TABLE OF CONTENTS

AIMBE PRESIDENT'S MESSAGE

Dear AIMBE Fellows and friends:

Welcome to the 18th Annual Event of the American Institute for Medical and Biological Engineering. This year's event promises to broaden our understanding of the role of medical and biological engineering in translational research and application. During this meeting, we will induct our new class of AIMBE Fellows, celebrate the achievements of our peers, and showcase some promising young researchers at our *Innovation for the People* program.

First, I would like to acknowledge the work of the Councils, Committees, Chairs, Staff, Board and the Annual Meeting organizers. AIMBE would not be advancing without the commitment and dedication of so many Fellows and Friends. A special thanks to Herb Voigt and Linda Lucas who preceded me as President. They have continued as strong voices for medical and biological engineering. Second, please welcome Gene Eckstein as AIMBE's next President. Gene and I have been working closely to ensure a smooth transition to continue the forward momentum which AIMBE has enjoyed in recent years, and I have every confidence in his ability to do so.

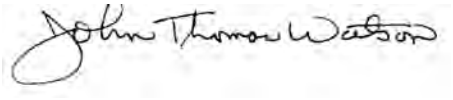
On behalf of AIMBE, my sincerest thanks go to the many Fellows, corporations, and allied organizations that donated generously and provided support to both our organization and this meeting. Due to this generosity, we have been able to broaden our network and further promote awareness of medical and biological engineering, allowing us to investigate ways to improve and enhance the quality of life for those individuals benefiting from our research, practice, and innovation.

In 2008 we reached and surpassed our goal of $1,000,000 in contributions and pledges for AIMBE's Fund for Excellence. More than 300 Fellows and Friends contributed to the Fund for Excellence. Based on the previous challenge agreement with the Wallace H. Coulter Foundation, they have generously matched our commitment, and these funds are now prudently invested in an endowment to build future programs for ensuring AIMBE sustainability.

2008 saw AIMBE hosting our first Capitol Hill briefing, titled *Overcoming Barriers to Innovations: Saving Lives by Streamlining Processes* at the FDA, to educate Congress on the obstacles researchers face on the road to developing life-enhancing technologies. The Council of Societies Federal Symposium resulted in thirty five Congressional office visits. In addition, we participated in the Alliance for a Stronger FDA's Lobby Day, hosted a session at the BMES Annual Meeting, and recently held the first stand-alone Women in Medical and Biological Engineering Symposium in Chicago. Additionally, we have worked with our coalition partners on many issues, and will continue to leverage our limited resources to expand AIMBE's influence in public policy discussions and decisions.

During this meeting, I hope that you take the opportunity to renew friendships and meet new colleagues. AIMBE is proud to have you here as a Fellow and to be your voice in Washington. Thank you again for your support and please continue to advance the collective goals of medical and biological engineering in the future.

Sincerely,



John Thomas Watson, Ph.D.
President

PROGRAM CHAIR WELCOME

Colleagues and Friends:

As Chair of the College of Fellows, it is my great pleasure to welcome you to the American Institute for Medical and Biological Engineering's 2009 Annual Event. Each year AIMBE strives to present a forum to discuss important issues impacting medical and biological engineering. This meeting gives us the opportunity to discuss the clinical, research, and public policy implications of what we do. The topics of this year's Event are critical to the future of our field and to the future of AIMBE.

This year's program is entitled *Translational Research for Medical and Biological Engineering: Bringing Technologies to Life*. The program, in a very unique way, brings together leading researchers, clinicians, corporate leaders and policy makers. These individuals are collectively pushing forward to new frontiers of knowledge through translational research, developing our understanding of how new technology can benefit the human condition from bench to bedside to clinical practice, and engaging in policy making actions to bring these technologies truly to life.

There will be exciting opportunities for the Fellows to engage with others through interactive panel discussions, networking events, and a special new program aimed at encouraging the next generation of scientists working in our profession. Innovation for the People will be a lunch-time event that will showcase up-and-coming young medical and biological engineers, and allow them to present their exciting work in a poster session format to the public and to Washington, DC-area high school students. Our aim is to show students and the public that our work is accessible, concrete, and vital, and to encourage students to explore careers in medical and biological engineering.

In addition, this year, the Annual Event will include opportunities for new Fellows to visit Capitol Hill and interact with our congressional legislators and their staff. Advocacy is a unique aspect of membership in AIMBE, and new Fellows will engage in policy shaping roles at this meeting.

Our wish has been to create a unique meeting experience that is unlike other scientific meetings that you attend. Our contributions to medical and biological engineering have made AIMBE a well-recognized and respected premiere organization. This event captures the essence of AIMBE — the connection between academia, industry, policy and practice, and most of all, the excellence of our members.

Sincerely,

Cato T. Laurencin, M.D, Ph.D.
Chair, College of Fellows

AIMBE: AN ADVOCATE FOR TECHNOLOGY INNOVATIONS THAT SAVE, ENHANCE LIVES

The American Institute for Medical and Biological Engineering was founded in 1991 to establish a clear and comprehensive identity for the field of medical and biological engineering — which is the bridge between the principles of engineering science and practice, and the problems and issues of biological and medical science and practice.

Practical engagement of medical and biological engineers ranges from the fields of clinical medicine to food, agriculture and environmental bioremediation. AIMBE seeks to serve and coordinate a broad constituency of medical and biological scientists and practitioners, scientific and engineering societies, academic departments and industries.

As a national 501(c) 3 organization based in Washington, DC, AIMBE's mission is to:

- Promote awareness of the field and its contributions to society in terms of new technologies that improve medical care and produce more and higher-quality food for people throughout the world;
- Work with lawmakers, government agencies and other professional groups to promote public polices that further advancements in the field;
- Strive to improve intersociety relations and cooperation within the field;
- Promote the national interest in science, engineering and education; and
- Recognize individual and group achievements and contributions to medical and biological engineering.

AIMBE is comprised of four sections:

- **The College of Fellows** — 1,000 individuals who are the outstanding biological and medical engineers in academia, industry and government. These leaders in the field have distinguished themselves through their contributions in research, industrial practice and/or education. Most Fellows come from the United States, but there are international Fellows. The Chair of the College leads the committee that plans the overall program at AIMBE's Annual Event, held each winter in Washington.

- **The Academic Council** — Universities with educational programs in biological and medical engineering at the graduate or undergraduate level, over 90 member institutions in total. Representatives to the Council generally are chairs of their departments and many are members of the College of Fellows. The Council considers issues ranging from curricular standards and accreditation to employment of graduates and funding for graduate study. The Academic Council meets at the Annual Event and at another scientific meeting during the year.

- **The Council of Societies** — AIMBE's mechanism for coordinating interaction among 19 scientific organizations in medical and biological engineering. The purposes of the Council are to provide a collaborative forum for the establishment of society member positions on issues affecting the field of medical and biological engineering, to foster intersociety dialogue and cooperation that provides a cohesive public representation for medical and biological engineering, and to provide a way to coordinate activities of member societies with the activities of academia, government, the health care sector, industry and the public and private biomedical communities. The Council of Societies meets at AIMBE's Annual Event.

- **The Industry Council** — A forum for dialogue between industry, academia and government in order to identify and act on common interests that will advance the field of medical and biological engineering and contribute to public health and welfare. Industrial organizations may be members of the Industry Council if they have substantial and continuing professional interest in the field of medical and biological engineering. The Industry Council meets at the Annual Event.

For additional information about AIMBE's mission, membership and accomplishments, visit www.aimbe.org on the Web.

SCHEDULE AT A GLANCE

AIMBE'S 2009 ANNUAL EVENT
TRANSLATIONAL RESEARCH FOR MEDICAL AND BIOLOGICAL ENGINEERING: BRINGING TECHNOLOGIES TO LIFE

WEDNESDAY, FEBRUARY 11, 2009 — JW Marriott Hotel · 1331 Pennsylvania Avenue, NW

11:00 a.m. – 7:00 p.m. **Registration Open**
JW Marriott

NEW FELLOWS ORIENTATION EVENTS

2:00 p.m. – 3:00 p.m. **New Fellows Orientation**
Salon G

3:00 p.m. **Buses to Capitol Hill for New Fellows**
Pennsylvania Avenue Entrance

3:30 p.m. – 4:00 p.m. **New Fellows Capitol Hill Event**
Capitol Hill

4:00 p.m. **New Fellows Photo**
U.S. Capitol Building West Steps

4:30 p.m. **Buses to JW Marriott**

BUSINESS MEETINGS — OPEN TO ALL

8:00 a.m. – 12:00 p.m. **AIMBE Board of Directors Meeting**
Salon F

12:00 p.m. – 2:00 p.m. **AIMBE President's Lunch for Friends and Partners**
Salon I

12:30 p.m. – 2:30 p.m. **Council of Chairs Meeting**
Offsite – George Washington University, Marvin Center, Room 308

2:00 p.m. – 3:00 p.m. **Afternoon Refreshment**
Salon Foyer

3:00 p.m. – 4:30 p.m. **Council of Societies**
Commerce Room
Academic Council
State Room
Industry Council
Treasury Room

PROGRAMS FOR ALL ATTENDEES

4:30 p.m. – 5:45 p.m. **Innovation Presentation by The Wallace H. Coulter Foundation's Early Career Awardees**
Salon G

6:00 p.m. – 8:00 p.m. **Welcome Reception in honor of Emeritus Fellows**
Salon F

THURSDAY, FEBRUARY 12, 2009 — National Academy of Sciences · C and 21st Streets, NW

7:30 a.m. – 8:30 a.m.	**Buses depart JW Marriott for National Academy Building** *Pennsylvania Avenue Entrance*
8:30 a.m. – 9:30 a.m.	**College of Fellows Induction Ceremony** *NAS Auditorium*
9:30 a.m. – 10:00 a.m.	**Coffee Break and New Fellows Group Photo** *NAS Grand Hall*
10:00 a.m. – 10:30 a.m.	**Presidential Address** *NAS Auditorium*
10:30 a.m. – 11:15 a.m.	**Earl Bakken Distinguished Lecture** *NAS Auditorium*
11:15 a.m. – 11:40 a.m.	**Lecture – Inventor Perspectives** *NAS Auditorium*
11:40 a.m. – 12:30 p.m.	**Panel Discussion – Inspirational Stories of Translational Research** *NAS Auditorium*
12:30 p.m. – 2:00 p.m.	**Innovation for the People Presentation and Boxed Lunch** *NAS Grand Hall*
2:00 p.m. – 3:30 p.m.	**Panel Discussion – The Costs of Funding Translational Research** *NAS Auditorium*
3:30 p.m. – 3:45 p.m.	**Coffee Break**
3:45 p.m. – 4:15 p.m.	**Panel Discussion – Strategies for Encouraging Research** *NAS Auditorium*
4:15 p.m. – 5:15 p.m.	**Panel Discussion – Addressing Health Disparities through Translational Research** *NAS Auditorium*
5:15 p.m. – 7:00 p.m.	**Reception in Honor of New Fellows** *NAS Grand Hall*
7:00 p.m. – 7:30 p.m.	**Buses depart NAS for JW Marriott**

FRIDAY, FEBRUARY 13, 2009 — JW MARRIOTT HOTEL · 1331 PENNSYLVANIA AVENUE, NW

8:30 a.m. – 10:00 a.m. **College of Fellows Meeting and Breakfast**
Presentation of Awards
Salon I

10:00 a.m. – 12:30 p.m. **Council Presentations – Blueprint to Buyer: The Role of Government, Academia, and Industry in the Biotech Marketplace**
Salon II

12:30 p.m. – 2:00 p.m. **Luncheon and Closing Remarks**
Salon I

OTHER MEETINGS TO BE HOSTED BY AIMBE

THURSDAY, FEBRUARY 12, 2009

8:00 a.m. – 12:00 p.m. **Wallace H. Coulter Foundation Meeting**
JW Marriott
Congressional Room

SATURDAY, FEBRUARY 14, 2009

8:00 a.m. – 4:00 p.m. **IFMBE Meeting**
JW Marriott
Garden Terrace

9:00 a.m. – 3:00 p.m. **BMES Board of Directors Meeting**
JW Marriott
Congressional room

2009 ORGANIZING COMMITTEE

CHAIR

Cato T. Laurencin, M.D., Ph.D.
Organizing Committee Chair
Chair of the College of Fellows
Vice President for Health Affairs
Dean, School of Medicine
University of Connecticut

MEMBERS

Gilda Barabino, Ph.D.
Organizing Committee Co-Chair
Professor of Biomedical Engineering
Georgia Institute of Technology

Anthony Guiseppi-Elie, Sc.D.
Director, Center for Bioelectronics, Biosensors and Biochips
Clemson University

Anne Meyer, Ph.D.
Industry/University Center for Biosurfaces
State University of New York at Buffalo

Kristina Ropella, Ph.D.
Professor and Chair
Bioengineering Department
Marquette University

Roderic Pettigrew, M.D., Ph.D.
Director
National Institute of Biomedical Imaging and Bioengineering

Sohi Rastegar, Ph.D.
Director, Office of Emerging Frontiers in Research and Innovation Engineering Directorate
National Science Foundation

Mark Humayun, M.D., Ph.D.
Professor of Ophthalmology
University of Southern California

Weiyuan Kao, Ph.D.
Professor, Department of Biomedical Engineering and School of Pharmacy
University of Wisconsin

Erwin Gianchandani
Student, University of Virginia

Donna Christian Christensen
Delegate, U.S. Virgin Islands
U.S. House of Representatives

EX OFFICIO

John Watson, Ph.D.
AIMBE President

Nicholas Peppas, Sc.D.
Past Chair of the College of Fellows

Charles J. Robinson, D.S.c., P.E.
Chair-Elect of the College of Fellows

Jennifer Ayers, M.P.A.
AIMBE Executive Director

MEETING AGENDA

TUESDAY, FEBRUARY 10, 2009

5:00 p.m. – 8:00 p.m. **Registration Open**
JW Marriott Hotel, 1331 Pennsylvania Avenue, NW

WEDNESDAY, FEBRUARY 11, 2009

11:00 a.m. – 7:00 p.m. **Registration Open**
JW Marriott Hotel

New Fellows Orientation Events

2:00 p.m. – 3:00 p.m. **New Fellows Orientation**
Salon G

This must-attend event brings together the 2009 College of Fellows for the first time to learn about AIMBE, and how to advocate for medical and biological engineering. This year, a special welcome will be made by **Roderic I. Pettigrew, M.D., Ph.D.**, Director of the National Institute for Biomedical Imaging and Bioengineering (NIBIB) and an AIMBE Fellow. This session will be hosted by **Cato T. Laurencin, M.D., Ph.D.**, Chair, College of Fellows with **John T. Watson, Ph.D.**, President; **Eugene C. Eckstein, Ph.D.**, President-Elect; and **Charles J. Robinson, Ph.D.**, Chair-Elect, College of Fellows. All Fellows are welcome to attend the orientation to meet the new class.

