

# NIH cancer Biomedical Informatics Grid (caBIG<sup>®</sup>) ICR Nanotechnology Working Group

For more information, visit <http://goo.gl/niZN>

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**Pacific Northwest**  
NATIONAL LABORATORY

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# Who we are

- ▶ Government
  - National Institutes of Health
    - NCI, NHLBI, NIBIB, NCL
  - Center for Disease Control
  - Food and Drug Administration
  - Environmental Protection Agency
- ▶ Academia
  - Washington University
  - Oregon State
  - Stanford
  - MIT
  - Georgia Tech
  - UCLA
  - ...
- ▶ Industry
  - Intel
  - Pennsylvania NanoSystems
  - ...
- ▶ Standards organizations
  - ASTM E56
  - ISO TC229
- ▶ Alliances and organizations
  - International Alliance for NanoEHS Harmonization
  - Oregon Nanoscience and Microtechnologies Institute
  - National Nanotechnology Initiative
  - National Nanomanufacturing Network
  - NCI Nano Alliance

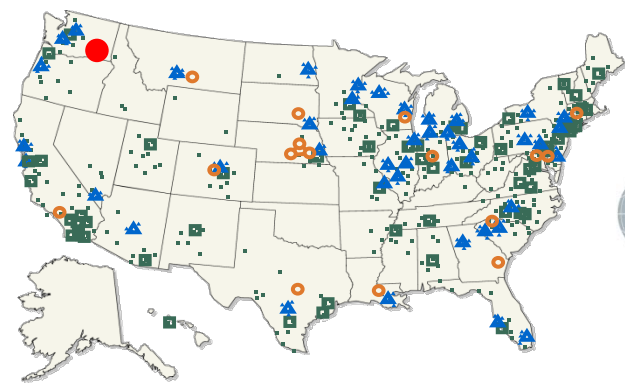
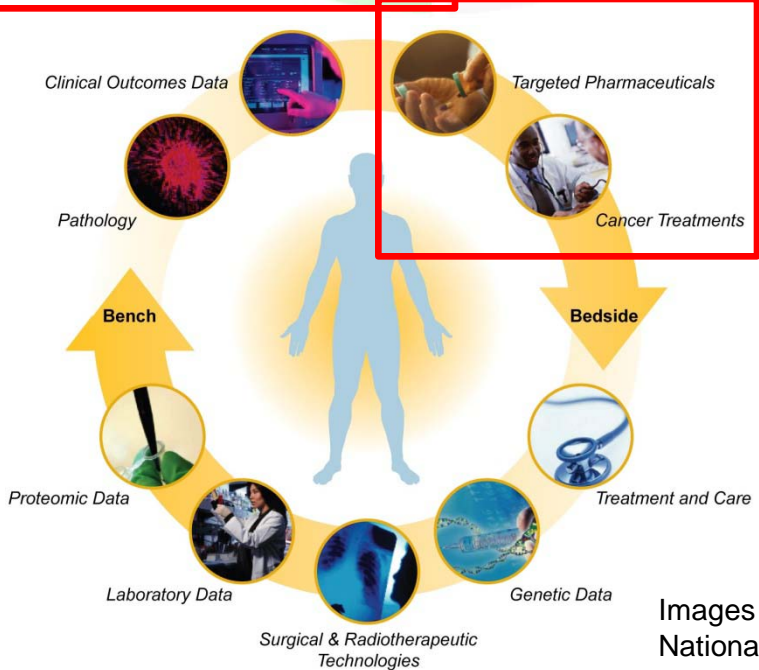


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# caBIG<sup>®</sup> Overview (<http://cabig.nci.nih.gov/>)



