PaNSig : Interoperabiliy – areas to collaborate?

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Interoperability

- Common user community
  - > 50000 (?) around the world (PaNData Survey)
  - Users move around
    - Need to use data from different sources in combination
    - Need to apply (common) analysis software to data
    - Work with data collected outside sources
  - Facilities collaborate on tools
    - Precursor to common remote data analysis
- Develop common data standards
  - PanData : NeXus and ICAT
- RDA-PaNSig - a vehicle for developing common approaches to interoperability

Data Interoperability

- Data discovery and interchange
  - Data repositories: ICAT, MDF, myTARDIS , ….
  - LIMS: ISpyB
  - Frameworks: MANTID, DAWN, SPOT
- Data formats
  - HDF5, NeXUS

- Common metadata, common data format, common API

A Common Vocabulary

Agreed terms to be used to describe a number of different aspects of Facilities science
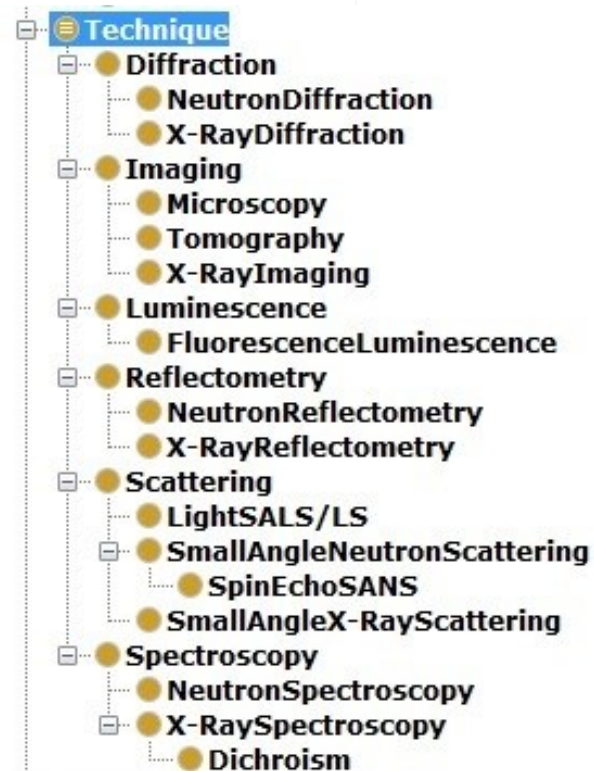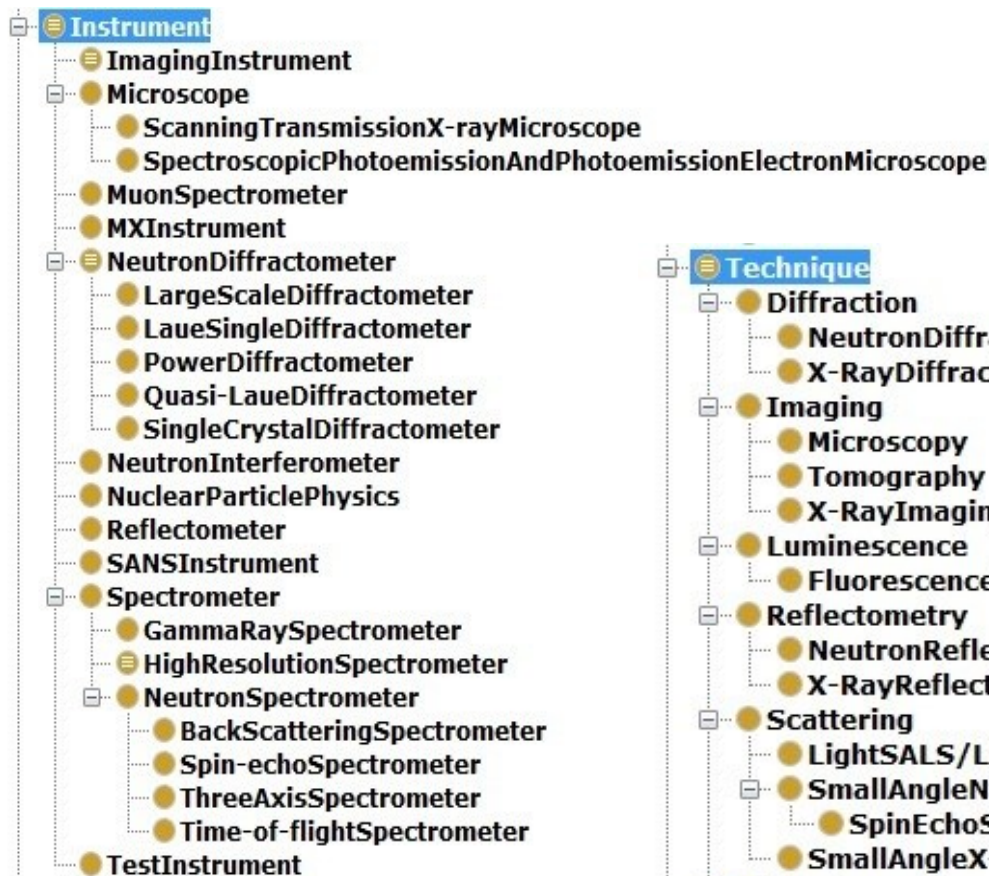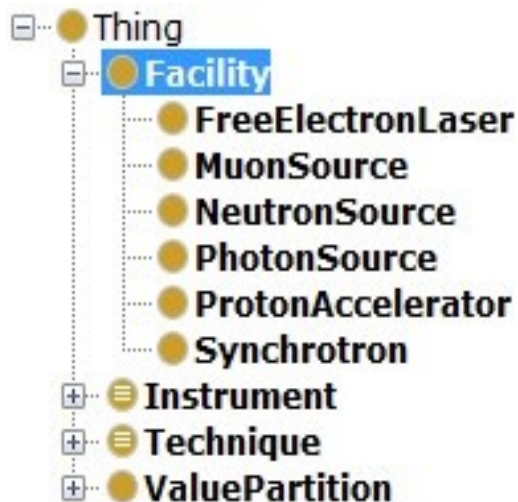
- **Facility and Facility Type**: Describing the fundamental nature of the facility
    - E.g. Neutron Source, Synchrotron Light Source, Free-electron Laser etc.
- **Experimental technique**: the experimental technique used to collect data,
    - e.g. crystallography, diffraction, small-angle scattering, tomography etc.
- **Instrument and Instrument Type**: the class of instrument which a facility supports. This would typically be closely related to the analysis type as above, but may be more specific, and would related to information on settings and parameters.
    - E.g. diffractometer, spectrometer …
- **Environmental parameters**: the terms used to describe the physical quantities of the environment,
    - e.g. temperature and pressure.
- **Sample information**: description of the sample itself, such as its chemical composition, its state, and associated parameters
    - e.g. dimensions, orientation, temperature, chemical composition and properties
- **Measured parameters**: the parameters which are measured by the instrument,
    - E.g. angles, neutron counts, light intensity, energies etc.

A Controlled Vocabulary (Thesaurus) or Ontology
  - **Unique Identifiers**

Facilities, Instruments, Techniques

- **Classify facilities and instruments**
- **Provide a unique ID**
- **WG International Materials Resource Registries**

PaNSig Collaboration

Two themes of for collaboration – towards Working Groups?

- Data interoperability and interchange
- Common vocabulary

Next steps:
- Develop themes, discuss with others

- NoBugs 2016: Copenhagen 17-21 October
  - Thomas Proffen presenting on RDA-PanSig

- Meet in Barcelona before the next RDA plenary, (April 5-7 2017)?
  - Workshop on data interoperability