

Center for Dermal Research

Innovations in Dermatological Sciences Conference 2024



Dr. Manfred Bodenlenz

Manfred Bodenlenz, an engineer and medical device designer, has been engaged in a wide range of research areas for the past 25 years. These areas include diabetes research focusing on new types of insulin, intensive care research involving automated glycemic control, as well as dermatology and topical drug development. His primary focus has consistently revolved around the development of optimal interfaces for minimally invasive continuous access to patient or volunteer tissue. This enables the conduct of time-resolved kinetic studies of drugs directly at their target site in vivo, while also evaluating their impact on local biomarkers (PK-PD). Presently, the medical devices he has developed for "dermal Open-Flow Microperfusion – dOFM" are accessible as certified, secure medical devices for clinical investigations in Europe, the USA, and India.

In the realm of clinical dermatology research, the devices have been utilized for the local dermal PK-PD of topical drugs and antibodies like secukinumab and dupilumab. Recently, a sequence of clinical trials, jointly funded by the US-FDA, showcased the effectiveness of OFM in evaluating topical bioequivalence. Concurrently, preclinical trials conducted on pigs illustrated OFM's value in informing decisions within topical drug development by forecasting the probability of clinical efficacy for topical compounds. Being the pioneer user, Manfred Bodenlenz frequently found himself in the position of explaining the previously unknown kinetics witnessed at the site of action, necessitating a deep dive into the subtleties of skin anatomy and physiology and consequently gain new perspectives on skin permeation.

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