All new Fellows are required to attend this orientation session.

3:00 p.m. **Buses to Capitol Hill for New Fellows**
Pennsylvania Avenue Entrance

New Fellows will be escorted by AIMBE's Advocacy Committee and AIMBE's Guardian Council for a special program on Capitol Hill.

3:30 p.m. – 4:00 p.m. **New Fellows Capitol Hill Event**
Capitol Hill

The new Fellows will be introduced to the legislative process and have the opportunity to meet with legislators and Congressional staff, so that they may better understand AIMBE's Public Policy work.

Photo identification will be required, as attendees will be going through security checkpoints. Open to College of Fellows Class of 2009 and committee members only.

4:00 p.m. **New Fellows Photo**
U.S. Capitol Building – West Steps

The AIMBE College of Fellows Class of 2009 will have its picture taken on the grand stairs at the west side of the Capitol building. The photograph will be made available to new Fellows upon request.

Open to College of Fellows Class of 2009 only.

4:30 p.m. **Buses leave the U.S. Capitol and return to the JW Marriott**

Business Meetings and General Events
Open to all Annual Event attendees, unless otherwise noted.

8:00 a.m. – 12:00 p.m. **AIMBE Board of Directors Meeting**, Chaired by John Watson, Ph.D.
Salon F

The AIMBE Board of Directors will meet to discuss plans for 2010.

Portions may be closed.

2:00 p.m. – 3:00 p.m. **Afternoon Refreshment**
Salon Foyer

3:00 p.m. – 4:30 p.m. **Council of Societies Business Meeting**, Chaired by Anne E. Meyer, Ph.D.
Commerce Room

Academic Council Business Meeting, Chaired by Kristina M. Ropella, Ph.D.
State Room

Industry Council Business Meeting, Chaired by Joseph C. Salamone, Ph.D.
Treasury Room

Discussion of the Economic Stimulus Plan and its impact on biological and medical technology companies is planned.

4:30 p.m. – 5:45 p.m. **Innovation Presentation by The Wallace H. Coulter Foundation's Early Career Awardees**
Salon G

Sponsored by the AIMBE Industry Council and the Wallace H. Coulter Foundation, this event will feature the research of the Early Career Awards in Translational Research Awardees. This session will be moderated by Joseph Salamone, Ph.D., Chair of the AIMBE Industry Council.

Presenters:

Xudong Fan, Ph.D., University of Missouri
Prototyping Lab-on-a-Chip Based on Liquid Core Optical Ring Resonators for Detection of Breast Cancer Biomarkers

Erin Lavik, Ph.D., Yale University
Sustained Delivery of Timolol Maleate Management of Elevated IOP for Glaucoma

Anant Madabhushi, Ph.D., Rutgers University
Automated Detection of Prostate Cancer from High Resolution MRI

Samuel Sia, Ph.D., Columbia University
BioMEMS Device for Counting of CD+4 Lymphocytes

James W. Tunnell, Ph.D., University of Texas at Austin
Spectral Diagnosis of Early Cutaneous Melanoma

Yingxiao Wang, Ph.D., University of Illinois, Urbana-Champaign
Development of Specific FRET Biosensors to Monitor Live-Cell MT1-MMP Activity and to Detect Cancer Cells

Changhuei Yang, Ph.D., California Institute of Technology
Applying Optofluidic Microscopy to Cell Imaging

6:00 p.m. – 8:00 p.m. **Welcome Reception in honor of Emeritus Fellows**
Salon F

Sponsored by the College of Fellows, join AIMBE President, John T. Watson, Ph.D. and Cato Laurencin, Ph.D. to network with colleagues during this special opening reception in honor of AIMBE's Emeritus Fellows. You will have the opportunity at this time to meet the Annual Event organizers and Emeritus Fellows.

National Academy of Sciences
C and 21st Streets, NW

NOTE: THE NATIONAL ACADEMY OF SCIENCES BUILDING REQUIRES A PHOTO ID FOR ENTRY

7:30 a.m. – 8:30 a.m. **Buses depart JW Marriott Hotel for National Academy Building**
Pennsylvania Avenue

8:30 a.m. – 9:30 a.m. **College of Fellows Induction Ceremony**
NAS Auditorium

Presentation of Honorary Fellow Award to **Raymond Damadian, M.D**.
Rush Holt (NJ) – Representative, U.S. House of Representatives (invited)

Celebrate the College of Fellows Class of 2009 as they are inducted. AIMBE's leadership will induct the new class and recognize their achievements. All Annual Event attendees as well as friends and family of the members of the new class are invited to attend. *Friends and family who wish to attend other functions will need to register.*

9:30 a.m. – 10:00 a.m. **Coffee Break and New Fellows Group Photo**
NAS Grand Hall

10:00 a.m. – 10:30 a.m. **Presidential Address**
John T. Watson, Ph.D.
NAS Auditorium

10:30 a.m. – 11:15 a.m. **Earl Bakken Distinguished Lecture**
The Ultimate Translation of Knowledge into Power
NAS Auditorium

Dr. Benjamin S. Carson, Sr., M.D., Professor of Pediatric Neurosurgery, Johns Hopkins University

11:15 a.m. – 11:40 a.m. **Featured Speaker — Inventor Perspectives**
NAS Auditorium

Adam Heller, Ph.D., Research Professor Emeritus, University of Texas at Austin

The auditorium doors will remain closed for the duration of the presentation, as silence is requested by the speaker.

11:40 a.m. – 12:30 p.m.

Panel Discussion — Inspirational Stories of Translational Research

Moderated by **Nicholas Peppas, Sc.D.**

NAS Auditorium

Mark Humayun, M.D., Ph.D., Professor of Ophthalmology, Doheny Eye Center, University of Southern California, Health Sciences Campus

Raphael C. Lee, M.D., Sc.D., Professor of Surgery and Biomechanics, University of Chicago

This panel will feature speakers discussing their success stories and challenges bringing technology from the laboratory to public use.

12:30 p.m. – 2:00 p.m.

Innovation for the People Presentation and Boxed Lunch

NAS Grand Hall

Honorary Chair — **Bill Cosby, Ed.D.**, noted actor, author, and activist

Hosted by **Belinda Seto, Ph.D.**, Deputy Director of NIBIB

This unique program features the next generation of medical and biological engineers who will be on hand to present posters demonstrating their research and its public benefit. Members of the public are invited to attend, to learn about how advances in the development of new engineering technology may impact their daily lives. Local Washington, DC high school students will be in attendance to ask about their career paths. Box lunches will be provided at this time. Invited guests include Rep. Larsen (CT) and Rep. Foster (IN).

2:00 p.m. – 3:30 p.m.

Panel Discussion — The Costs of Funding Translational Research

Moderated by **Cato T. Laurencin, M.D., Ph.D.** and **Donna Christian Christensen**, D-USVI, U.S. House of Representatives

NAS Auditorium

Andrew Von Eschenbach M.D., Commissioner, Food and Drug Administration

Edward Hanway, M.B.A., President and CEO, CIGNA Corporation

Carolyn Barley-Britton, M.D., President, National Medical Association

Nancy Nielson, M.D., President, American Medical Association (invited)

What are the costs of bringing new technology from bench to bedside? Each panelist will share their unique perspective on the process, and provide insight into the importance of translational research and the costs of funding the process.

3:30 p.m. – 3:45 p.m.

Coffee Break

Grand Hall

3:45 p.m. – 4:15 p.m.

Panel Discussion — Strategies for Encouraging Research

Moderated by **John T. Watson, Ph.D.**

NAS Auditorium

Colonel Karl Friedl, Ph.D., Director, Telemedicine and Advanced Technology Research Center, U.S. Army Medical Research and Materiel Command

Belinda Seto, Ph.D., Deputy Director, National Institute for Biomedical Imaging and Bioengineering

Fred Dombrose, Ph.D., President, The Hartwell Foundation

Mark Warner, D-VA, Senator, U.S. Senate (invited)

Foundations and Government are two major sources of funding for the development and commercialization of research. During this panel, attendees will hear how the different departments within the Federal government and a foundation view translational research, what types of programs they each offer and how they view their effectiveness.

4:15 p.m. – 5:15 p.m.

Panel Discussion — Addressing Health Disparities through Translational Research

Moderated by **Gilda Barabino, Ph.D.**

NAS Auditorium

Augustus A. White III, M.D., Ph.D., Ellen and Melvin Gordon Distinguished Professor of Medical Education, Harvard Medical School

Vivian Pinn, M.D., Director, Office of Research on Women's Health, National Institutes of Health

Garth Graham, M.D., M.P.H., Deputy Assistant Secretary for Minority Health, Department of Health and Human Services

Donna Christian Christensen, D-USVI, Delegate, U.S. House of Representatives (invited)

Jointly hosted by the **AIMBE Committee on Under-Represented Minorities (CURM)** and the **AIMBE Committee for Women in Medical and Biological Engineering (WIMBE)**, this high-level panel will present a discussion on how health disparities may be addressed by the development and commercialization of new research. Additionally, an overview of the unique challenges faced by researchers who encountered discrimination due to their gender and/or race and how this may impact their ability to develop new products for those with limited resources.

5:15 p.m. – 7:00 p.m. **Reception in Honor of New Fellows**

NAS Grand Hall

Be a part of the AIMBE tradition of welcoming new fellows at this reception in the Grand Hall of the NAS to celebrate the Class of 2009. Friends and family members of the new fellows are encouraged to attend.

7:00 p.m. – 7:30 p.m. **Buses depart NAS for JW Marriott**

FRIDAY, FEBRUARY 13, 2009

JW Marriott Hotel
1331 Pennsylvania Avenue, NW

8:30 a.m. – 10:00 a.m. **College of Fellows Meeting and Breakfast**
Presentation of Awards
Salon I

Presentation of Pierre Galletti Award to **Cato Laurencin, M.D., Ph.D.**
Presentation of Fellow Advocate Award to **Luis Kun, Ph.D.**

Fellows, both old and new, gather to meet about AIMBE. This year's attendees will be an honored part of the presentation of the Pierre Galletti Award, AIMBE's highest honor, as well as the presentation of the Fellow Advocate Award. This is the first year that the Fellow Advocate Award is being given. New Hall of Fame inductees will be also be presented at this time, as well as a short business meeting.

All meeting attendees are encouraged to attend.

10:00 a.m. – 12:30 p.m. **Council Presentations**

Blueprint to Buyer: The Role of Government, Academia, and Industry in the Biotech Marketplace
Moderated by **Anthony Guiseppi-Elie, Ph.D., Anne E. Meyer, Ph.D.**, and **Kristina M. Ropella, Ph.D.**
Salon II

EPSCoR/IDeA Translational and Transformative Research Initiatives of the Have Nots: Succeeding Without
Karl V. Steiner, Ph.D., EPSCoR Foundation Board

Tranformative Partnerships to Establish Economic Develop Zones
Rick Williams, Chief Business Officer, The Hamner Institutes for Health Sciences

Translational and Transformative Research to New Technology Adoption
Matthew Garabrant, Consultant, The Advisory Board Company

AIMBE's three councils will jointly present a program as it relates to translational research from their shared perspective on leaders in Industry, Academia and Professional Societies.

12:30 p.m. – 2:00 p.m. **Closing Luncheon – A Federal Perspective**
Salon I

Thomas W. Peterson, Ph.D., Assistant Director for Engineering, National Science Foundation
Rick Brenner, Ph.D., Assistant Administrator, Agricultural Resource Service for Technology Transfer, U.S. Department of Agriculture

Leaders from key federal agencies will present their views on translational research. Closing remarks will be given by **Cato T. Laurencin, M.D., Ph.D.**

- All times, speakers, presentations, and programs are subject to change.

