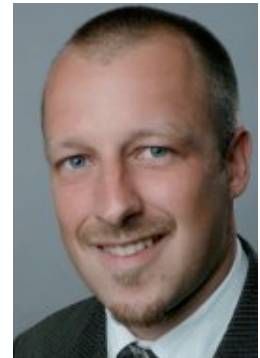**laden gemeinsam zum**

GASTVORTRAG

Timo Ropinski

Westfälische Wilhelms-Universität Münster

"Generating Visual Representations from Volumetric Data"

Abstract:

Volumetric data sets as acquired by medical scanners contain a multitude of information. In order to allow the domain expert to visually extract relevant information, meaningful visual representations are necessary. Usually these visual representations are generated during an exploration process, in which the optical properties assigned to the intensities contained in a volume data set are changed interactively. In this talk I will describe concepts supporting the generation of meaningful visual representations from volumetric data. Therefore, I will first briefly review existing techniques used to assign optical properties to a volume data set, before introducing an alternative sketch-based approach, which eliminates some of the major drawbacks of existing techniques. To support the spatial comprehension of the generated visual representations, I will introduce how to compute light interactions between the structures interactively extracted from a volume data set. Specifically, it will be discussed how to compute these light interactions rapidly, since immediate visual feedback has the potential to support the interactive exploration process.

Biography:

Timo Ropinski is a postdoctoral researcher working in the field of medical volume visualisation. After receiving his PhD in 2004 from the Westfälische Wilhelms-Universität Münster, he became a project leader within the collaborative research center SFB 656, a cooperative project of researchers from medicine, mathematics, chemistry, physics, and computer science. His research is focused on interactive aspects of medical volume visualisation with the goal to make these techniques more accessible. He is the initiator of the Voreen open-source project, in which a flexible volume-rendering framework is developed. The results of his scientific work have been published in various international conferences including Eurographics, IEEE VR, VMV, and others.

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