

## Reasons for Attending the Nanotechnology Materials and Devices Workshop

### (1) Summary of the Workshop.

The 7<sup>th</sup> NMD workshop will be held Monday May 23, and Tuesday May 24, 2016 at the University of Dayton River Campus, 1700 S. Patterson Blvd., Dayton OH 45409. The two day intensive workshop features 20 invited lectures, an industry showcase, poster session, networking reception, dinner/social, and industry/research tours. This international workshop will have attendees from universities, industry, and government agencies. The 2016 NMD Workshop Organizing Committee members are:

- Mark Schulz, Conference Co-Chairman (UC)
- Vesselin Shanov, Conference Co-Chairman (UC)
- Bang-Hung Tsao, Conference Co-Chairman (UDRI)
- Levi Elston, Conference Co-Chairman (AFRL)
- Ashley Kelly, Meeting Coordinator (UTC)
- Ms. Luree Blythe, Conference Manager/Registration Coordinator (UC)
- Kris Kaiser, Meetings Management & Visual Graphics (UTC)

The NMD Workshop, started by the UC Nanoworld Laboratory in 2008, is held biannually for academic purposes and is not for profit. There is no registration fee to attend the workshop in order to encourage greater participation. The NMD workshop aids in the development of knowledge, skills, and abilities associated with learning and training in the area of nanotechnology. The workshop will support professional development of teaching, leadership, and scholarly activity of attendees. Additional details can be found at the workshop website: <http://nmdworkshop.utcdayton.com>.

### (2) Development Goals.

This intensive single track workshop consists of invited talks and laboratory tours covering synthesis, functionalization, characterization, modeling, post processing, and application of nanostructured materials and devices. Development goals supporting the workshop are:

1. *Top researchers* attend the workshop to advance nanotechnology and nanomedicine. Nanomaterial experts from around the world (University of Cambridge-UK, Tsinghua University-Beijing China, Australia, Ireland, Japan, Italy, India, Canada, and from around the USA) attend and participate in the biannual event.
2. *Benchmark the current state of the art* and develop plans to make breakthroughs in engineering materials and devices based on assemblages of carbon nanotubes and nanomanufacturing.
3. *Applications and industry* needs will be discussed with strategies for commercializing nanotechnology.
4. *Break down barriers* by establishing cooperative research in nanotechnology.
5. *Panel discussion* of government managers will identify barrier problems and how to overcome them.
6. *Workshop proceedings* containing presentations and photographs from the workshop.

### (3) Impact to Attendee's Career.

Elements of the workshop will advance many attendee's careers with new skills, research directions, and professional networks per the activities below:

1. *Discuss research directions and commercialization.* During the poster session, lunch, dinner, breaks, and tours, researchers from across industry, universities, and government will meet with faculty to coordinate and accelerate research goals.
2. *Display posters and samples.* Faculty members and students will receive feedback from world-renown attendees
3. *Facilitate Networking and Recruiting.* Undergraduate/Graduate students and faculty will interact with external faculty, government researchers, and industry professionals providing opportunity for recruitment and employment.
4. *Receive industry perspectives on the field.* Industry sponsors will give short presentations to attendees

- on recent advances in their products and services related to nanotechnology to help faculty research.
5. *Establish cooperative research.* Intersect different ideas to break down barriers in nanotechnology.
  6. *Talk to the experts.* New faculty members meet with international leaders in the field to receive valuable advice.
  7. *Develop external proposals.* NSF, NNCO, ONR, AFOSR managers discuss gov't needs and proposals.
  8. *Open invitation.* All interested people can attend the workshop. This will promote new discovery, learning, and collaboration with world-renown participants.
  9. *Visit UDRI & UC.* Workshop attendees are invited to tour UDRI labs during the workshop and visit UC the day after the workshop (tour faculty labs and discuss collaboration in terms of research proposals, publications, and student exchanges).

#### **(4) Impact to Employers.**

The NMD Workshop presents state-of-the-art research in nanotechnology and promotes cooperatively translating nanotechnology discoveries into applications. Elements of the workshop that will enhance the ability of attendees to contribute to their organization are:

1. *State-of-the-art Research.* Attendees will learn the latest advances in carbon nanotechnology worldwide.
2. *Diversity.* Meet and network with international experts, faculty members, and industry executives from universities and nanotechnology companies across the globe.
3. *Intellectual Merit.* The first day of the Workshop is focused on the science, the second day on industrialization of nanotechnology with presentations by nanotech companies and others.
4. *Broader Impact.* Advances in nanomaterials in the context of applications including aerospace, bioengineering, electronics, energy/power, renewable/sustainable materials, and several others are discussed.
5. *Tours.* Special event tours are the Yaskawa Robotics Plant in Dayton, Ohio, and a tour of the UDRI research facilities in the area of Electromagnetics and Efforts toward the Mars Mission.
6. *Promote Industry.* The NMD workshop will advertise industries that sponsor the workshop. Industry products will be displayed at the workshop and information will be distributed in the proceedings.
7. *Workshop Proceedings.* Powerpoint proceedings will be prepared for the workshop.
8. *Accelerate Attendees Research.* Faculty and industry professionals can establish cooperative research and intersect different ideas to accelerate progress.
9. *Proposals.* The workshop will provide connections for faculty members to submit joint proposals to government agencies and will increase research funding.
10. *Free Registration.* Support from UC, UDRI, and the AFRL allows all faculty, industry, and students to attend the workshop with no registration fee so the impact can be huge to advance the field of nanotechnology.
11. *Ranking.* The NMD event advertises our profession to the world. It brings together top scientists to create unique opportunities for faculty, research associates, postdocs, industry, and graduate students to interact.