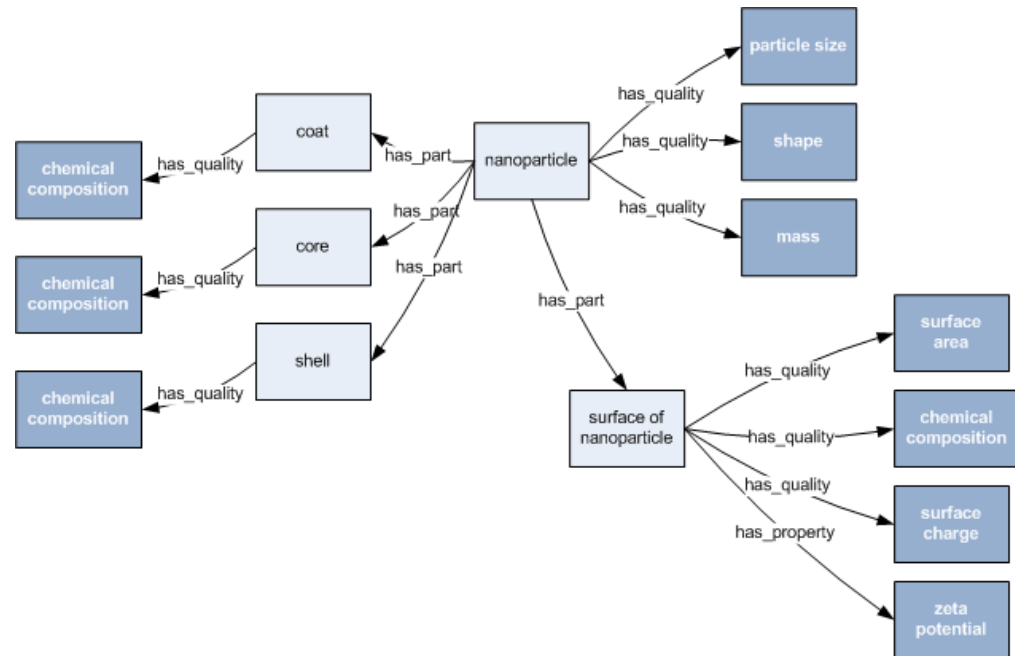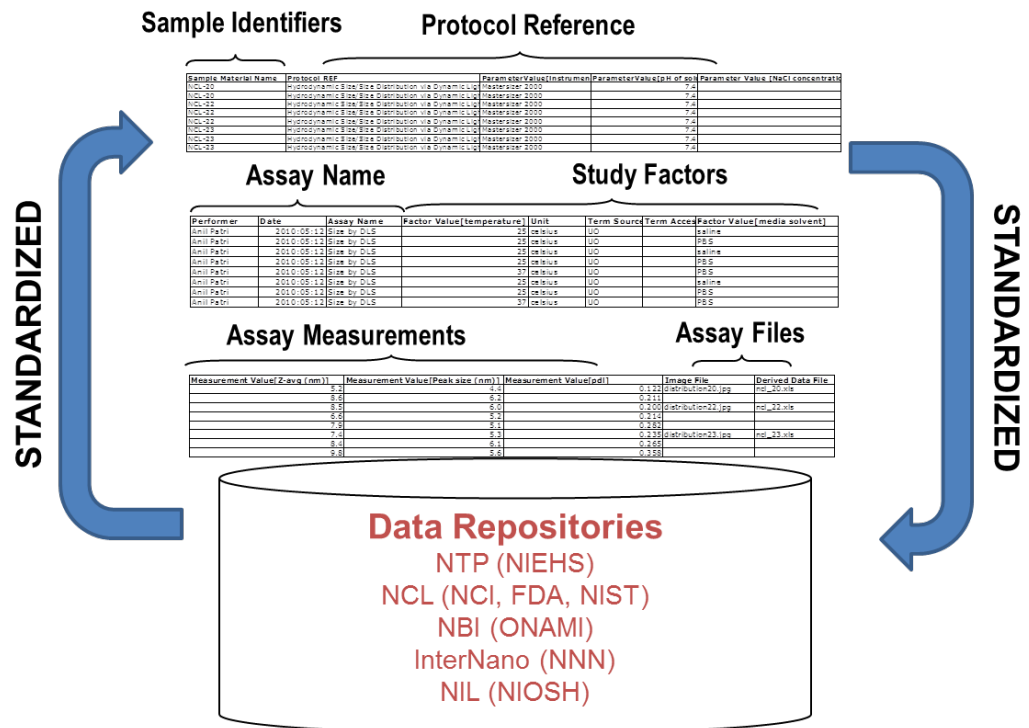# Nanotechnology ontology and related topics

- Nathan Baker, Pacific Northwest National Lab, nathan.baker@pnnl.gov
- What are the infrastructure needs for databases?
  - Common vocabulary
  - Common data sharing format
- In which areas is the EU-US collaboration most likely to be successful?
  - Identifying challenge problems and use cases
  - Targeted exploration and development of solutions to needs
- Should there be common databases? *No*
- What modalities of access should be available?
  - General interface: programmatic API
  - Specific interface: web-based user-friendly
  - Archival: ISA-TAB-Nano

- Open collaborative development effort
- Basic framework for nanotechnology with biomedical focus
- Based on ontology best practices:
  – OBO Foundry
  – BFO
  – OWL

Common data sharing format: ISA-TAB-Nano

- Open collaborative development effort

- Based on ISA-TAB community work

- Customized for nanotechnology characterization data

- ASTM standard

- Focused on data exchange, archiving

ISA-TAB Nano Extension

Data Repositories
NTP (NIEHS)
NCL (NCI, FDA, NIST)
NBI (ONAMI)
InterNano (NNN)
NIL (NIOSH)

- NPO: http://www.nano-ontology.org/

- ISA-TAB: http://isacommons.org/

- ISA-TAB Nano: https://wiki.nci.nih.gov/display/ICR/ISA-TAB-Nano

- US-EU CoR: http://tinyurl.com/us-eu-data
  - *Get involved!*