

Nanotechnology Working Group (NanoWG) 2008 - 2009

The Nanotechnology Working Group wrote three white papers, developing and coalescing their thinking about an emerging discipline and its informatics needs with the objectives to:

- Assess and define needs of the cancer nanotechnology research community
- Define standards for cancer nanotechnology research community in a variety of areas
- Define and prioritize informatics applications in nanotechnology that fulfill needs of the use cases

The Nanotechnology Informatics white paper prepared by the ICR nanotechnology working group provides a comprehensive review of nanotechnology. It covers the history of nanotechnology, and the application of nanotechnology in the biomedical field. It further identifies the existing resources and current broad informatics need/issues in this field. Finally, the paper presents the implication of nanotechnology for the caBIG program and its role in shaping the evolution of personalized medicine.

[Nanotechnology Informatics White Paper](#)

The Ontology White Paper describes the development of an ontology specifically to meet the needs of the Nano Working Group, the NanoParticle Ontology. It also describes other ontology, terminology and related standards efforts in the community.

[Ontology White Paper](#)

The Minimum Information Standards (MIS) White Paper articulates that MIS are required for two very different sets of experiments: the set of experiments using nanoparticles to determine biological activity and the set of experiments characterizing the chemical composition and physical properties of the particle. The paper also articulates the need for community building and why MIS must emerge from a broader community effort that must include: an increased awareness of the relevant activities beyond caBIG, caNanoLab and NCL and a compare and contrast and to identify complementary and overlapping efforts. This paper may be useful in communication with and outreach to other groups in an effort to build that community of interest.

The paper provides three scenarios to demonstrate the kinds of activities going on in the Nano community: finding an appropriate NP delivery system, in vitro profiling of nanomaterial toxicity, NPO evaluation and enrichment. MIS will allow integration of data enabling informed decision making and repurposing of platforms by having the relevant facts in hand and the combination of large scale data sets for analysis and prediction.

[Minimum Information Standards White Paper](#)

These papers have sections dedicated to caNanoLab. The caNanoLab can be a portal to other information since it is a platform for sharing and collating results. The collaborative nature of the Nano Characterization Lab, caNanoLab and NPO is noted and there is anticipation that this effort will continue to mature.