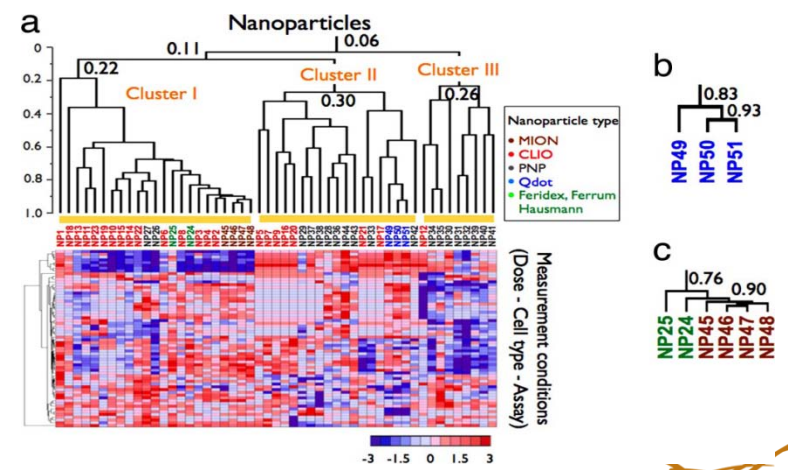
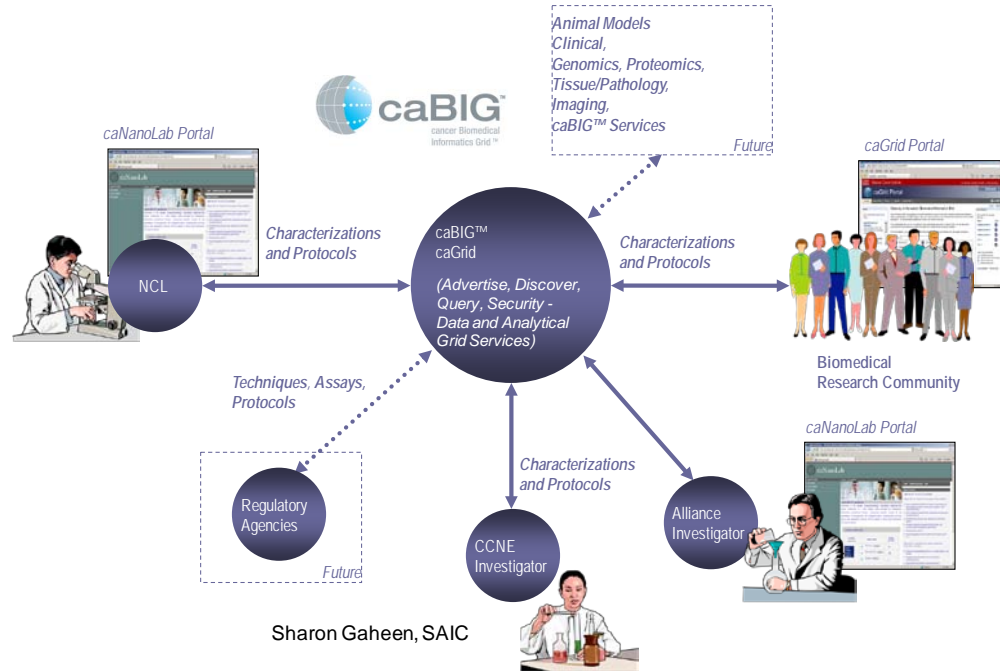
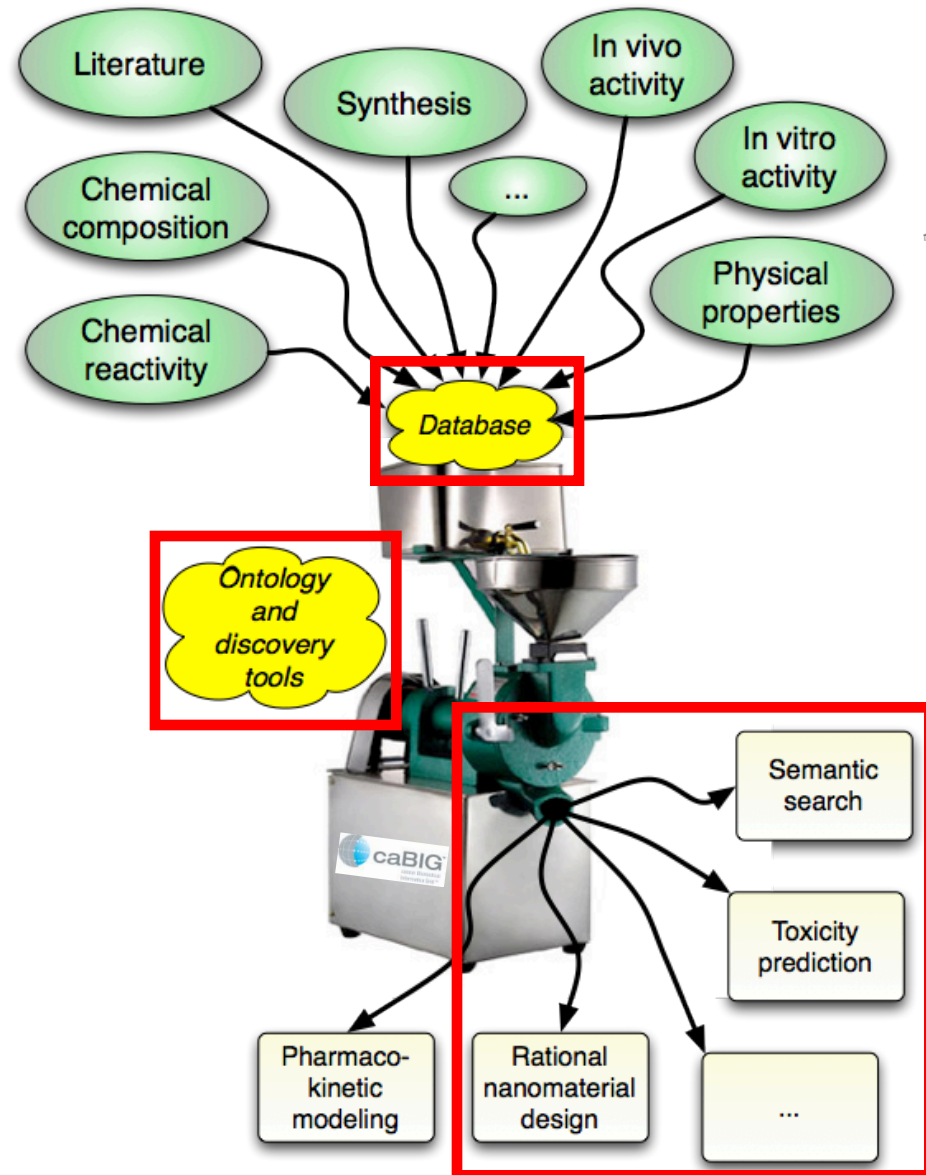
- ▶ Bench-to-beside biomedical research infrastructure
- ▶ Integrates basic research to clinical research to patient care
- ▶ Broad deployment
  - Extensible framework
  - Significant use outside the cancer domain
- ▶ Poised for significant growth



Images courtesy of Juli Klemm, National Cancer Institute

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# Working Group Scope



Shaw et al., 2008. *PNAS*, 105: 7387.



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# Major current goals: facilitating data sharing

- ▶ Nano-TAB for nanotechnology data exchange
  - Spreadsheet-based
  - ISA-TAB format
  - Community engagement
  - Reusable tooling
- ▶ NanoParticle Ontology for describing nanotechnology concepts
  - Ontology for reasoning and data sharing
  - Harmonization with other vocabulary standards
  - Long term applications in nanomaterial property prediction

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