

zentrum für

virtual reality und visualisierung forschungs-gmbh



COMPUTER GESELLSCHAFT AUSTRIAN OMPUTER SOCIETY

laden gemeinsam zum



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"Cytosplore - Interactive Immune Cell Phenotyping for Large Single-Cell Datasets"

TECHNISCHE UNIVERSITAT

Arbeitsbereich für Computergraphik



Abstract:

To understand how the immune system works, one needs to have a clear picture of its cellular compositon and the cells' corresponding properties and functionality. Mass cytometry is a novel technique to determine the properties of single-cells with unprecedented detail. This amount of detail allows for much finer differentiation but also comes at the cost of more complex analysis. In this work, we present Cytosplore, implementing an interactive workflow to analyze mass cytometry data in an integrated system, providing multiple linked views, showing different levels of detail and enabling the rapid definition of known and unknown cell types. Cytosplore handles millions of cells, each represented as a high-dimensional data point, facilitates hypothesis generation and confirmation, and provides a significant speed up of the current workflow.

Biography:

Thomas Höllt received the Diplom (MSc) from the University of Koblenz-Landau, Germany, in 2008, and the PhD in computer science from the King Abdullah University of Science and Technology, Saudi Arabia, in 2013. Currently, he is a Postdoctoral fellow at Delft University of Technology working on visualization of high dimensional data, with focus on Cytosplore, a framework for the visual analysis of high dimensional single cell data.

