

2008 Annual Event: Our Largest Audience Hears Big Ideas

AIMBE's 17th Annual Event drew more than 300 participants to Washington, D.C., February 20-22. Prior to the annual meeting of fellows, contiguous meetings were held by the U.S. Army Medical Research and Materiel Command's Telemedicine and Advanced Technology Research Center (TATRC) and the International Federation for Medical and Biological Engineering (IFMBE). Each of those meetings drew approximately 100 attendees.

This year's theme on the Global Impact of Medical and Biological Engineering and how a changing global environment impacts our ability to innovate drew our largest audience ever for an Annual Event. They heard some big ideas from a diverse array of engineers, physicians, business executives and government officials who are transforming people's lives every day, around the world, through their research and innovation.

As at our previous Annual Events, the range of medical challenges and their medical and biological engineering solutions being discussed was broad. Presenters detailed their work in fields as far-ranging as applications of bionanotechnology to address global health concerns and as familiar to the everyday American as colorectal screening – where new less-invasive, less-expensive and more accurate tools are being developed to identify colorectal cancer while it is still treatable.

Some of the most poignant moments came in the special session AIMBE co-hosted with TATRC. Panelists from the civilian and military worlds showed us how medical and biological engineering is at the forefront of efforts to assess and treat brain trauma – what has been called the “signature wound” of the current conflicts in Afghanistan and Iraq. (For full summary, visit www.aimbe.org/tatrcmeeting.)

Other highlights of the three-day program included a long-range look at the future of medical and biological engineering, led by Robert Nerem, Ph.D., the Parker H. Petit Distinguished Chair for Engineering in Medicine and an Institute Professor at Georgia Tech, and sponsored by the International Academy for Medical and Biological Engineering, an affiliate of the International Federation of Medical and Biological Engineering. This was one element of a three-part seminar series on the subject organized by IFMBE. This discussion, like the others, highlighted the expanding range of opportunities for the field due to the convergence of information technology and nanotechnology with continuing advances in biology. Areas discussed ranged from regenerative medicine to home health care and beyond. (For full summary, visit www.aimbe.org/annualevent.)

Attendees at the Annual Event also heard discussions of how AIMBE members and their colleagues are developing new technologies to address the myriad health challenges faced in the developing world. Our opening keynote address was given by MIT's Robert Langer, Ph.D., a 2007 National Medal of Science recipient.

A serial entrepreneur, Dr. Langer has more than 600 issued or pending patents worldwide, one of which was cited as the outstanding patent in Massachusetts in 1988 and one of 20 outstanding patents in the United States. Those patents have been licensed or sublicensed to more than 100 pharmaceutical, chemical, biotechnology and medical device companies, with many of the companies launched on the basis of those patent licenses.

On the Annual Event's last day, a breakfast session hosted by the AIMBE Industry Council and the Wallace H. Coulter Foundation looked at how transfers of new innovations from university research into the private sector are shaping the future of medical and biological engineering. Phase Two awardees from Coulter's highly regarded Early Career Translational Research Awards in Biomedical Engineering program who took the stage for overviews of their efforts were:

- Cameron McIntyre, Ph.D., outlining his work with Jerrold Vitek, Ph.D. at the Cleveland Clinical on a deep brain stimulation interactive visualization system;
- David Putnam, Ph.D. from Cornell University, describing his efforts there with Dix Poppas, Ph.D. on novel biodegradable materials to prevent postoperative tissue adhesions;
- Elisa Konofagou, Ph.D., of Columbia University describing her development of an elastocardiography prototype system for automated detection of heart disease;
- Helen Lu, Ph.D., outlining her work with Scott Rodeo, Ph.D. at Columbia University on novel tissue engineered triphasic scaffold for the biological fixation of tendon grafts to bone; and
- Vladimir Turzhitsky, Ph.D. of Northwestern University, describing his work with Hement Roy, Ph.D. on rectal coherent backscattering spectroscopy to screen for colon cancer.

As always, the induction of new AIMBE Fellows, held at the National Academy of Sciences' monumental headquarters on Constitution Avenue, was a highlight of the Washington visit, with 72 individuals recognized for their pivotal contributions to the advancement of knowledge and technology.

And of course, with Washington being the source of so much critical leadership and funding for our members' work, it was essential while in the nation's capital to check the status of federal policy and financial support. Janet Woodcock, M.D., Deputy Commissioner and Chief Medical Officer, U.S. Food and Drug Administration, led that overview. Among those joining her on that program were: Alan M. Krensky, M.D., Director of the Office of Portfolio Analysis and Strategic Initiatives (OPASI) at the National Institutes of Health; and Sohi Rastegar, Ph.D., Director of the Emerging Frontiers in Research and Innovation Program at the US National Science Foundation (NSF). Rebecca Richards-Kortum, Ph.D., Chair of the Department of Bioengineering at Rice University; and Shu Chien, M.D., Ph.D., Director and Professor at the Whitaker Institute of Biomedical Engineering at the University of California at San Diego spoke during the afternoon session, as did Mauro Ferrari, Ph.D., Professor & Director, Center

for NanoMedicine at Brown Foundation Institute of Molecular Medicine at the University of Texas Health Science Center at Houston. For a review of all of the presentations, please visit www.aimbe.org/annualevent.

In my service as AIMBE President over the coming year, I intend to continue our quest for Fellows to lecture to the FDA Staff College as a part of our Speaker's Network, continue to inform the Administration and Congress of the value of medical and biological engineering for the Nation's health and economy, identify the key challenges that medical and biological engineering can solve the near future and continue to build AIMBE's infrastructure for a sound tomorrow.

And as I take office, I want to thank Dr. Linda Lucas for her leadership over the past year. She has been instrumental in furthering the mission and development of AIMBE's leadership to provide continuity for future AIMBE programs and events.

Indeed, our agenda for 2008-2009 includes many events and initiatives in which you should consider taking part. Highlights include our annual Federal Symposium, September 15-16 in Washington, D.C., as AIMBE Fellows and staff crisscross Capitol Hill to brief lawmakers and staff on the important work being done in our field and to make the case for continued strong federal government support of medical and biological engineering initiatives.

Finally, of course, you should make plans for AIMBE's 18th Annual Event, February 11-13, 2009, in Washington, D.C., where the theme will be Translational Research.

Sincerely,

John Watson
AIMBE President