The following is a text of the remarks made at the concluding session.

We have had two absorbing days comprising of interesting nanotechnology presentations, panel discussions, and poster sessions; put in a nutshell we have been “nanonized”. But, it was all worth it, as it brought together range of speakers transcending disciplinary boundaries. We started out with Sessions and Panel on Nanomedicine, moved to Nanoelectronics/Nanophotonics as the basis for engineering new discoveries, and ended with session on Nanomaterials/Nanomanufacturing, a prerequisite to our future endeavors.

The numbers speak volumes. More than 72 million Americans would reach their “golden years” by 2030; while every seven second a baby boomer turns 50. Looking globally, the United National Population Fund categorizes this as the most significant demographic shift in the history of humankind. What does it all imply? It points toward challenges ahead, with diseases like cancer, diabetes, and neurological disorders.

Undoubtedly, nanotechnology provides the hope to address some of these issues. While these are exciting times to be doing nanotechnology research, we do need to be cognizant of the fact, that we do not end up overselling the technology, as a cure-all for all worldly ills such as infectious diseases, hunger, poverty, and access to clean drinking water.
It is better to under promise and over deliver. All these interactions are
starting point to something big and more profound.

CNST Workshops

The University of Illinois Center for Nanoscale Science and Technology (CNST) has been holding these workshops for the last four years, and they all have been well-attended, each time with audience of 200 or more (exceeding expectations and capacity). Most of these interactions have led to the formation of multidisciplinary research teams including NSF center and NCI (sub-location); besides dozens of 2-4 member collaborations leading to research funding, conceiving and nurturing of exciting new ideas, such as nanoparticles and nanotubes for stem cell research; biosensors for detecting soybean rust, or macroscale flexible electronic systems for assisted living, nanoneuro, and the list continues.

This year’s workshop had more than 226 attendees, plenary session speakers included Chancellor Herman, VCR Charles Zukoski, Dean CoE Ilesanmi Adesida, and Dean ALS Tanya Gallagher, and Linda Molnar, NCI, and Robert Chau, Intel. There were 24 technical presentations made during four sessions, 40 posters, panel discussions with perspectives on nanomedicine research and development and societal issues provided by the UIUC and WashU faculty, a patient advocate, and funding agency representative from the Office of Technology and Industrial Relations at the National Cancer Institute. Radio interviews on WILL Radio AM580 call-in segment were given, as in previous years.

Since 2005, we also have held NIH Grant Writing Workshops, specifically intended for engineering faculty with little or no experience dealing with the NIH. This morning’s workshop conducted by Dr. Richard Fisher, Program Leader Nanomedicine Initiative, and Program Director of Corneal Diseases at NEI, NIH was attended by 35 faculty members, postdocs, graduate students, from UIUC, WashU, IIT, and UIC, besides industry and local companies such as Provena. Earlier, Dr. Fisher also spoke about NIH Nanomedicine Initiative during the Nanomedicine Session at the workshop.

Challenges

It has become evident that challenges like cancer can only be addressed in a multidisciplinary environment. The CNST, which was initially envisaged to be a College of Engineering entity, with direction from the CNST Director Adesida has over the years evolved into a campus-wide, and now region-wide driving force for these interactions; with the
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involvement of more than 150 faculty members, spanning seven colleges, and more than 20 departments alone at UIUC. Collaborations with Washington University Medical School and upcoming interactions with Rush University Medical School are among the few examples.

Dear colleagues, if you, colleagues, and students consider that you have gained because of these forums, then it is suggested that you communicate your gains to your department head and respective deans. As at the CNST we firmly believe that multidisciplinary activities are founded on disciplinary strengths. However, to make an impact and to conduct translational research, center such as the CNST has an important role to play in not only facilitating research interactions, leveraging extra-mural funding, promoting entrepreneurship, but also projecting campus’ strengths in nanotechnology and its applications in medicine, agriculture, food, and the environment to stakeholders and general public.

Acknowledgments

In the end, I would like to thankfully acknowledge all those, who attended and participated in any shape and form in making this year’s CNST Nanotechnology Workshop a success, these include session chairs, speakers, and panelists. Particularly we thank the workshop organizing committee chaired by Kent Choquette (ECE/MNTL), of which I was a co-chair, and comprised of Ilesanmi Adesida (CoE), Jean-Pierre Leburton (ECE), Graciela Padua (FSHN), Dominique Griffon (VetMed), Taher Saif (MIE), and Carolyn Anderson (Radiology, WashU).

Also thanks to the Washington University in Saint Louis delegation (~15 including faculty, staff, and graduate students), and other attendees from the IIT, UIC, WIU, UMissouri, industry- IBM, Intel, Epiworks (local company), and others such as Kimberly Clark, Asylum, Provena (local clinic) etc. Particular thanks to the MNTL/CNST staff and students, and CoE publications and graphics office.

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- Beckman Institute for Advanced Science and Technology
- Institute for Genomic Biology (IGB)
- Micro and Nanotechnology Laboratory
- Nanoscale Chemical, Electrical, Mechanical, Manufacturing Systems (Nano-CEMMS)
Upcoming Activities

Among our upcoming activities is the MechanoBiology Workshop III scheduled on May 12, 2006 at the College of Veterinary Medicine. Taher Saif at Mechanical Engineering is the convenor and I have been the co-convenor of these workshop series; which have also been attended by faculty from across the campus and Rush University Medical College. The May 12 meeting is being coordinated by Ned Hahn at VetMed, at which several faculty members from biology will be making presentations on overarching problems in biology, while engineering faculty members will give one minute presentations on tools and techniques available to address some of the biological problems. The MechanoBiology Workshop III will discuss thrusts and potential team members.

Our next Nanotechnology Workshop will be held again in the first week of May 2007, and is most likely to coincide with the dedication of the currently under expansion the Micro and Nanotechnology Laboratory. Please mark your calendars for an exciting event and visits, as we have added bionanotecnology space for conducting some of the multidisciplinary research, of which CNST is partners with WashU on Targeting Cancer using Nanotechnology.

At the conclusion of today’s workshop we have tours lined up for you to visit the FS-Materials Research Laboratory to look at some of the cutting edge tools and equipment, and the National Center for Supercomputing Applications (NCSA)' Advanced Computation Building (ACB) with specialized machine room, which houses most of NCSA's high-performance computing systems. We hope you will enjoy these visits.

Thank you all for coming and let's stay in touch!