University of Basel

Department of
Biomedical Engineering

Selected research topics in Biomedical Engineering:
Robot- & Computer-Assisted Surgery

Location: DBE, Hegenheimermattweg 167B, Lecture Hall 02.097
Date & Time: Tuesday 08.11.2023 13:00 – 15:00

Compression-domain

Direct Volume Rendering and Filtering

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Abstract
In addition to the interactive visualization and exploration of large volume data, signal processing and filter operations are important tools for visual data processing and analysis. Due to GPU memory and bandwidth limitations, it is challenging to apply complex filter operators to large-scale volume data interactively. We propose a novel and fast multiscale compression-domain volume filtering approach integrated into an interactive multiresolution volume visualization framework.

Biosketch
Renato Pajarola has been a Professor in computer science at the University of Zürich since 2005, leading the Visualization and MultiMedia Lab (VMML) in the Department of Informatics. He has previously been an Assistant Professor at the University of California Irvine and a Postdoc at Georgia Tech. He has received his Dipl. Inf-Ing. ETH and Dr. sc. techn. degrees in computer science from the Swiss Federal Institute of Technology (ETH) Zurich in 1994 and 1998, respectively. His research interests include interactive large-scale data visualization, real-time 3D graphics, 3D scanning & reconstruction, geometry processing, as well as parallel rendering. He is a EUROGRAPHICS Fellow and a Senior Member of IEEE and ACM.