THE PIERRE GALLETTI AWARD

The Pierre Galletti Award was established in 1999 by the AIMBE Board of Directors to honor its Founding Member and Past President. The award is presented to an individual in recognition of his/her contributions to public awareness of medical and biological engineering, and to the promotion of the national interest in science, engineering and education. The Galletti Award is the highest honor that AIMBE bestows on an individual.

Nominations are solicited by the AIMBE Awards Committee from the entire membership including all Councils and the College of Fellows. The award is presented at the Annual Event of AIMBE, though awardees have not been named every year.

Pierre Galletti passed away on March 8, 1997, having left his mark on the emerging field of biomedical engineering. He was a pioneering researcher, making his impact in such fields as heart-lung bypass, artificial organs, and tissue engineering. As a dedicated teacher and mentor, he not only provided leadership in the establishment of the medical school at Brown University, but also helped start Morehouse School of Medicine in Atlanta. He was an entrepreneur and an individual who realized that ultimately basic science only impacts patient care when new technology is made available to the public. He served the bioengineering community in many ways, later in life becoming active in public policy, and as the second President of the American Institute for Medical and Biological Engineering, more than anyone focused this organization on its public policy role. He was the consummate biomedical engineer, a person of great vision, a man for all seasons.

CATO T. LAURENCIN, M.D., PH.D.
RECIPIENT OF THE 2009 PIERRE GALLETTI AWARD

Cato T. Laurencin, Chair of the AIMBE College of Fellows, is Vice President for Health Affairs, Dean of the School of Medicine, the Albert and Wilda Van Dusen Chair in Academic Medicine, and Distinguished Professor of Orthopaedic Surgery, Chemical, Materials and Biomolecular Engineering at The University of Connecticut. For the 2008-2009 term, he will lead the College of Fellows — nearly 1,000 trailblazers who work daily throughout the technical and management spheres of medicine, academia, industry and government.

Dr. Laurencin completed a residency in Orthopaedic Surgery at Harvard University, where he was Chief Resident at the Beth Israel Hospital, Harvard Medical School. Board certified in orthopaedic surgery, he is a Fellow of the American College of Surgeons, the American Surgical Association and the American Academy of Orthopaedic Surgeons. Dr. Laurencin was named one of the Top 101 Doctors in America by Black Enterprise Magazine, and has been named to America's Top Doctors™ and America's Top Surgeons™.

Dr. Laurencin's academic interests are in the areas of tissue engineering, biomaterials, drug delivery and nanotechnology. He received the Presidential Faculty Fellowship Award from President Bill Clinton in recognition of his research work bridging medicine and engineering. Dr. Laurencin has received the William Grimes Award from the American Institute of Chemical Engineers, the Nicolas Andry Award from the Association of Bone and Joint Surgeons for Orthopaedic Research, the Clemson Award from the Society for Biomaterials for Contributions to the Biomaterials Literature, and the Leadership in Technology Award from the New Millennium Foundation.

Dr. Laurencin serves on the editorial board of 12 Journals including The Journal of Biomedical Materials Research, Biomaterials, and the Journal of Biomedical Nanotechnology. He is an Assistant Editor for Clinical Orthopaedics and Related Research.

In public policy, Dr. Laurencin is a member of the National Science Foundation's Directorate of Engineering Advisory Committee (ADCOM), and was a member of the National Science Advisory Board of the U.S. Food and Drug Administration (FDA). He also served in the leadership of the National Medical Association as Speaker of the House of Delegates and was a member of the N.I.H. National Advisory Council for Musculoskeletal and Skin Diseases (NIAMS).

Dr. Laurencin is an elected member of the Institute of Medicine of the National Academy of Sciences.

Dr. Laurencin earned his B.S.E. in Chemical Engineering from Princeton University, his M.D. from the Harvard Medical School, where he graduated Magna Cum Laude. He earned his Ph.D. in Biochemical Engineering/Biotechnology from the Massachusetts Institute of Technology, where he was a Hugh Hampton Young Scholar.

PIERRE GALLETTI AWARD RECIPIENTS

Cato T. Laurencin, M.D., Ph.D.
2009

Nicholas A. Peppas, Sc.D.
2008

Douglas A. Lauffenburger, Ph.D.
2007

Peter Katona, Sc.D.
2006

Shu Chien, M.D., Ph.D.
2004

Robert M. Nerem, Ph.D.
2002

John T. Watson, Ph.D.
2001

Robert S. Langer, Ph.D.
2000

THE FELLOW ADVOCATE AWARD

The AIMBE Fellow Advocate Award was created to recognize a Fellow who has made outstanding contributions to advancing federal policies assisting the medical and biological engineering field. This is the first year that the award will be given.

DR. LUIS KUN, PH.D.
RECIPIENT OF THE 2009 FELLOW ADVOCATE AWARD

Dr. Luis Kun is a Senior Research Professor of Homeland Security at the IRM College of the National Defense University where he developed and teaches the curricula related to Homeland Security and Protection of Critical Infrastructures and Key Assets. He holds a BSEE; MSEE and Ph.D. degree in Biomedical Engineering all from UCLA. He spent 14 years at IBM, where he developed the first six clinical applications for the IBM PC; was one of the pioneers on bedside terminals for Intensive Care; and a developer of a semi-expert, real-time, clinical decision support system: PC/PATSS. He was also the technical manager of the Nursing Point of Care System at IBM.

Dr. Kun was the biomedical engineer in the team of four that developed the first Teleradiology system and the first Picture Archival and Communications Systems to run on an IBM platform. Later he was Director of Medical Systems Technology and Strategic Planning at Cedars Sinai Medical Center in LA. Since 1986 Dr. Kun has been increasingly involved in Science and Technology Policy. As the Senior IT Advisor to the Agency for Health Care Policy and Research (AHCPR) he formulated the IT vision and was the lead staff for HPCC program and Telehealth. He prepared AHCPR's program descriptions in three consecutive: "Supplement to the President's Fiscal Years 1997-1998 and 1999 Budgets" published in the President's HPCC Implementation Plan and a co-writer of the following Committee on Computing, Information and Communication (CCIC) Blue Books: "Advancing the Frontiers of Information Technology"; "Technologies for the 21st Century" and "Networked Computing for the 21st Century", NSTC/ Executive Office of the President (97, 98 and 99). He co-authored the Reports to the Congress on Telemedicine (1997) and on HIPAA Security.

In July of 1997, he was invited speaker to the White House. He was largely responsible for the Telemedicine portion of the bill that became part of the Balanced Budget Act of 1997. Dr. Kun represented the DHHS Secretary at a Pan American Forum of Health Care Ministers on Telecommunications and the Health Care Industry in Mexico in 1997.

As a Distinguished Fellow at the CDC (1999-2001) he was the Senior Computer Scientist for the Health Alert Network for Bioterrorism and later the Acting Chief Information Technology Officer for the National Immunization Program (NIP) where he formulated their IT vision on 10/2000.

Dr. Kun has made numerous seminal contributions to the information technology, healthcare and public health disciplines. At the IEEE-USA he helped create new working groups and committees such as the Genetics and Bioinformatics WG and the Bioterrorism WG. He is the Founding Chair of the IEEE-USA: Electronic Health Record and High Performance Computers and Communications WG (former HCEPC) and the Bioterrorism & Homeland Security WG (for the Medical Technology Policy Committee). He is also the Founding Chair of the Critical Infrastructure Protection Committee. He is in the IEEE Computer Science and the Engineering in Medicine and Biology Distinguished Visitor Program. He serves in many Editorial and Advisory Board of magazines, journals and books as well as diverse National (i.e., Caring Technologies / TalkAutism; Collaborative Communications Summit; Boston Children's Hospital (at Harvard and MIT) Biodefense Project (Information Systems for Bioterrorism Preparedness project; US Joint WG on Telemedicine) and International (i.e., Medical and Care Compunetics (ICMCC, Netherlands); Spain's Telemedicine Networks (ISCIII); Chair of the International Committee of Australia's Asia Pacific Ubiqutuos Healthcare (APuHC); US Representative to the WFEO Information and Communications Committee), organizations.

He has lectured on medical and public health informatics, information technology and biomedical engineering in over 70 countries. He has served as an invited: Conference, track, session, tutorial, special symposia chair and/or publications, speaker / keynote speaker and in conference scientific committees, etc. over 300 times. He is a past AIMBE Secretary / Treasurer / BOD and is a member of the IEEE–Society of Social Implications of Technology Board of Governors, and of the Executive Board and the Board of Directors of the American Association of Engineering Societies (AAES).

He received many awards including: the "Administrator's Award of Merit" presented by the US Surgeon General Dr. Satcher: "For exceptional dedication and professional achievement that have greatly enhanced the recognition of AHCPR's research in the High Performance Computing and Communications Program." And the "2002 - IEEE-USA Citation of Honor Award": "For exemplary contributions in the inception and implementation of a health care information technology vision in the United States. He is a Fellow of the IEEE and the American Institute of Medical and Biological Engineering (AIMBE).

AIMBE HONORARY FELLOW AWARD

Honorary Fellow Awards are given to individuals who have made outstanding contributions to medical and biological engineering through scientific, educational, governmental, financial or industrial organizations. This award is not presented to individuals who have already been named to the College of Fellows by regular AIMBE procedures.

RAYMOND DAMADIAN, M.D. RECIPIENT OF THE 2009 AIMBE HONORARY FELLOW AWARD

In 1970, Raymond Damadian, M.D., made the discovery that is the basis for magnetic resonance (MR) scanning that there is a marked difference in relaxation times between normal and abnormal tissues of the same type, as well as between different types of normal tissues. This seminal discovery, which remains the basis for the making of every MRI image ever produced, is the foundation of the MRI industry. Dr. Damadian published his discovery in his milestone 1971 paper in the journal Science (Science 171:1151, 1971) and filed the pioneer patent for the practical use of his discovery in 1972.

The MRI scanner uses these relaxation differences in diseased tissues such as cancer and in normal tissues to supply and control the brightness of the pixels that comprise the MRI image. These relaxation differences, which do not exist in any other imaging modality, provide the exceptional contrast and beauty found only in MRI images (10 to 30 times that of x-ray). The significance and importance of Dr. Damadian's discovery in the origination of MRI was acknowledged by the U.S. Supreme Court in its 1997 decision, when the Court enforced Dr. Damadian's original patent (U.S. Patent #3,789,832) that patented the relaxation differences and their use in scanning.

With the aid of his post-graduate assistants, Doctors Lawrence Minkoff and Michael Goldsmith, Dr. Damadian went on to build Indomitable, the first MR scanner, which was conceived to take advantage of the relaxation differences among the body's tissues. Indomitable produced the first human image, that of Dr. Minkoff's chest, on July 3, 1977 and the first scans of patients with cancer in 1978. Indomitable has since assumed its rightful place in the Smithsonian Institute.

FONAR was incorporated in 1978, making it is the first, oldest and most experienced MR manufacturer in the industry. FONAR introduced the world's first commercial MRI (a whole-body MRI scanner) in 1980, and went public in 1981.

In 1982, FONAR introduced its patented iron-core technology, which is the basis for all Open MRI scanners. In 1984, the company invented Oblique Imaging, providing medical technology the means to produce multiple images "at any angle," which was never before possible in medical imaging. In 1985, the Multi-Angle Oblique (MAO) scanning protocol, an innovative, dramatic extension of FONAR's Oblique Imaging was invented and patented.

In 1985, the FONAR MRI scanner at the UCLA Medical Center became the world's first MRI in which an interventional surgical procedure was performed. That same year FONAR introduced the world's first mobile MRI.

In 1988, Dr. Damadian was awarded the National Medal of Technology by President Ronald Reagan, which he shared jointly with Dr. Lauterbur, for "their independent contributions in conceiving and developing the application of magnetic resonance technology to medical uses, including whole-body scanning and diagnostic imaging." Less than one year later, Dr. Damadian was inducted into the National Inventors Hall of Fame of the United States Patent Office for his pioneer patent of MR scanning, joining a select group of renowned pioneers, including Orville and Wilbur Wright, Henry Ford, Thomas Edison and Alexander Graham Bell, whose inventions have revolutionized our nation and society.

ADAM HELLER, PH.D.
RECIPIENT OF THE 2009 AIMBE HONORARY FELLOW AWARD

Adam Heller received his M.Sc. (Chemistry and Physics, 1957) and Ph.D. (Chemistry, 1961) from the Hebrew University, Jerusalem, where he studied under Ernst David Bergmann. Following postdoctoral work at U.C. Berkeley and at Bell Laboratories, he joined GTE Laboratories becoming Manager of Exploratory Research in 1970. In 1975 he returned to ATT Bell Laboratories, heading from 1977 until 1988 the Electronic Materials Research Department, where he managed research on the materials science underlying high-density, high frequency chip-interconnections, used in small portable electronic devices. He was appointed to the Ernest Cockrell, Sr. Chair in Engineering at The University of Texas at Austin in 1988 and became one of the university's first Research Professors in 2002.

