

NNI-Chemical Industry Consultative Board for Advancing Nanotechnology

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In March 2004, the National Nanotechnology Initiative (NNI), the Council for Chemical Research (CCR), and Chemical Industry Vision2020 established the NNI-Chemical Industry Consultative Board for Advancing Nanotechnology (NNI-ChI CBAN). The goals of this partnership include planning and support of collaborative activities in key R&D areas, identifying and promoting new R&D for exploratory areas, and expanding nanotechnology R&D. NNI-ChI CBAN has chartered two working groups: a Research Focus area working group, and an Environmental Safety and Health (ESH) working group. These working groups have broad participation from industry, government researchers, NNI, and other groups. The current focus of the NNI-ChI CBAN is promoting research aimed at the goals of the nanotechnology roadmap developed in 2003 by Chemical Industry Vision2020 [1].

The Research Focus working group has identified R&D priorities for accelerating commercialization of nanotechnologies:

- Fundamentals
 - understanding structure-function-property relationships at nanoscale
 - methods for synthesizing nanomaterials
- Computational tools
 - predict properties of nanomaterials and macroscale systems containing nanomaterials
 - molecular modeling combined with process simulation to accelerate process design
- Manufacturing
 - unit operations and scale-up methods for synthesis, separation and handling of nanomaterials
- Characterization
 - real-time analytical tools for measuring and characterizing nanomaterials

The ESH working group has developed a series of recommendations for R&D activities in the following areas:

- Toxicological hazard assessment of nanomaterials,
- Measurement and detection of nanomaterials, and
- Worker protection and industrial hygiene for nanomaterials.

The ESH working group is currently collaborating with other industrial groups and with government agencies to refine, communicate, and advocate pursuit of these research needs in order to foster responsible development of nanotechnology.

[1] “Chemical Industry R&D Roadmap for Nanomaterials by Design: From Fundamentals to Function” available at <http://www.chemicalvision2020.org/nanomaterialsroadmap.html>

[2] Further information on the NNI-ChI CBAN working groups may be obtained from: Jack Solomon, Jack_Solomon@praxair.com; and Don Anthony, danthony@ccrhq.org.