Disclaimer: *Below you find some example questions, which should help you prepare for the exam. However, note that the actual questions at the exam can be very different and can cover all material presented in the lecture!*

→ Gain insight, verify hypotheses, presentation

Visual Analysis of Scientific Data

→ Scientific, Information, and Visual analytics

a) What is the main goal of visual exploration?
b) Which three major areas/concepts are combined in visual analysis/analytics?
c) Give examples how multivariate data can be encoded in a spatial context? → Glyphs, Volume Rendering
d) What are challenges when fusing multi-modal data stemming from different data sources?
e) Visual data fusion intermixes data in a single visualization using a common frame of reference. Give at least two general approaches.
f) What are three general approaches for comparative visualization (according to the taxonomy of Gleicher et al. 2011)?
g) What is focus+context visualization? Explain the general approach. How is it different from an overview+detail visualization?
h) Give at least three examples of visual channels (graphical resources) that can be used for focus-context discrimination.
i) Give two examples for focus+context visualization techniques which use spatial distortion.
j) What is the main idea in clustering? Is clustering a supervised or unsupervised method?
k) What is the main idea in dimensionality reduction? Name one example method? How does it work?
l) Principal component analysis transforms data from a cartesian coordinate system into another coordinate system. Why is it then still considered a dimensionality reduction method?