Heller built in 1966 the first inorganic liquid laser. In 1973 he published with James J. Auborn, the first paper on the lithium thionyl chloride battery, one of the earliest lithium batteries. It is still manufactured and used worldwide. In 1980 he reported the first 10% efficient photoelectrochemical solar cell, and in 1981 the first photoelectro-chemical cell converting sunlight to chemical energy, stored as hydrogen, at such efficiency. His studies, in 1990-1993, with the late Heinz Gerischer, showed that the rate of photocatalytic oxidation of organic matter on small titanium dioxide particles was controlled by the rate of reduction of adsorbed oxygen by trapped electrons. He then defined with Michael Pishko and Ephraim Heller the materials science for binding the photocatalytic particles to surfaces, and designed in 1995-7 with Yaron Paz, thin, transparent, photo-active, films of titanium dioxide nanoparticles on window glass, which made the windows self-cleaning under sunlight, opening a route to the manufactured self–cleaning windows.

With his son, Ephraim Heller, he co-founded in 1996 TheraSense, Inc. (now Abbott Diabetes Care) of Alameda, CA to help diabetic people. With his TheraSense colleagues he removed the pain associated with obtaining blood samples by self-monitoring diabetic people. The world-wide used FreeStyle™ microcoulometer, introduced by TheraSense in 2000, accurately measures the glucose concentration in 300 nanoliters of blood, a volume small enough to be painlessly obtained. With more than a billion units produced annually, FreeStyle™ is arguably the highest impact nanotechnological or micro-fluidic device to-date.

Heller introduced in 1988-1995 the electrical connection ("wiring") of redox centers of enzymes to electrodes through electron-conducting redox hydrogels. The redox hydrogel-wired enzymes are uniquely effective bioelectrocatalysts of reactions of water-soluble biochemicals. Applying electrically wired glucose oxidase, Heller designed the subcutaneou.s.ly implanted miniature glucose sensor constituting the core of the Abbott's FreeStyle Navigator™ continuously glucose monitoring system for diabetes management. The system, released in 2007 in Europe and in 2008 in the U.S., alarms when the glucose level is low or high, or if it is expected to be low or high on a 30 min or shorter time horizon. Clinically, it reduces the diabetes-complication and coma-causing periods during which the glucose levels of diabetic people are high or low. These periods now exceed 8 hours/day even in those Type 1 diabetic people who most carefully manage their disease.

Heller's contributions to science are described in 225 peer reviewed papers, and 17 book chapters and reviews. They were cited more than 13,000 times. The truths he uncovered are the basis for 5 presently manufactured products. His contributions to technology and engineering are described in 102 issued U.S. Patents, 37 of which are in use.

Heller received from President Bush in a 2008 White House ceremony the 2007 National Medal of Technology and Innovation. He was elected to the U.S. National Academy of Engineering in 1987 and was made Fellow of the American Association for the Advancement of Science and of The Electrochemical Society. He was also named Guest Professor of the Collège de France in 1982 and received honorary doctorates from Uppsala University in Sweden in 1991 and from Queen's College of the City University of New York in 2008.

His medals include the Spiers Medal of the Royal Society of Chemistry, UK, the Faraday Medal of the Royal Society of Chemistry, UK, the Medal of the Faculty of Engineering of the University of Tokyo and the Vittorio De Nora Gold Medal of The Electrochemical

Society and the Fresenius Gold Medal and Prize of the Society of German Chemists. His awards include the Grahame Award of The Electrochemical Society, the Battery Research Award of The Electrochemical Society, the Chemistry of Materials Award of the American Chemical Society, the Creative Invention Award of the American Chemical Society, the Reilly Award of the Electroanalytical Society and the American Institute of Chemical Engineers Award in Chemical Engineering Practice.

AIMBE HONORARY FELLOW AWARD RECIPIENTS

2009

Raymond Damadian, M.D.
Adam Heller, Ph.D.

2006

Mark Levin, M.S.

2005

Norman Borlaug, Ph.D.

2004

Arnold Beckman, Ph.D.
Mr. Earl Bakken
The Honorable David Durenberger

SPEAKER BIOGRAPHIES

Richard J. Brennar, Ph.D.

Dr. Richard Brenner was named the Assistant Administrator in ARS for Technology Transfer in October 2004. In this capacity, he represents the Secretary of Agriculture on issues pertaining to management of intellectual property arising from USDA research, and has the delegated authority for licensing inventions developed through intramural research in any of the USDA agencies. He is a member of AUTM, the Agency Representative to the Federal Laboratory Consortium for Technology Transfer, and the Interagency Working Group for Technology Transfer convened by the Department of Commerce. The Office of Technology Transfer consists of 45 professionals in technology transfer covering patenting, licensing, marketing of ARS technologies and ARS research capacities, and Technology Transfer Coordinators who establish Cooperative Research and Development Agreements (CRADAs) with private sector companies for ARS scientists.

Prior to this position, Dr. Brenner served as the Deputy Assistant Administrator for the Office of Technology Transfer (OTT), USDA-ARS, from August 2001, where he managed much of the daily operations on CRADAs, patents, and licensing. From 1984-2001, Dr. Brenner served as a Research Entomologist and later as a Research Leader for ARS in Gainesville, Florida, following a 2-year research assignment in Chiapas, Mexico. Career awards include Outstanding Senior Scientist, USDA Award for Superior Service, ARS Technology Transfer Awards, an FLC Technology Transfer Award, and the "Pollution Prevention Project of the Year," award in 1999 under the Strategic Environmental Research and Development Program, jointly awarded by the Department of Defense, Department of Energy, and the EPA, and the Presidential Rank Award for Meritorious Service (2008).

Richard has a Ph.D. in medical entomology from Cornell University, and 2 degrees from the University of Illinois. He, his wife Joann, and their two sons, Drew and Joey, live in Severna Park, MD near Annapolis.

Carolyn Barley Britton, M.D., M.S.

Carolyn Barley Britton, M.D., M.S., is a recognized expert in Neurovirology and Infectious/Inflammatory Diseases of the nervous system.

She is currently Associate Professor of Clinical Neurology, Columbia University College of Physicians and Surgeons, New York City, and Associate Attending at New York Presbyterian Medical Center. She is also a member of the both the Lyme Center and the Headache Center at Columbia Medical Center. She is a visiting lecturer throughout the United States, Europe, and the Caribbean.

A native of Huntsville, Alabama, Dr. Britton is a graduate of Oberlin College and New York University Medical School. She completed her internship and residency in Internal Medicine at Harlem Hospital Center, Columbia University Affiliation, followed by a residency in Neurology and a research fellowship in Neurovirology at the Neurological Institute, Columbia University College of Physicians and Surgeons in New York City. She is double-boarded in Internal Medicine and Neurology.

Dr. Britton was among the first to describe the neurologic complications of Acquired Immunodeficiency Syndrome (AIDS) in 1981, and is a recognized authority on a rare viral complication, progressive multifocal leukoencephalopathy. She served as the Study Neurologist for a Lyme retreatment trial led by Brian Fallon, M.D., director of the Lyme Disease Research Program.

During the past two decades, Dr. Britton has been a tireless advocate for funding of AIDS clinical trials, the training of minority and female clinical researchers, and the inclusion of minority populations and women in clinical trials. Her work at the National Institute of Allergy and Infections Diseases (NIAID) helped produce changes in federal clinical research guidelines that require the inclusion of women and minorities and the expansion of clinical trials.

A faculty advisor to medical students for more than 20 years, Dr. Britton serves on the Columbia University Medical School admissions committee. She has been recognized as Teacher of the Year by Black and Latino Student Organizations.

Throughout her career, Dr. Britton has held leadership positions in numerous professional organizations, committees, and boards, including: Board of Directors, New York County Health Services Review Organization; Member of the Governor's Task Force on Health Care Reform (New York) and of the Governor's Task Force on AIDS (New York AIDS Institute); Vice Chair and Trustee of the Black Leadership Commission on AIDS; Board Examiner, American Academy of Neurology (AAN); Inaugural Chair for Scientific Section on Neurologic Disorders in Women (AAN); and Member of the Clinical Applications, Prevention and Treatment Subcommittee of the AIDS Research Committee, National Institute of Allergy and Infectious Diseases.

She was Director of Ambulatory Care for the Department of Neurology at Columbia University, and Chair of the Doctor's Private Office Committee at New York Presbyterian Hospital.

Dr. Britton's work in the National Medical Association includes leadership positions from the local to the national level. She has served as President of the Manhattan Medical Society; Chair, Region I; Chair Neurology/Neurosurgery Section of the NMA; Trustee Finance Chair, and Chair of the Board of Trustees; and President-Elect.

In July 2008 during the NMA's annual convention and scientific assembly, Dr. Britton was installed as the 109th President of the National Medical Association.

Dr. Britton is the recipient of numerous awards, including: New York's Best Doctors, New York Magazine, 1996 and 2003; Best Doctors New York Metro Area, Castle Connolly, 2003 through 2008; Best Doctors in America, Castle Connolly, 2006 through 2008; Top 100 African American U.S. Physicians, 2001 and top 140 African American U.S. Physicians, 2008, Black Enterprise Magazine; Top Black Physicians in New York, The Network Journal, 2007 and 2008; American Legacy Magazine's Multicultural Health Award, 2007; Harlem Hospital Second Century Award, 2004; Physician of the Year and Distinguished Service Awards, Manhattan Central Medical Society, Empire State Medical Association and Region I NMA.

In 2008, Dr. Britton was chosen by New York University Medical Center as the alumnus inductee into Alpha Omega Alpha Honor Society, the prestigious medical honor society.

Benjamin S. Carson, M.D.

Benjamin S. Carson, Sr., M.D., had a childhood dream of becoming a physician. Growing up in a single parent home with dire poverty, poor grades, a horrible temper, and low self-esteem appeared to preclude the realization of that dream until his mother, with only a third-grade education, challenged her sons to strive for excellence. Young Ben persevered and today is a full professor of neurosurgery, oncology, plastic surgery, and pediatrics at the Johns Hopkins School of Medicine, and he has directed pediatric neurosurgery at the Johns Hopkins Children's Center for nearly a quarter of a century. He became the inaugural recipient of a professorship dedicated in his name in May 2008. He is now the Benjamin S. Carson, Sr., M.D. and Dr. Evelyn Spiro, R.N. Professor of Pediatric Neurosurgery.

Some career highlights include the first separation of craniopagus (Siamese) twins joined at the back of the head in 1987, the first completely successful separation of type-2 vertical craniopagus twins in 1997 in South Africa, and the first successful placement of an intrauterine shunt for a hydrocephalic twin. Although he has been involved in many newsworthy operations, he feels that every case is noteworthy – deserving of maximum attention. He is interested in all aspects of pediatric neurosurgery and has a special interest in trigeminal neuralgia (severe facial pain) in adults.

Dr. Carson holds more than 50 honorary doctorate degrees. He is a member of the Alpha Omega Alpha Honor Medical Society, the Horatio Alger Society of Distinguished Americans, and many other prestigious organizations. He sits on the board of directors of numerous organizations, including Kellogg Company, Costco Wholesale Corporation, the Academy of Achievement, and is an Emeritus Fellow of the Yale Corporation, the governing body of Yale University. He was appointed in 2004 by President George W. Bush to serve on the President's Council on Bioethics. He is a highly regarded motivational speaker who has addressed various audiences from school systems and civic groups to corporations and the President's National Prayer Breakfast.

In 2001, Dr. Carson was named by CNN and TIME Magazine as one of the nation's 20 foremost physicians and scientists. That same year, he was selected by the Library of Congress as one of 89 "Living Legends" on the occasion of its 200th anniversary. He is also the recipient of the 2006 Spingarn Medal which is the highest honor bestowed by the NAACP. In February, 2008, Dr. Carson was presented with the Ford's Theatre Lincoln Medal by President Bush at the White House. In June, 2008, he was awarded the Presidential Medal of Freedom by the President, which is the highest civilian honor in the land. He has literally received hundreds of other awards during his distinguished career.

He is president and co-founder of the Carson Scholars Fund, which recognizes young people of all backgrounds for exceptional academic and humanitarian accomplishments. The Fund is currently operating in 27 states and the District of Columbia, having awarded more than $ 3.4 million dollars to more than 3400 scholars. He also co-founded Angels of the OR, which provides grants to assist families with non-covered medical care expenses involving both adult and pediatric neurosurgery. Both programs are in national expansion mode.

His first three books, Gifted Hands, THINK BIG, and The Big Picture provide inspiration and insight for leading a successful life. His fourth book, Take The Risk: Learning to Identify, Choose, and Live With Acceptable Risk, was released in early 2008. Dr. Carson has been married for over 30 years to his wife, Candy, and is the father of three sons. And yes, his mother, Sonya Carson, who made all this possible, is alive and well.

Frederick A. Dombrose, Ph.D.

Fred Dombrose is President of The Hartwell Foundation, a non-profit organization established to inspire innovation and achievement with the potential to benefit children. He is a scientist and knowledgeable business professional with a career spanning both academia and industry.

