This Issue at a Glance and an Invitation to the Forum following the Gordon Research Conference

In August 2007, the forum following the Gordon Research Conference on 'Barrier Function of Mammalian Skin' will be held in Washington DC as a two-and-a-half-day interactive forum for industry, government and academia entitled 'Trailblazing the skin frontier: evidence base, opportunities and training'. The International Society of Skin Physiology (ISP) will be, together with other organizations like EPA, FDA, NIOSH, WHO and CFTA, the sponsor of this forum. The focus will be on:

- product development and exposure assessment;
- evidence base for skin products;
- assessing how skin is changed by products;
- skin exposures and effects;
- nanotechnology safety and exposure issues;
- measuring skin penetration;
- in vivo skin models.

For further information, please contact the editor of this journal or go to the website of the ISP (<http://www.isp-society.org>).

The present issue of the journal *Skin Pharmacology and Physiology* is related to topics which will be discussed at the above-mentioned forum.

Görne et al. (Skin Pharmacol Physiol 2007;20:133–140) showed in a comparative study the discriminative capacity of the blanching assay for topically applied glucocorticosteroids. The influence of different galenical preparations was compared and could be rated using a chromometer and a subjective rating scale over a follow-up time course of 24 h.

Particle-mediated delivery systems are becoming a clinically relevant tool in dermatology and immunology. Menon et al. (Skin Pharmacol Physiol 2007;20:141–147) investigated the qualitative ultrastructural morphology of skin following pressure-driven delivery of gold particles to ex vivo human breast skin, at different pressures. Particle bombardment of the skin with gold beads caused microwounds that spanned the stratum corneum, and stratum corneum lipids did not reseal these wounds in the stratum corneum after 24 h in organ culture.

An adequate permeability barrier function of the mammalian epidermis is guaranteed by the characteristic architecture of the stratum corneum. Houben et al. (Skin Pharmacol Physiol 2007;20:122–132) describe the life cycle of keratinocytes from the proliferative organization to the process of desquamation. We would like to draw your attention to the very condensed illustrations of this review article.

Welk et al. (Skin Pharmacol Physiol 2007;20:162–166) showed in their experiments that the rat peritoneum explant test is a sensitive test to assess the relative toxicity of mouth rinses to tissue.

N-palmitoylethanolamine and organic osmolytes are endogenous components of the human epidermis and are generated from phospholipids in the stratum granulosum. Kemeny et al. (Skin Pharmacol Physiol 2007;20:155–161) could show that N-palmitoylethanolamine and organic osmolytes significantly inhibited the development of UV light-induced erythema and thymine dimer formation in normal human skin, but did not alter the number of Ki-67+ proliferating keratinocytes and the expression of p53 and ICAM-1. This is suggestive of a relevant suppression of UV light-induced photodamage.

The extent to which topically applied solid nanoparticles can penetrate the stratum corneum and access the underlying viable epidermis and the rest of the body is a great potential safety concern. Cross et al. (Skin Pharmacol Physiol 2007;20:148–154) tested human epidermal penetration of a transparent, nanoparticle zinc oxide sunscreen formulation using Franz-type diffusion cells. No particles could be detected in the lower stratum corneum or viable epidermis by electron microscopy, suggesting that minimal nanoparticle penetration occurs through the human epidermis.

We hope to see many of the readership of *Skin Pharmacology and Physiology* at the Gordon Research Conference and the postconference forum.

Joachim Fluhr, Secretary of the ISP
Jürgen Lademann, Editor