

## **Penetration of Xenobiotics through Human Skin**

Gabriel Wittum, G-CSC, Universität Frankfurt.

Skin is the largest organ of our body. In particular, it is the barrier protecting the body from the uncontrolled penetration of alien substances. Originating in pharmacy, quantitative understanding of the barrier function of human skin more and more becomes crucial for a several aspects of medicine. In this context, mathematical models including detailed cellular and subcellular structures are developed. To treat problems of this complexity, novel mathematical models, methods and software tools are necessary. In recent years, such models, numerical methods and tools have been developed, allowing to attack these problems. In the talk, we present such models, discuss some of the major challenges of the problem and show the impact of the simulation results on the understanding w.r.t. penetration of xenobiotics through human skin.