

laden gemeinsam zum

GASTVORTRAG

Dr. Tanja GesellDepartment of Structural and Computational Biology
University of Vienna**„Biomolecular & Artistic Structure Research“****Abstract:**

Structural concepts are important on many levels for molecular biology. In this talk, I will additionally underline the importance of visualization methods for structural research, while also juxtaposing the information visualization concept as an engineering field with artistic representations as a field of fine arts. As a first example, I will define a phylogenetic structure based on a simulation framework for (molecular) sequence evolution. On the one side, I will discuss scientific applications: for example for selecting and filtering non-coding RNA gene-candidates. From the perspective of information visualization, tools that allow for the interactive exploration of candidates and their genomic regions have been validated and evaluated. On the other side, I will discuss some of the points and questions, which arise about the incompleteness of any structure's description and visualization.

As a second example, I will present our most recent development of a chemical descriptor system for small molecules, the Shannon entropy descriptor.

Biography:

Tanja Gesell is a postdoctoral research scientist from the Department of Structural and Computational Biology, University of Vienna and a fine artist. She holds master's degrees in Biology and Fine Arts from the University and the Academy of Fine Arts in Düsseldorf. In 2009, she obtained her Ph.D. in Molecular Biology at the University of Vienna. Tanja also did research as a mobility fellow at Harvard University and at the Broad Institute in Cambridge, (USA), and as a Marie - Curie fellow at the European Bioinformatics Institute in Cambridge (UK).

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