TECHNISCHE UNIVERSITÄT WIEN
Institut für Computergraphik und Algorithmen
Arbeitsbereich für Computergraphik

OESTERREICHISCHE COMPUTER GESELLSCHAFT
AUSTRIAN COMPUTER SOCIETY

laden gemeinsam zum

GASTVORTRAG

Wojciech Jarosz
Disney Research Zurich

"The Perils of Evolutionary Rendering Research: Beyond the Point Sample"

Abstract:

I will first give a brief introduction of the Disney Research Zurich lab. I'll explain the lab's primary research areas, our overall research strategy, and the unique opportunities and challenges associated with being at the intersection of academic and industrial research.

In the second half of the talk I will argue that the way we approach many difficult problems in rendering today is fundamentally flawed. We typically start with an existing, proven solution to a problem (e.g., global illumination on surfaces), and try to extend the solution to handle more complex scenarios (e.g., participating media rendering). I'll show that, although this evolutionary approach is often very intuitive, it can lead to algorithms that are significantly limited by their evolutionary legacy. To make major progress, we may have to rethink (and perhaps even reverse) this evolutionary approach. I'll show concrete examples of how evolutionary research has lead to suboptimal solutions, and how a revolutionary strategy --- one that starts with the more difficult, more general, and higher-dimensional problem --- though initially more daunting, can lead to significantly better solutions. These case studies all reveal that moving beyond the ubiquitous point sample may be necessary for major progress.

Biography:

Wojciech Jarosz is a Research Scientist at Disney Research Zürich heading the rendering group, and an adjunct lecturer at ETH Zürich. Prior to joining Disney, Wojciech obtained his Ph.D. (2008) and M.S. (2005) in computer graphics from UC San Diego, and his B.S. (2003) in computer science from the University of Illinois, Urbana-Champaign.

Wojciech's research is concerned with deriving theoretical models and developing efficient algorithms for simulating, manipulating, and physically realizing complex visual appearance. His publications explore practical applications in a variety of areas in computer graphics including: global illumination; complex illumination and materials; participating media; Monte Carlo methods and efficient sampling; high-dynamic range imaging; and computational materials and displays. His work in these areas has been incorporated into production rendering systems and used in the making of feature films, including Disney's Tangled (2010).

Datum: 21. Februar 2013, 13:00 Uhr s.t.
Ort: TU Wien, Favoritenstr. 9, Stiege 1, 5. Stock, Seminarraum E186