Doctor Masur is also co-author of the first medical textbook dealing with plasma medicine and the clinical usage of cold plasma.

His research interests focusing on the investigation of cold atmospheric pressure plasmas and their clinical application, especially to treat infected chronic wounds. Therefore, both microbial and human cellular reactions after plasma treatment are under investigation in order to define an optimal plasma treatment of each patient / each wound. Future studies will further optimize patient treatment by combining new diagnostics and technologies for a more efficient wound therapy.