

GERMAN-KOREAN COOPERATION IN PLASMA MEDICINE

MARCH 15TH, 2018

In the summer of 2016, the Applied Plasma Medicine Center was founded in the Korean capital Seoul, a joint project of scientists from the Leibniz Institute for Plasma Science and Technology (INP) and the Plasma Bioscience Research Institute of Kwangwoon University. Now, experts from both research locations are taking stock of their findings at an international workshop in Greifswald.

While the medical application of cold atmospheric pressure plasmas has been established in numerous German clinics, this step is still pending in Asia. Since 2013, three plasma units have been approved in Europe, including the kINPen® MED developed at the INP. It is foreseeable that further products in this field will come onto the market. Currently, however, it is difficult to compare these devices and their effectiveness as well as their safety. Therefore, the Leibniz Institute for Plasma Science and Technology Greifswald and the Plasma Bioscience Research Institute of Kwangwoon University Seoul have combined their research activities to define common standards and diagnostics in plasma medicine. With the official opening of the Applied Plasma Medicine Center (APMC) in February 2017, this collaboration was institutionalized as part of the first APMC workshop. For the first time, a Leibniz Institute became a partner of a Korean excellence research program.

„We aim to harmonize the test methods for plasma devices and want to achieve comparable results,“ says the head of the research focus on plasma medicine at the INP, Prof. Thomas von Woedtke. „The goal is to establish an international standard for transferring plasma technologies worldwide to new applications in medicine.“

In the first year since the inauguration of the APMC, researchers from INP Greifswald spent a total of 126 days in Seoul to test the different methods and devices. The data obtained in this research work should prepare the step into the clinical routine. „Approval procedures for medical products are as complex in Korea as they are in Germany,“ says Dr. Kai Masur, Head of the Plasma Wound Healing Research Group at ZIK plasmatis, an interdisciplinary research center at the INP. „We are honored to be able to accompany our Korean partners on this journey.“

At a second workshop of the APMC on 22./23. March in the Biotechnikum Greifswald plasma researchers from both countries want to report on the results and successes so far. The event will take place after the International Workshop on Plasma for Cancer Treatment (IWPCT). Around 120 scientists from 21 countries in the University Medical Center Greifswald and INP are expected.

About INP Greifswald:

After solid, liquid and gaseous, plasma is the fourth aggregate state that matter can assume. The electrically conductive particle mixture of atoms, ions, electrons and molecules arises when further energy is supplied to a neutral gas. This natural phenomenon can be found in lightning, in the sun or in polar lights. At the Leibniz Institute for Plasma Science and Technology (INP), the largest non-university research facility for low-temperature plasma in Europe, around 200 employees work on surface coating, food decontamination, wastewater treatment, chronic wound treatment and also in electrical engineering. The INP conducts application-oriented basic research and offers customer-specific solutions, studies and consulting for the industry. Many innovations have already led to the development of prototypes and spin-offs.

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