EPFL-Inria
INTERNATIONAL LAB

Workshop EPFL-Inria
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Title: « Exploiting coherence in light transport simulations »

Abstract:
Computer graphics is undergoing a substantial transformation to physics-based techniques that perform detailed simulations of the interaction of light and matter. While the resulting methods can produce images of stunning realism, a major downside of this transition is that the underlying algorithms tend to degenerate into an impracticably slow brute force search through a high dimensional space. I will discuss several approaches to tackle this challenge, which all entail replacing uninformed sampling techniques with coherent algorithms that share information globally.

Short bio:
Wenzel Jakob is an assistant professor at EPFL's School of Computer and Communication Sciences. His research interests revolve around material appearance modeling, rendering algorithms, and the high-dimensional geometry of light paths. Wenzel obtained his Ph.D. at Cornell University under the supervision of Steve Marschner, after which he joined ETH Zurich for postdoctoral studies under the supervision of Olga Sorkine Hornung. Wenzel is the creator of the Mitsuba renderer, a research-oriented rendering system.