As President of The Hartwell Foundation, he is responsible for directing the primary mission, to grant awards to individuals for early-stage, innovative and cutting-edge biomedical applied research. Prior to joining the Foundation in 2006, Dr. Dombrose held several positions in the biomedical industry, including: Executive Director of the Consortium for Plasma Science (Bayer, Baxter Healthcare, Aventis Behring, Alpha Therapeutic), which funded contract research for ground-breaking technology related to the inactivation of blood-borne viruses in source plasma; VP and General Manager of Pacific Hemostasis, a medical diagnostics manufacturing company; International Area Manager for Thrombosis and Hemostasis at Organon Teknika Corporation; and Director of R&D at Dade Diagnostics.

Before initiating his career in industry, Dr. Dombrose held joint faculty appointments in Pathology and Biochemistry at The University of North Carolina at Chapel Hill, where he was also a Scientific Director with the NC Memorial Hospital Department of Laboratory Medicine. He completed undergraduate studies at Michigan State University and received his doctoral degree in Physiology at Wayne State University School of Medicine, followed by postdoctoral training in Biochemistry at Washington University, St. Louis. Dr. Dombrose has over 30 publications, including contributions to three textbooks and two patents.

Xudong Fan, Ph.D.

Dr. Fan obtained B.S. and M.S. in physics from Peking University in 1991 and 1994, respectively, and Ph.D. in physics and optics from Oregon Center for Optics at the University of Oregon in 2000. Between 2000 and 2004, he was a project leader at 3M Company on fiber optics and optical biosensor development. In August of 2004, he joined the Biological Engineering Department at the University of Missouri as an assistant professor.

Dr. Fan's research includes development of novel photonic bio/chemical sensors based on ring resonators and nanoparticles. He has nearly 50 publications and over 10 issued/pending patents. Dr. Fan serves as a chair and organizer of conferences for SPIE (The International Society of Optical Engineers) and MRS (Material Research Society). He is the recipient of 3M Non-Tenured Faculty Award (3 times), American Chemical Society Young Faculty Award, the Wallace H. Coulter Early Career Award (both Phase I and Phase II), and the prestigious National Science Foundation CAREER Award. He is also the recipient of the IEEE Sensors Journal Best Paper Award of 2008. His research is supported by the National Science Foundation, the National Institute of Health, private foundations, and industrial companies.

COL Karl E. Friedl, Ph.D.

Colonel Karl E. Friedl, Ph.D., is the Director, Telemedicine and Advanced Technology Research Center (TATRC) at the U.S. Army Medical Research and Materiel Command, located at Fort Detrick, Maryland.

Prior to his assignment to TATRC, COL Friedl commanded the U.S. Army Research Institute of Environmental Medicine, the lead laboratory for Military Operational Medicine research and the premier government laboratory for biomedical research on human performance. His current areas of focus are applications of metabolism and neurobiology technologies, assessment methods and metrics of research success, and strategies to accelerate research translation to practice. He has published over 100 papers including 65 original reports, 20 book chapters, and other reviews and technical reports.

He received his Doctor of Philosophy (Integrative Physiology) from the University of California at Santa Barbara, in the University¹s Institute of Environmental Stress. He entered the Army in 1983 as a Captain in the Medical Service Corps, assigned to the Department of Clinical Investigation at Madigan Army Medical Center, in Tacoma, Washington, where he organized clinical research and conducted studies on steroid hormones and responses to military stressors. From 1989 to 1993, he was a research physiologist at the US Army Research Institute of Environmental Medicine, in Natick, Massachusetts, where he studied human metabolic limits. In 1994, he was assigned as a staff officer in the Army Systems Hazards Research Program at the U.S. Army Medical Research and Development Command, at Fort Detrick, Maryland. In 1996, as the Research Area Director (RAD) for the Military Operational Medicine (MOM) Research Program, he instituted program-level external scientific review of all MOM research and established a coordinated plan of biomedical research on protection and enhancement of the Soldier. Between 1996 and 2003, he also chaired the Tri-Service Joint Technical Coordinating Group (JTCG-5) for MOM, expanding inter-Service cooperation and promoting collaborative reviews and projects with other agencies including the VA, NIH, NASA, and USDA. He organized and directed initiatives that brought additional resources to bear on military issues including the Defense Women¹s Health Research Program, and DoD Gulf War Illnesses, Bone Health and Military Medical Readiness, and Neurotoxin Exposure Treatment (Parkinson¹s) research programs. As the Director, MOM, COL Friedl was responsible for management of greater than one billion dollars of research funding.

Matthew Garabrant

Matthew Garabrant is a Consultant with The Advisory Board Company is responsible for leading research on trends and technologies within the realm of oncology care. He has authored numerous studies on topics ranging from clinical evaluation of stereotactic radiosurgery platforms to forecasting the impact of proton beam therapy upon other oncology treatments. Mr. Garabrant also has extensive experience performing in-depth market and financial feasibility analyses to assist hospitals in their clinical technology investment decisions, in addition to experience in assisting hospitals to revamp and improve existing technology evaluation processes.

Garth Graham, Ph.D.

Dr. Garth N. Graham is the Deputy Assistant Secretary for Minority Health in the Office of Minority Health at the Department of Health and Human Services. The Office of Minority Health develops and coordinates Federal health policy that addresses minority health concerns and ensures that Federal, State and local health programs take into account the needs of disadvantaged, racial and ethnic populations. The Office of Minority Health (OMH) was created by the U. S. Department of Health and Human Services (HHS) in 1986 as a result of the Report of the Secretary's Task Force on Black and Minority Health.

He was previously appointed a White House Fellow and special assistant to former Secretary Tommy G. Thompson at the Department of Health and Human Services. He founded the Boston Men's Cardiovascular Health Project, a project designed to identify behavioral explanations for decreased adherence to adequate diet and exercise by African American men. Dr Graham was the Founding Senior Editorial Board Member of the Yale Journal of Health, Law, Policy, and Ethics, served on the Editorial Board of the Yale Journal of Biology and Science, Public Health Reports and a number of other guest editorial boards. He also served on the Public Health Executive Council of the Massachusetts Medical Society, the Board of Directors of Physicians for Human Rights, Chairman of the American Medical Association/MSS National Minority Issues Committee and on the Steering Committee of the Boston Men's Health Coalition. He is currently on the faculty of Harvard Medical School where he trained in Internal Medicine at Massachusetts General Hospital and serves as a visiting scientist at the Harvard School of Public Health. He has authored scientific articles and presentations on cardiovascular disease, HIV/AIDS and community medicine.

Dr. Graham earned an M.D. from the Yale School of Medicine, where he graduated cum laude. He was inducted into the Alpha Omega Alpha medical honor society and named a Yale President Public Service Fellow. He also earned an M.P.H. from the Yale School of Epidemiology and Public Health with a focus in health policy administration. He has received numerous accolades for his leadership and service in promoting health, including the 2002 American Medical Association Leadership Award, the Partners in Excellence Award, the Miriam Kathleen Dasey Award from Yale Medical School and the 2005 Reginald Hawkins award. The Business Network Journal also named him one of the Forty Leaders Under Forty.

Ed Hanway

H. Edward Hanway was named chairman and chief executive officer of CIGNA Corporation in 2000. Prior to that, he served the company for a year as president and chief operating officer. From 1996 to 1999 he served as president of CIGNA HealthCare, and from 1989 to 1996 as president of CIGNA International.

Hanway joined Insurance Company of North America (INA), a CIGNA predecessor company, in 1978 as assistant controller, and was appointed to management and executive roles of increasing responsibility through the merger in 1982 of INA and Connecticut General, which formed CIGNA.

Hanway serves on the board of directors of the Alliance for Health Reform and is past chairman of the Council for Affordable Quality Healthcare. He is an outspoken advocate at the national level for greater transparency in the health care quality and cost information available to consumers and a strong proponent of national quality standards for health care providers. He is recognized as a leader in the effort to improve the quality, accessibility and affordability of health care in the United States.

Through the years, Hanway has been active in a wide range of issues and initiatives associated with children's health, education and international business. He currently serves on the board of advisors of the March of Dimes Foundation, and on the board of trustees of Loyola College of Baltimore, Drexel Neumann Academy and the Eisenhower Exchange Fellowships. He also serves on the board of directors of The Philadelphia Orchestra and is a member of The Business Roundtable.

A member of the Pennsylvania and American Institutes of Certified Public Accountants, Hanway graduated from Loyola College of Baltimore (B.A., 1974) and Widener University (M.B.A., 1984).

Mark Humayun, M.D., Ph.D.

Mark S. Humayun, M.D., Ph.D. received his B.S. from Georgetown University in 1984, his M.D. from Duke University in 1989, and his Ph.D. from the University of North Carolina, Chapel Hill in 1994. He completed his ophthalmology residency at Duke Eye Center and fellowships in both vitreoretinal and retinovascular surgery at Johns Hopkins Hospital. He stayed on as faculty at Johns Hopkins where he rose to the rank of associate professor before moving to USC in 2001.

Dr. Humayun's research projects focus on the treatment of the most debilitating and challenging eye diseases through advanced engineering. Leading a team of more than 30 faculty and 200 students from 15 different institutes, Dr. Humayun is focused on developing therapies for 1) retinal degenerations such as retinitis pigmentosa, 2) macular degenerations such as age-related macular degeneration, 3) retinovascular diseases such as vein occlusions, 4) diabetic retinopathy, as well as 5) glaucoma.

He has been voted as one of the Best Doctors in America, an AIMBE Fellow, and has received numerous research awards. He is the director of the National Science Foundation BioMimetic MicroElectronic Systems Engineering Research Center, as well as the director of the Department of Energy Artificial Retina Project.

Erin Lavik, Ph.D.

Dr. Lavik received her bachelor's, master's, and doctoral degrees from MIT in Materials Science and Engineering. Her graduate work involved developing novel polymer scaffolds to direct spinal cord repair. Dr. Lavik came to Yale in 2003 and is an associate professor. She works with a team of graduate and undergraduate students to develop new paradigms to promote repair following spinal cord injury, retinal diseases, and glaucoma. She teaches classes including Tissue Engineering where the students make and test artificial arteries and learn about the issues involved in translating the technologies from the bench to patients.

Raphael Lee, M.D., Sc.D.

Dr. Lee, a Professor at the University of Chicago, holds appointments in Surgery (Plastic), Medicine (Dermatology), Molecular Medicine, and Organismal Biology & Anatomy (Biomechanics). He directs the Center for Molecular Regeneration and the Electrical Trauma Research Program at the University. He is also a founder and Chairman, Board of Directors of Avocet Polymer Technologies, Inc., Renacyte BioMolecular Technologies, Inc., Electrokiinetic Signal Research and of Maroon Biotech, Inc. all of Chicago, Illinois.

Dr. Lee is a plastic surgeon and biomedical engineer. His professional esearch interests have focused on the effects of physical forces on tissue injury and healing processes, pharmaceutical control of scar formation, andin reconstructive surgery. He is an alumnus of the University of Chicago's general surgery residency. During his residency research period he completed his doctoral (ScD) dissertation at the Massachusetts Institute of Technology. Plastic Surgery residency was completed at Massachusetts General Hospital, Harvard University in 1983. He then assumed simultaneous tenure track faculty appointments at MIT and Harvard. During this time Dr. Lee's lab reported two significant discoveries: (1) that cell membranes disruption was a primary mediator of tissue injury in various forms of trauma; and (II) inhibitors of cellular mechanical stress sensing infibroblasts upregulate tissue degrading enzymes. He and his MIT students also developed an experimental method for applying mechanical stress and real-time non-destructive monitoring of quasistatic mechanical properties of tissue engineered ligaments and other uniaxially oriented tissues. He returned to Chicago in 1989, directed the burn center for 6 years, and established the first multidisciplinary program for treatment of survivors of electrical shock injury, now modeled at several centers domestically and internationally.

In the past decade Dr. Lee's laboratory discovered the capability of certain classes of synthetic copolymer surfactants to restore structural integrity to damaged cell membranes resulting in an internationally developing field of trauma research. Most recently, this work has been extended to develop of synthetic chaperones to refold denatured aggregated proteins. Dr. Lee's research group is recognized for contributions in to characterizing the molecular biophysics of cell injury associated with trauma such as electrical shock, acoustic blast, ionizing irradiation and thermal burns, as well as for developing therapeutic strategies to restore cell structure and viability. In his clinical arena, Dr. Lee and residents were first to report obturator neurovascular flaps to restore structure and function to those with congenital and acquired perineal deformities.

In addition, Dr. Lee's research has resulted in new therapeutics which motivated establishment of two biopharm startup companies. He is board certified in plastic and general surgery and has been elected to Fellowship in both engineering and clinical societies. He also directs an international WHO sponsored program to determine the health economic impact of Chernobyl on Belarus. In 1999, he received the Sc.D. degree from his undergraduate alma mater, the University of South Carolina, in part for this effort.

Dr. Lee has received more than 40 professional awards and honors, including being named a MacArthur Prize Fellow in 1981, a Searle Scholar in 1985 and AAAS Fellow in 2008. In 1981, he received Coller Society Award for outstanding general surgery residents, and in 1988, the James Barrett Brown Award from the American Association of Plastic Surgeons for "advancing knowledge in the field of Plastic Surgery"; In 1997 Dr.

