

Plasma Medicine I + II

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Plasma medicine is an innovative and emerging field combining plasma physics, life science and clinical medicine to use physical plasma for therapeutic applications.

Plasma medicine can be subdivided into three main fields: plasma-assisted modification of bio-relevant surfaces, plasma-based bio-decontamination/sterilization, and – as the central field – direct therapeutic plasma application. Especially for this last-mentioned field, a fundamental knowledge of the mechanisms of plasma interaction with living cells and tissue is essential as a scientific basis

The lecture will give an introduction in the field of plasma medicine and is subdivided into the following main emphases:

1. Plasma medicine: definition, history, and basic aspects
2. Plasma-based bio-decontamination/sterilization
3. Atmospheric pressure plasma sources for therapeutic application: plasma parameters and risk estimation
4. Basics of plasma-cell interaction