

## SFB/TR 8 Spatial Cognition / IQN Video Conference

**Yohei Kurata Ph.D.  
SFB/TR-8, Bremen**

### **"Toward Qualitative Spatial Reasoning on the Arrangements of Multi-Domain Objects"**

This presentation introduces a strategic project "Qualitative Spatial Calculi for Heterogeneous Objects". I have been working on the modeling of spatial relations between two heterogeneous objects, such as the relations between a directed line and a region. How to realize spatial reasoning on such relations --- for instance, deducing the relations between spatially-extended landmarks (regions) based on the observations from multiple paths (directed lines) --- is left as a challenging question. Qualitative spatial calculi (QSC) provide a nice framework for conducting the spatial reasoning on the arrangement of multiple objects. However, currently most QSCs target the spatial relations between single-domain objects. So my questions are how to formalize the QSCs for multi-domain objects and how to reuse the existing frameworks and tools for conducting the reasoning in new calculi. In this presentation, I will explain the basic ideas of spatial calculi, our models of spatial relations between multi-domain objects, and my prospective approach to their integration

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- Rotunde Cartesium,  
Enrique-Schmidt-Str. 5  
Universität Bremen
- Geb. 106, Raum 04 007,  
Universität Freiburg

Kontakt:

Prof. C. Freksa, Ph.D.  
freksa@informatik.uni-bremen.de  
0421 – 218 - 64230