Lee was awarded the American Electrical Power Association Award for "Advancing Electrical Safety and Health."His laboratory has attracted more than $15 million in research grants. He has authored and coauthored more than 180 publications, 4 books and 14 patents. Dr. Lee is also activity involved in service to the University of Chicago, the Quadrangle Club, and The Druids Club of Chicago.

Anant Madabhushi, Ph.D.

Dr. Anant Madabhushi is the Director of the Laboratory for Computational Imaging and Bioinformatics (LCIB), Department of Biomedical Engineering, Rutgers University. Dr. Madabhushi received his Bachelors Degree in Biomedical Engineering from Mumbai University, India in 1998 and his Masters in Biomedical Engineering from the University of Texas, Austin in 2000. In 2004 he obtained his PhD in Bioengineering from the University of Pennsylvania. He joined the Department of Biomedical Engineering, Rutgers University as an Assistant Professor in 2005. He is also a member of the Cancer Institute of New Jersey and an Adjunct Assistant Professor of Radiology at the Robert Wood Johnson Medical Center, NJ.

Dr. Madabhushi has over 50 publications and book chapters in leading International journals and peer-reviewed conferences and patents pending in the areas of medical image analysis, computer-aided diagnosis, machine learning, and computer vision and in applying these techniques for early detection and diagnosis of prostate and breast cancer from high resolution MRI, MR spectroscopy, protein- and gene-expression studies and digitized tissue histopathology. He is also the recipient of a number of awards for both research as well as teaching, including the Busch Biomedical Award (2006), the Technology Commercialization Award (2006), the Coulter Phase 1 Early Career award (2006), the Excellence in Teaching Award (2007, 2008), the Cancer Institute of New Jersey New Investigator Award (2007), the Society for Imaging Informatics in Medicine (SIIM) New Investigator award (2008), the Life Sciences Commercialization Award (2008), and the Coulter Phase 2 Early Career Award (2008). In addition his research work has also received grant funding from the National Cancer Institute (NIH), New Jersey Commission on Cancer Research, and the Department of Defense.

Thomas Peterson, Ph.D.

Dr. Peterson received his Ph.D. from the California Institute of Technology in 1977. Dr. Peterson joined The University of Arizona faculty in 1977 and established a research program in aerosol processes relevant to environmental problems. His current work examines the chemistry and physics of particle behavior in plasma etch systems and process modifications which influence aerosol formation in combustion processes. He is also interested in methods of reducing emissions of volatile organic compounds from processes used in the manufacture of semiconductor devices.

In addition to serving on scientific advisory committees for the Environmental Protection Agency, Dr. Peterson is a member of the Governor's Air Pollution Control Hearing Board. He was head of Chemical and Environmental Engineering from 1990-1998 and was recently named Dean of the College of Engineering and Mines.

Roderic Pettigrew, Ph.D., M.D.

Roderic I. Pettigrew, Ph.D., M.D., is the first Director of the National Institute of Biomedical Imaging and Bioengineering at the NIH. Prior to his appointment at the NIH, he was Professor of Radiology, Medicine (Cardiology) at Emory University and Bioengineering at the Georgia Institute of Technology and Director of the Emory Center for MR Research, Emory University School of Medicine, Atlanta, Georgia.

Dr. Pettigrew is known for his pioneering work at Emory University involving four-dimensional imaging of the heart using magnetic resonance (MRI). Dr. Pettigrew graduated cum laude from Morehouse College with a B.S. in Physics, where he was a Merrill Scholar; has an M.S. in Nuclear Science and Engineering from Rennselear Polytechnic Institute; and a Ph.D. in Applied Radiation Physics from the Massachusetts Institute of Technology, where he was a Whitaker Harvard-MIT Health Sciences Scholar. Subsequently, he received an M.D. from the University of Miami School of Medicine in an accelerated two-year program, did an internship and residency in internal medicine at Emory University and completed a residency in nuclear medicine at the University of California, San Diego. Dr. Pettigrew then spent a year as a clinical research scientist with Picker International, the first manufacturer of MRI equipment. In 1985, he joined Emory as a Robert Wood Johnson Foundation Fellow with an interest in non-invasive cardiac imaging.

Dr. Pettigrew's awards include membership in Phi Beta Kappa, the Bennie Award (Benjamin E. Mays) for Achievement, and being named the Most Distinguished Alumnus of the University of Miami. In 1989, when the Radiological Society of North America celebrated its 75th Diamond anniversary scientific meeting, it selected Dr. Pettigrew to give the keynote Eugene P. Pendergrass New Horizons Lecture. He has also served as chairman of the Diagnostic Radiology Study Section, Center for Scientific Review, NIH. He has been elected to membership in the Institute of Medicine and fellowship in the American Heart Association, American College of Cardiology, American Institute for Medical and Biological Engineering, International Society for Magnetic Resonance in Medicine, and the Biomedical Engineering Society.

Vivian Pinn, M.D.

Vivian W. Pinn, M.D., is the first full-time Director of the Office of Research on Women's Health in the Office of the Director of NIH, an appointment she has held since 1991. She is also the NIH Associate Director for Research on Women's Health. Dr. Pinn came to NIH from Howard University College of Medicine in Washington, DC, where she had been Professor and Chair of the Department of Pathology, and she has previously held appointments at Tufts University School of Medicine and Harvard Medical School. Dr. Pinn has been invited to present the ORWH's mandate, programs, and initiatives to many national and international organizations with an interest in improving women's health, the health of minorities, and careers in bioscience for women and minorities. One of her major efforts has been to raise the perception of the scientific community about the importance of gender factors in basic science, clinical research, health care and public policy. She also is currently co-chair, along with the Director of NIH, of The NIH Working Group on Women in Biomedical Careers.

Dr. Pinn earned her B.A. from Wellesley College and received her M.D. from the University of Virginia (UVA) School of Medicine in 1967, where she was the only woman and minority in her class. She returned to Massachusetts to complete her postgraduate training as a Research Fellow in pathology at Massachusetts General Hospital, during which time she also served as Teaching Fellow at Harvard Medical School. Dr. Pinn then joined the faculty of Tufts University School of Medicine and Tufts-New England Medical Center Hospital in 1970. In September 1982, when she moved to Howard University, she became the third woman to chair an academic department of pathology in the United States. She is a member of many professional and scientific organizations, in which she held many positions of leadership. She served as Speaker of the House of Delegates and as a Trustee of the National Medical Association before becoming its 88th (and second woman) President in 1989.

Dr. Pinn has received numerous honors, awards, and recognitions and has been granted nine honorary degrees of laws and science since 1992. She is a fellow of the American Academy of Arts and Sciences and was elected to the Institute of Medicine of the NAS in 1995. She received an Alumni Achievement Award from Wellesley College in February 1993 and served on the Wellesley College Board of Trustees. She received the second annual Distinguished Alumna Award from UVA in September 1992, was honored by the UVA medical school as one of their Alumni Luminaries in 1998, and received the Walter Reed Alumni Achievement Award in 2007. She has been featured in a number of magazines, journals, and media presentations for her work related to women's health and research. In 2001, Dr. Pinn was honored by the establishment at the University of Virginia School of Medicine of the "Vivian W. Pinn Distinguished Lecture in Health Disparities." Among her other honors are the James D. Bruce Memorial Award from The American College of Physicians, the Catherine McFarland Award from the Medical College of Pennsylvania for distinguished service in women's health, The Association of American Medical Colleges Women in Medicine Leadership Development Award, and the Commonwealth Fund's Margaret E. Mahoney Award for Outstanding Service for work in advancing the quality of health care for women. She also received the President's Achievement Award from the American Medical Women's Association; The Dr. Dorothy I. Height Leadership Award for Carrying the Torch of the Earth Shaker and Dream Maker, from the Committee for the International Salute for the Life and Legacy of Dr. Martin Luther King, Jr. and, the Lifetime Achievement Award from the Jacobs Institute. In 2007 Dr. Pinn was awarded the Walter Ridley Trailblazer Award from the University of Virginia; The University of Virginia Walter Reed Distinguished Achievement Award; and the First Women in Ophthalmology Leadership Award. In January 2008, Dr. Pinn was awarded the 2008 Strong Men and Women: Excellence in Leadership Award from Dominion Resources Services, Inc.

Belinda Seto, Ph.D.

Belinda Seto, Ph.D. is the Deputy Director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB). She is responsible for the oversight and management of all aspects of the Institute's research and training mission. Her responsibilities include strategic planning and priority-setting; development and implementation of grants policies.

Prior to joining the NIBIB, Dr. Seto was the Acting Deputy Director for Extramural Research, NIH. She led the Office of Extramural Research which was the focal point for NIH policies and guidelines for research grants administration. Her responsibilities are wide-ranging, including management of the grants database and information infrastructure. Dr. Seto has a wealth of experience in the health policy arena, particularly AIDS policies. She also directed minority health programs in the areas of infant mortality and behavioral interventions research

Dr. Seto earned her Ph.D. in biochemistry at Purdue University in 1974. Following postdoctoral training at the National Heart, Lung and Blood Institute, she joined the Food and Drug Administration where she conducted research in virology for nearly 10 years. She received numerous awards for her research, including the Distinguished Alumni Award for Science from Purdue University, DHHS Secretary's Award for Exceptional Achievement, Inventor's Awards, NIH Director's awards and she is listed in the American Men and Women of Science.

She held position in other components of the NIH as well as the Office of the Assistant Secretary for Health. Dr. Seto has served on numerous Federal and professional organizations committees. She is a member of several professional societies.

Samuel Sia, Ph.D.

Samuel Sia is an Assistant Professor of Biomedical Engineering at Columbia University. He obtained his B.S. at the University of Alberta in Edmonton, Canada, and obtained his Ph.D. at Harvard University with Peter Kim (located at MIT and the Whitehead Institute); his thesis examined the use of protein design to improve the structural properties of anti-HIV peptide inhibitors. As a postdoctoral fellow with George Whitesides at Harvard, he worked on a number of projects at the interface of materials science and biology, with a focus on developing simple but powerful microfluidic techniques for biomolecular detection in resource-poor settings. Dr. Sia is also the co-founder of Claros Diagnostics, a venture capital-backed startup company focused on microfluidics-based point-of-care diagnostics. At Columbia University, his work focuses on microfluidics for global health diagnostics, and microfluidics for tissue engineering. Currently, his work is supported by early career awards from the American Heart Association, Wallace H. Coulter Foundation (Phase I and Phase II awards), and NSF (CAREER award), as well as grants from the NIH and the World Health Organization.

Karl V. Steiner, Ph.D.

Dr. Karl V. Steiner is the Associate Provost for Interdisciplinary Research Initiatives at the University of Delaware and a Professor in the Department of Electrical and Computer Engineering.

Dr. Steiner received his Engineering Doctorate from the University of Kaiserslautern in Germany, his Master's degree in Electrical and Computer Engineering from the University of Delaware and completed his undergraduate degree in Information Technologies in Braunschweig, Germany.

In his current position, Steiner is working closely with faculty leaders to develop and support high-profile, interdisciplinary research initiatives, especially in the areas of health sciences, energy, and the environment, as identified in the University's Path to Prominence" strategic plan.

Steiner joined the University of Delaware in 1984 and has served in leadership roles in numerous major multidisciplinary programs funded by the National Institutes of Health, the National Science Foundation, the Department of Defense, the Department of Energy, the State of Delaware, foundations and the private sector. He has been instrumental in securing close to $100 million in externally funded programs for University and statewide initiatives.

James W. Tunnell, Ph.D.

Dr. James W. Tunnell earned his Ph.D. in bioengineering from Rice University in 2002. He joined the faculty of The University of Texas at Austin in 2005.

Dr. Tunnell's research focuses on developing minimally invasive optical technologies for diagnosing and treating diseases, particularly for the early stages of cancer. It is widely believed that early detection and subsequent treatment of disease is the key to cancer management. Cancer management strategies in the next generation will require technologies that combine sensing, targeting, and treating the earliest stage of disease. His approach combines optical imaging, spectroscopy, and nanotechnology to develop systems capable of combined diagnosis and treatment of early cancer. His lab also actively studies the basic mechanisms of light-tissue interactions to understand light transport and develop novel imaging strategies.

Andrew von Eschenbach, M.D.

Andrew C. von Eschenbach, M.D., was appointed Acting Commissioner of Food and Drugs in September 2005, where he immediately engaged an agenda to modernize the FDA. Under his leadership, many new programs have been designed to strengthen the FDA in its mission to protect and promote public health. He has emphasized FDA's role in working with external partners to assure quality throughout the entire life cycle of the products it regulates while internally fostering, through process improvements, a regulatory pathway that is transparent and efficient while still rigorous and science led. Confirmed by the Senate as Commissioner in December 2006, Dr. von Eschenbach emphasizes innovation by fostering creative projects, including FDA's Critical Path Initiative (designed to bring modern tools of science to the product development process); work plans like the FDA's Food Protection Plan; and most especially the nurturing of the workforce through initiatives, such as an Agency-wide fellowship program and development of a new integrated campus for the Agency in White Oak, Maryland.

