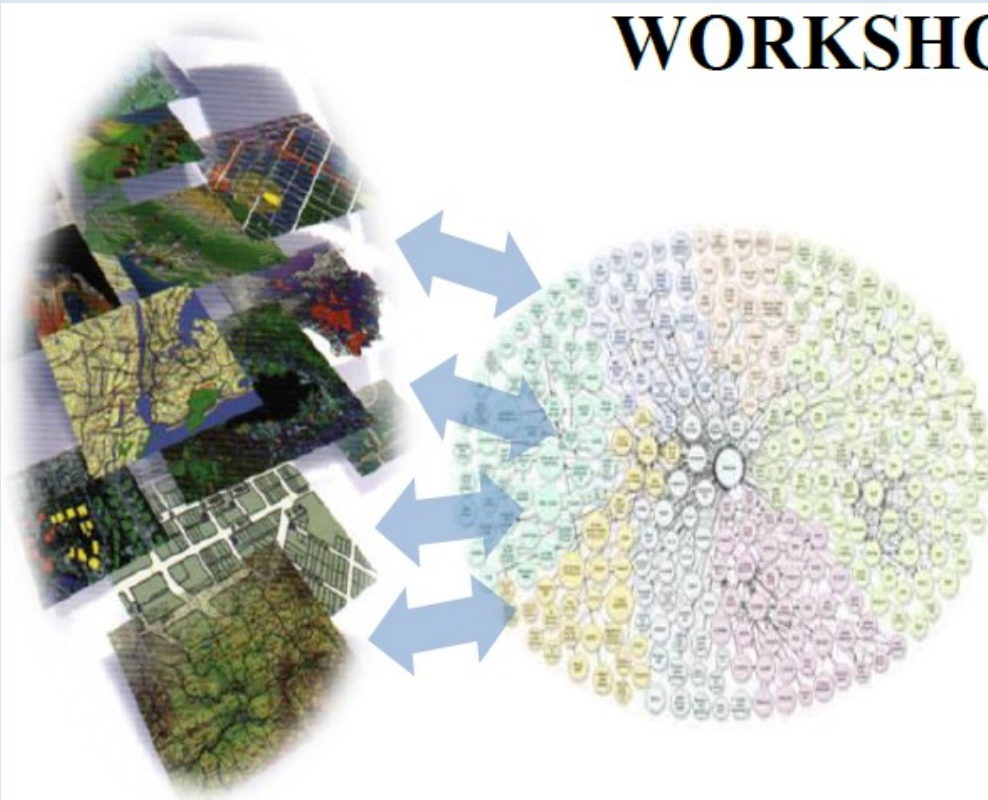


WORKSHOP ON LINKED OPEN DATA:

ACTIVITIES, IDEAS AND
PRACTICES

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A Database Perspective on Self-Description and Discovery of Spatial Linked Open Data

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„Academic Selfie“

- Realized an expert system („old AI“) 80’s
- ISO & Interlis Standard at Swisstopo 90’s
- Professor of inf. sys. (DB, GIS) since 2000
- metadata searchengine „geometa.info“
- Free online geoconverter.hsr.ch (inc. WFS)
- Co-founder Swiss OSM association 2012
- Co-org. 1st Swiss Postgres Conf. June’14
- **Interested in ontologies and quality of OSM**

Background (1 of 2)

- There are Computer Science best practices
 - about information modeling based on
 - ~44 years of data modeling: ER (Chen 1970)
 - ~30 years software engineering: OOA, EAA, UML
 - as well as
 - information extraction/data warehouse technology: ETL
 - search & discovery: information retrieval
 - including geospatial and temporal aspects

Background (2 of 2)

- National Geospatial Data Infrastructure (NDGI) of Switzerland
 - long tradition of modeling and documenting databases with ~30y Interlis (Swiss vector data exchange standard, www.interlis.ch)
 - with a public repository and: <http://models.geo.admin.ch/>
 - of >100 spatial datasets defined by public law (goal >180)

My Intention: Discussing Questions...

- which arose when looking at the Linked Open Data (LOD) community
 - in general
 - and specifically at spatial LOD
- regarding application to LOD
 - for better understanding about the LOD domain
 - and to provide and share input about future research and implementation directions

5 Main Questions

1. What geospatial Linked Open Data (LOD) and geospatial ontologies exist; which are established?
2. What are the quality criteria of (geospatial) LOD and ontologies?
3. Are these geospatial ontologies fit-for-use i.e. do they fulfill the mentioned quality criteria?
4. What's missing in geospatial LOD and ontologies? (e.g. performance is hardly ready for big data)
5. What's the difference between...:
 1. LOD principles versus database engineering and information integration?
 2. ontologies versus domain models (EAA/UML)?
 3. OWL versus deductive databases?

Considered harmful

- Calling s'thing ontology, when ist instead a domain model, thesaurus or a vocabulary...
- Storing spatial relationships as references
- Sticking on „low level“ (resource–property–value, XML)
- Ignoring
 - information & data modeling principles
 - schema mapping
 - power of spatial queries
 - class/instance distinction
 - data types
 - performance ...

Discussion...

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