

2022 CSIG-VIS International Lecture Series 17

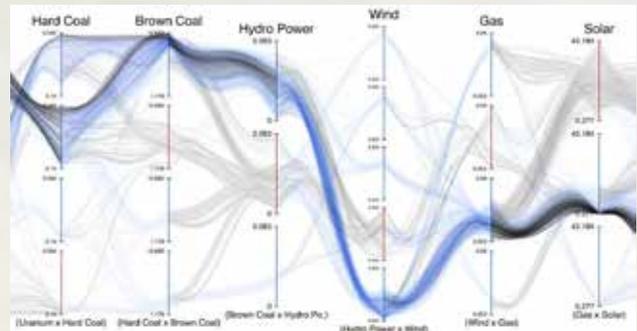
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<https://live.bilibili.com/24003948>



Prof. Daniel Weiskopf
University of Stuttgart

Visual Analysis of Multidimensional Data

Multidimensional data analysis is of broad interest for a wide range of applications. In this talk, I discuss visualization approaches that support the analysis of such data. I start with a brief overview of the field and some theoretical models. The main part of the talk describes a few recent advancements, with a focus on results from my own work. In particular, I cover basic visual representations in the form of scatterplots, scatterplot matrices, and parallel coordinates. These are then combined with further analytical support, including dimensionality reduction, local correlation analysis, machine learning, and interactive exploration for visual analytics. I also discuss sampling issues in multidimensional visualization, and how we can extend it to uncertainty visualization. The talk closes with an outlook on future research directions.



Daniel Weiskopf is a professor and one of the directors of the Visualization Research Center (VISUS) and acting director of the Institute for Visualization and Interactive Systems (VIS), both at the University of Stuttgart, Germany. He received his Dr.rer.nat. (PhD) degree in physics from the University of Tübingen, Germany (2001), and the Habilitation degree in computer science at the University of Stuttgart, Germany (2005). His research interests include visualization, visual analytics, eye tracking, human-computer interaction, computer graphics, augmented and virtual reality, and special and general relativity. He is spokesperson of the DFG-funded Collaborative Research Center SFB/Transregio 161 "Quantitative Methods for Visual Computing" (www.sfbtrr161.de), which covers basic research on visualization, including multidimensional visualization.