Dr. von Eschenbach joined FDA after serving for four years as Director of the National Cancer Institute (NCI) at the National Institutes of Health where he set an ambitious goal to eliminate the suffering and death due to cancer by rapid acceleration and integration of the discovery-development-delivery continuum. While at NCI, he committed resources to ensure the application to oncology of nanotechnology, genomics, proteomics, bioinformatics, and other emerging technologies. At the time of his appointment by President Bush to serve as Director of NCI, he was

President-Elect of the American Cancer Society. Dr. von Eschenbach entered government service after an outstanding career over three decades as a physician, surgeon, oncologist and executive that included numerous leadership roles from Chairman of the Department of Urologic Oncology to Executive Vice President and Chief Academic at the University of Texas M.D. Anderson Cancer Center in Houston, an institution world renowned for the magnitude and excellence of its clinical and research cancer programs. An internationally renowned cancer specialist and author of more than 200 scientific articles and studies, Dr. von Eschenbach has served in numerous leadership roles, including serving as one of the founding members of the National Dialogue on Cancer. He has received numerous professional awards and honors. In 2006, Dr. von Eschenbach was named one of Time magazine's "100 most influential people to shape the world," and in both 2007 and 2008, he was selected as one of the Modern Healthcare/Modern Physician's "50 Most Powerful Physician Executives in Healthcare."

Dr. von Eschenbach earned a B.S. from St. Joseph's University in his native Philadelphia and his medical degree from Georgetown University School of Medicine in Washington, DC He served as a Lt. Commander in the U.S. Navy Medical Corps. After completing a residency in urologic surgery at Pennsylvania Hospital in Philadelphia, he was an instructor in urology at the University of Pennsylvania School of Medicine. He completed a Fellowship in Urologic Oncology at the University of Texas M.D. Anderson Cancer Center.

He has been married to his childhood sweetheart, Madelyn, for over 40 years, and they are proud parents of four children and elated grandparents of six.

Yingxiao Wang, Ph.D.

Dr. Yingxiao Wang obtained his bachelor and master degrees in Mechanics and Fluid Mechanics from Peking University, Beijing, P.R. China, in 1992 and 1996, respectively. He received his Ph.D. degree in Bioengineering in 2002 and continued his postdoc work together with Drs. Shu Chien and Roger Y. Tsien at UC San Diego. He is currently an assistant professor in the UIUC Department of Bioengineering and a full time faculty in the Beckman Institute for Advanced Science and Technology. He is also affiliated with the department of Molecular and Integrative Physiology, Neuroscience Program, the Center for Biophysics and Computational Biology, and Institute of Genomic Biology. Dr. Wang's research is focused on elucidating the molecular mechanisms in cancer biology and mechano-biology, integrating interdisciplinary approaches involving molecular engineering, live cell imaging and bio-nanotechnology.

Augustus White, M.D., Ph.D.

Dr. Augustus White was the Orthopedic Surgeon-in-Chief at Beth Israel Hospital in Boston, Massachusetts for thirteen years. Today he is the Ellen and Melvin Gordon Distinguished Professor of Medical Education, Professor of Orthopedic Surgery at Harvard Medical School (HMS) and Professor Emeritus in the Harvard/MIT Division of Health Sciences and Technology. He is former Master of the Oliver Wendell Holmes Society, HMS.

Dr. White attended Stanford Medical School where he served as student body President. It was at Stanford that he became interested in the problem of back pain. Following graduation, he honed his skills at University of Michigan Medical Center as an intern, then at Presbyterian Medical Center, San Francisco where he was a general surgery resident. Dr. White went to Yale Medical Center, where he completed his orthopaedic residency. He then joined the U.S. Army Medical Corps and served for two years. Following this he studied at the University of Gothenburg and at the Karolinska Institute, where he obtained a Ph.D. for research on the biomechanics of the spine.

He later returned to Yale Medical School and became a full Professor of Orthopaedic Surgery and Director of the Engineering Laboratory for Musculoskeletal Disease, a currently active laboratory that he founded and subsequently developed with Dr. M. Panjabi. He was recruited to Beth Israel Hospital to start its first Orthopaedic Department. In collaboration with Dr. W. Hayes, whom he recruited, Dr. White originated that hospital's Orthopaedic Biomechanics Laboratory. Over the years Dr. White has concentrated much of his teaching, research, and patient care on problems of the spine. He has trained twenty-five spine surgeons in the Daniel E. Hogan Spine Fellowship Program, of which he was the Director. While his professional life has drawn him to classroom, laboratory, and lecture hall, he is most committed to direct patient care.

Stimulated by a desire to better meet the challenges in health-care management, Dr. White completed the Advanced Management Program at the Harvard Business School, where he was selected by his classmates to deliver a commencement address. He is Past Chairman of the Scientific Advisory Board of OrthoLogic Corporation. Dr. White serves as a Director for OrthoLogic, and is a past Director of American Shared Hospital Services. He is a Director of Zimmer Holdings, Inc. and the Chair of its Scientific Advisory Board.

Dr. White is an internationally known, widely published authority on biomechanics of the spine, fracture healing, and surgical and non-surgical care of the spine. He has authored or coauthored more than 200 scientific and clinical publications including chapters, books, and articles. Most noted among them is the highly regarded definitive work, "The Clinical Biomechanics of the Spine." A second edition of this book was published in 1990. A third edition is planned. Dr. White has co-edited a book for scientists and physicians entitled "Symposium on Idiopathic

Low Back Pain." This work is designed specifically to review current knowledge and suggest future research on the scientific aspects of the cause and treatment of back pain.

Dr. White is the founding President of the J. Robert Gladden Orthopaedic Society, a multicultural organization, and is committed to the society's mission to eliminate musculoskeletal health disparities. He is a member of the National Advisory Board of the Stanford University Center for Comparative Studies in Race and Ethnicity and the Brown University Advisory Committee on Diversity.

Dr. White is a recipient of the United States Jaycees "Ten Outstanding Young Men" Award and the Martin Luther King, Jr., Medical Achievement Award. He is a recipient of the Bronze Star, which he earned while stationed as a Captain in the U.S. Army Medical Corps in Vietnam, where he did extensive volunteer work in a leper colony. He was the recipient of the first William Rogers Award, given by the Associated Alumni of Brown University; this prize recognizes contributions to society and carries the words of the Brown Charter, "discharging the offices of life with usefulness and reputation." Dr. White has received awards for professionalism in Orthopaedic Surgery. For outstanding contributions to the field of orthopaedics he was selected by the American Orthopaedic Association as the 29th Alfred R. Shands Lecturer. The Clinical Orthopaedic Society selected Dr. White for the Elmer and Rosemary Nix Ethics award for "a life's work in teaching by precept the ethical practice of Orthopaedic Surgery."

He is a member of the American Orthopaedic Association, the Orthopaedic Research Society, the Scoliosis Research Society, the International Society for the Study of the Lumbar Spine, and the American Orthopaedic Society for Sports Medicine. Dr. White is a charter member and past President of the Cervical Spine Research Society. He also served as President of the Federation of Spine Associations. Dr. White was Chairman of the American Academy of Orthopaedic Surgeons Diversity Committee and the Chair of the Harvard Medical School Culturally Competent Care Education Committee, each for five years. Dr. White has served at the National Institutes of Health as a member of the Advisory Council of the National Institutes of Arthritis, Diabetes, Digestive and Kidney Diseases. He was appointed as an initial member of the National Advisory Council of the National Center on Minority Health and Health Disparities by Secretary of Health and Human Services Tommy Thompson, where he has served for five years.

Rick Williams

Rick Williams is the Chief Business Officer at The Hamner Institutes for Health Sciences, based in Research Triangle Park (RTP), North Carolina. The Hamner is an independent, nonprofit organization that includes the CIIT, formerly CIIT Centers for Health Research, a leader in environmental safety research for more than 30 years, and the new Institute for Translational Biomedical Sciences. As a member of the executive team, Williams supports The Hamner's mission to collaborate with academia, the private sector, and government to conduct translational research and new educational programs, both of which are designed to improve human health assessments and the development of safer medical treatments.

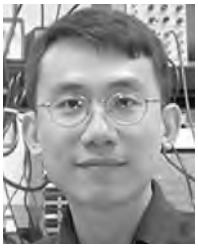
As Chief Business Officer, Williams will also pilot and launch a translational medicine accelerator to create additional opportunities for universities, The Hamner, and other research institutions to transfer technologies and spin out new companies, thereby providing greater benefit to society. Working in conjunction with the North Carolina Biotechnology Center, the Council for Entrepreneurial Development, and university business schools and entrepreneurial programs, Williams will provide guidance to emerging companies as they develop their initial technology, commercialization, and funding plans.

From 2003 to 2005, Williams served as Chief Business Officer for CellzDirect in Tucson, Arizona, and was instrumental in transforming its cell-based Internet business into an in vitro hepatic research company. With the acquisition of a state-of-the-art cell culture lab and bioanalytical research facility, CellzDirect now provides a portfolio of hepatic products to leading pharmaceutical and biotech companies while also conducting metabolism, induction, and inhibition studies on their behalf. Utilizing his Genentech experience, Williams created a national data-collection project for liver disorders—the Hepatic Research Registry—with a network of top transplant and oncology surgeons from Johns Hopkins, Mayo Clinic, Medical University of South Carolina, University of Colorado, University of Florida, University of Pittsburgh, University of Southern California, University of Virginia, and Vanderbilt University. Together, they capitalized on advances in cell preservation and isolation/culturing to make resected liver tissue available for use in biomedical research.

In 2007, before joining The Hamner Institutes, Williams worked with the North Carolina Biotechnology Center, first as a volunteer and then as a director in its Business and Technology Development department. He helped to develop an innovative program that provides technology, business, and corporate-formation support, as well as funding, to spin out new companies based on technologies transferred from universities and research institutions throughout North Carolina. He also expanded the program so that the North Carolina Biotechnology Center's network of scientists and business experts can work with technology transfer departments to identify and develop earlier-stage research opportunities, which will lead to the formation of even more commercially viable companies.

Throughout his extensive career, Williams has been active in various professional groups, e.g., BIO, as well as patient-advocacy organizations such as the American Heart Association, American Lung Association, and Cystic Fibrosis Foundation. During 2007, he co-chaired Biotech Forums

in RTP on clinical development and commercialization—sponsored by the Council for Entrepreneurial Development and the North Carolina Biotechnology Center—and was moderator for "Alternative Funding Strategies" at the September 2007 Cato Symposium. He also serves on the steering committee for the annual state conference on biotechnology. An avid historian, Williams is the author of a book on American history; his second manuscript is currently under review for publication. He earned a B.A. in Speech and Hearing Science at the University of Pittsburgh in 1977, graduating summa cum laude. A University Scholar and member of Phi Beta Kappa, Williams also completed graduate courses at Temple University and Carnegie Mellon University.



Chanhuei Yang, Ph.D.

Professor Yang graduated from MIT in 2002 and has steadily moved towards warmer climate thereafter. After short stints at ESPCI (Paris) and Duke University, he settled down in Caltech in Dec 2003. His research includes the development of low-cost chip-scale microscopes, and the use of time reversal techniques to induce tissue transparency. Professor Yang received the NSF CAREER award and the Coulter Foundation Early Career Phase I and II Awards.

COLLEGE OF FELLOWS CLASS OF 2009

Russ B. Altman, M.D., Ph.D.

Stanford University

For studies of the application of computing technology to basic molecular biological problems of relevance to medicine.

Guillermo A. Ameer, Sc.D.

Northwestern University

For outstanding contributions to medical and biological engineering through his noted work with vascular and orthopaedic tissues.

Daniel M. Ammon, Jr., Ph.D.

Bausch & Lomb

For pioneering developments in surface modification of biomaterials.

Stelios T. Andreadis, Ph.D.

State University of New York at Buffalo

For seminal studies on stem cells for cardiovascular tissue engineering, regulated protein delivery, and tissue regeneration strategies and models.

Mohamed Amr Attawia, M.D.

Osteotech Inc.

For sustained and continued high level contributions to the medical engineering field with resulting products benefiting mankind.

Nicholas Ayache, Ph.D.

INRIA Sophia-Antipolis Unit

For pioneering work in the fields of medical image analysis and surgery simulation.

Charles Bruce Bagwell, M.D., Ph.D.

Verity Software House

For valuable contributions to technology and education in the field of complex data analysis for research and clinical flow cytometry.

George R. Baran, Ph.D.

Temple University

For identifying mechanisms of dental alloy oxide layer adhesion and for designing composites offering interphase control of fatigue crack propagation.

Jennifer Kehlet Barton, B.S., M.S., Ph.D.

The University of Arizona

For innovative research in optical coherence tomography and laser-tissue interactions and for leadership in engineering education.

Rashid Bashir, Ph.D.

University of Illinois at Urbana-Champaign

For contributions to development of chip-based micro and nanoscale biosensors.

Walton W. Baxter, III, Ph.D.

Medtronic, Inc.

For development of novel algorithms elucidating mechanics of implanted medical devices and major contributions to academia-industry collaboration and professional development.

Lawrence J. Bonassar, Ph.D.

Cornell University

For contributions in understanding cartilage as a biomaterial, its function and repair, and engineering of cartilaginous tissues with clinical viability.

Adele L. Boskey, Ph.D.

Weill Medical College, Hospital for Special Surgery

For contributions to our understanding of the mechanisms regulating biological calcification and the role of the mineral phase in determining bone quality in health and disease.

J. Bert Bunnell, Sc.D.

Bunnell Incorporated

For his innovative technical contributions and leadership developing new therapies for the treatment of respiratory failure in premature infants.

Michael D. Buschmann, Ph.D.

Ecole Polytechnique of Montreal

For discoveries and designs for fundamental understanding of articular cartilage biomechanics and for development of diagnostic instruments and therapeutics biomaterials.

Steven Feng Chen, Ph.D.

The University of Hong Kong

For research in heterotrophic algal cultures which has led to industrial production of docosahexaenoic acid (DHA) and astaxanthin.

Simon R. Cherry, Ph.D.

University of California, Davis

For pioneering small animal research imaging systems including PET and multimodality imaging PET, MRI, CT, optical.

Alastair J. Clemow, Ph.D.

Nexgen Spine, Inc

For sustained lifelong contributions in the development of and leadership in the industry of medical devices.

William H. Cork

Nanosphere, Inc

For development of highly sensitive molecular diagnostic systems based on nanotechnology as well as important blood separation technologies.

Walter S. Craig, Ph.D.

Cadence Pharmaceuticals, Incorporated

For outstanding contributions to research and development of pharmaceuticals and biotechnology to control cell adhesion and for innovative ophthalmological therapy.

Mingzhou Ding, Ph.D.

University of Florida

For major contributions to the development of advanced computational methods for the analysis of functional brain networks.

Rebekah Drezek, Ph.D.

Rice University

For contributions to bionanotechnology and molecular imaging which have led to techniques for early detection of breast and ovarian cancers.

Larry Fennigkoh, Ph.D., P.E.

Milwaukee School of Engineering

For pioneering the risk and maintenance-need analysis applied to medical-equipment maintenance management and educating thousands of clinical engineers worldwide.

Mauro Ferrari, Ph.D.

Brown Institute of Molecular Medicine

For seminal medical nanoengineering contributions in drug-delivery and diagnostic nanotechnologies; leadership on Federal programs in medical nanotechnology; academic accomplishments as educator.

Hamid Ghandehari, Ph.D.

University of Utah

For innovative and impacting contributions to elucidating both therapeutic and toxicologic properties of polymer-based drugs, recombinant biopolymers, and nanoparticles in biomedical applications.

Hermann Wolfgang Göhde, Doctor rerum naturalium

Partec

For pioneering contributions to the development of fluorescence-based flow cytometry and inexpensive flow cytometers for developing countries.

Theresa A. Good, Ph.D.

University of Maryland Baltimore County

For pioneering work in understanding -amyloid aggregation in Alzheimer's disease and the development of novel therapeutic strategies to stop neurodegeneration.

Robert Greenberg, M.D., Ph.D.

Second Sight® Medical Products, Inc.

For business leadership and significant contributions to the technological development of visual prostheses.

Mark W. Grinstaff, Ph.D.

Boston University

For pioneering science and innovations in the fields of macromolecule and amphiphile syntheses, self-assembly chemistry, tissue engineering, and drug delivery.

Norberto N. Grzywacz, Ph.D.

University of Southern California

For developments in the Kalman adaptation, Bayesian modeling, optic flow, retinal plasticity, retinal development, retinal function, optical coherence tomography, low vision, and visual aids.

Michael J. Harsh

GE Enterprise Solutions

For leadership and innovation in advancing medical imaging technology and fostering engineering in medicine and biology on a global scale.

Vassily Hatzimanikatis, Ph.D.

Ecole Polytechnique Federale de Lausanne

For developing original biophysical models and innovative computational methods to analyze and design complex cellular systems.

Leonore A. Herzenberg, Doctorat d'État es Sciences

Stanford University

For pioneering work in flow cytometry data analysis and management and analysis of lymphocyte development and function.

Xiaoping Hu, Ph.D.

Georgia Institute of Technology

Pioneering contributions in the development and optimization of high-field functional MRI (fMRI) technology for mapping human brain activity and connectivity.

Clark T. Hung, Sc.B., M.S.E., Ph.D.

Columbia University

For contributions to the field of chondrocyte physical regulation and how physical forces may be used in strategies for cartilage repair.

Lynne C. Jones, Ph.D.

Johns Hopkins University

For her pioneering work in orthopedic implant pathology and her leadership within the biomaterials and orthopedic surgery communities.

David Kelso, Ph.D.

Northwestern University

For contributions to the field of high-throughput medical diagnostics and for promoting the development of medical device technologies for the developing world.

Robert F. Kirsch, Ph.D.

Case Western Reserve University

For outstanding contributions to the development of functional electrical stimulation systems for restoration of upper extremity function.

Steven Christopher Koenig, Ph.D.

Cardiovascular Innovation Institute

For advances in physiologic data acquisition and analysis, cardiovascular dynamics, and cardiac assist technology to promote myocardial recovery.

Christian McDonald Langton, B.Sc., M.Sc., Ph.D., D.Sc.

Queensland University of Technology

For outstanding contributions in the fields of physical measurement of bone and clinical quantitative ultrasound for bone.

Michelle C. LaPlaca, Ph.D.

Georgia Institute of Technology/Emory University

For pioneering contributions to understanding the mechanics, detection and treatment of traumatic brain injury.

Jonathan G. Lasch, Ph.D.

ORFID CORPORATION

For significant contributions to biomedical technology transfer.

Jay R. Lieberman, M.D.

University of Connecticut Health Center

For significant and sustained contributions to understanding the biology of arthroplasty implants, and for innovative strategies for bone regeneration using gene therapy and materials science.

Richard Linder

Coherex Medical

For his pioneering contributions, leadership and insightful technical innovations that have led to safer endovascular medical procedures.

Alan S. Litsky, M.D., Sc.D.

Ohio State University

For seminal work on integrated orthopedic biomaterials engineering and biomechanics of facture fixation, and for leadership within the biomaterials community.

Jeffrey C. Lotz, Ph.D.

University of California, San Francisco

For advances in the mechanobiological understanding, diagnosis, and treatment of intervertebral disc degeneration and back pain, using medical devices and biotechnologies.

Patrick J. Loughlin, Ph.D.

University of Pittsburgh

For significant contributions in time-varying signal processing and modeling of physiological systems, including human postural control and anesthetic delivery.

Lee Rybeck Lynd, D.E.

Dartmouth University

For contributions regarding the utilization of biomass for energy production, spanning the science, technology, and policy domains.

Robert Allen Malkin, Ph.D., P.E.

Duke University

For directing Engineering World Health which provides educational and entrepreneurial programs to improve health care delivery in developing countries.

Jonathan Mansbridge, Ph.D.

Smith & Nephew Wound Management

For seminal contributions to tissue engineering by developing innovative approaches to treat burns and control angiogenesis with three-dimensional fibroblast culture.

Patrick T. Mather, B.S., M.S., Ph. D.

Syracuse University

For fundamental development of polymeric materials with applications in medical and orthodontic devices and procedures.

Richard Melker, M.D., Ph.D.

University of Florida

For clinical, technological, administrative and educational accomplishments in the development of devices for biomedical engineering, especially those related to anesthesiology.

Regina M. Murphy, Ph.D.

University of Wisconsin

For pioneering discoveries on protein aggregation in neurodegenerative disease.

Laura E. Niklason, M.D., Ph.D.

Yale University

For pioneering contributions to bioengineering in the vascular system, particularly the creation of tissue engineered blood vessels.

Barbara Oakley, Ph.D., P.E.

Oakland University

For pioneering contributions to educating students and the public about the benefits and insights that bioengineering-related research provides to society.

Michael E. Paulaitis, Ph.D.

Ohio State University

For contributions to bioengineering through seminal research on protein solution thermodynamics and the role of hydration in biomolecular self-assembly.

M. Laurie Phillips, Ph.D.

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For leadership in drug development to treat inflammation and other disorders from discovery research through clinical trials with interdisciplinary expertise.

William S. Pietrzak, Ph.D.

BIOMET, INC

For fundamental contributions to the biomechanical device and implant industry in the development of bioabsorbable implants, engineered bone grafts and platelet technology.

Mark R. Prausnitz, Ph.D.

Georgia Institute of Technology

For pioneering achievements to develop biophysical methods for delivery of drugs, genes and vaccines using microfabricated devices, electric fields and ultrasound.

Stephen A. Quake, Ph.D.

Stanford University

For contributions to the understanding of microfluidic technology.

Cynthia J. Roberts, Ph.D.

The Ohio State University

For pioneering research to understand the role of eye tissue biomaterial properties, biomechanics, and surgical interventions on vision.

Victor G. J. Rodgers, B.S.Ch.E., M.S.Ch.E., D.Sc.

University of California, Riverside

For leadership in development of dynamic membrane separation techniques and a robust thermodynamic theory for the behavior of concentrated (crowded) protein solutions.

Krishnendu Roy, Ph.D.

The University of Texas at Austin

For leading contributions in biomaterials for immune system engineering especially for nucleic acid delivery, nanobiotechnology and stem cell therapeutics.

Jesse Shijie Ruan, Ph.D.

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For significant contributions to Impact Biomechanics and improved Vehicular safety.

Gualberto Ruaño, M.D., Ph.D.

Genomas, Inc.

For his pioneering efforts in the field of personalized medicine; the inventor of molecular diagnostic systems used worldwide for the management of viral diseases.

Brian K. Rutt, Ph.D.

University of Western Ontario

For exceptional work in the development of Magnetic Resonance Imaging technologies and applications.

Paul Sajda, B.S., M.S.E., Ph.D.

Columbia University

For pioneering contributions to image/signal analysis using a novel integration of neural modeling and neural signal processing with computer vision.

J. Paul Santerre, Ph.D, M.Sc., B.Sc.

University of Toronto

For pioneering contributions to the science and practice of biomaterial degradation and surface modification.

Christine E. Schmidt, Ph.D.

The University of Texas at Austin

For development of synthetic biomaterials that stimulate the regeneration of damaged peripheral and spinal nerves and successful clinical application.

Lawrence W. Schneider, B.S.E., M.S.E., Ph.D.

The University of Michigan Transportation Research Institute

For outstanding biomechanics research, producing national vehicle safety standards for children and adult occupants, and improved safety for handicapped individuals.

Joseph H. Schulman, Ph.D.

Alfred Mann Foundation for Biomedical Engineering and Mann Medical Research Organization

For seminal contributions to the bioelectronic design and commercialization of implantable devices used to treat cardiovascular, neurological, and metabolic conditions.

Zvi Schwartz, D.M.D., Ph.D.

Georgia Institute of Technology

For contributions to our understanding of peri-implant bone formation, the mechanisms involved, and the application of basic biology to clinical practice.

Ashutosh Sharma, Ph.D.

For leadership of corporate scientific research and product commercialization efforts in bioengineering leading to pioneering drug delivery and diagnostic products.

Troy Shinbot, Ph.D.

Rutgers The State University of New Jersey

For internationally recognized contributions in multiphase flow, and development of new computational methods for analysis of cellular dynamics.

Victoria Sluzky, Ph.D.

BioMarin Pharmaceutical Inc.

For important contributions to protein stabilization and enzyme therapies.

Michael H. Smolensky, Ph.D.

The University of Texas-Houston Health Sciences Center

For pioneering work in chronobiology, chronopharmacology and chronotherapeutics and for distinguished and sustained international leadership in the treatment of various diseases.

Jinglu Tan, Ph.D.

University of Missouri

For pioneering the use of non-invasive imaging techniques in many unique biological systems.

Robert C. Thomson, Ph.D.

W.L. Gore & Associates, Inc.

For contributions to bioactive, heparin-bonded, synthetic vascular grafts.

L. D. Timmie Topoleski, Ph.D.

University of Maryland, Baltimore County

For boundary displacing studies of bone cement fatigue and mechanical properties of atherosclerotic plaque.

Rocky S. Tuan, Ph.D.

NIAMSD, NIH

For contributions toward the practices of tissue engineered cartilage replacements.

Ghebre Tzeghai, Ph.D.

Procter and Gamble

For pioneering contributions to the health and beauty care industry involving oral hygiene and antibacterial agents for body surfaces.

Robert van Reis

Genentech, Inc

For pioneering contributions in membrane separations technology leading to the commercialization of several recombinant human therapeutic protein products.

Lalit R. Verma, Ph.D.

University of Arkansas

For contributions to the academic discipline of biological engineering by advocating for curricular reform and accreditation recognition of biological engineering.

Daniel B. Vigneron, Ph.D.

University of California, San Francisco

For pioneering leadership in the development of new metabolic magnetic resonance imaging techniques.

Larry P. Walker, Ph.D.

Cornell University

For outstanding leadership and research in development of national and regional research programs in biofuels and bioproducts from agricultural resources.

Augustus A. White III, M.D., Ph.D.

Harvard Medical School

For seminal discoveries related to the biomechanics of the spine.

Laura Whitsitt

Smith & Nephew, Inc

For efforts toward clinically used orthopaedic implant systems and coming generations of medical engineers via company internship and mentoring programs.

Donald Wilson

Closure Medical Corp.

For contributions to the development and commercialization medical products in the General/Colorectal, Urology, Cardio/Thoracic, OB/GYN, and Orthopedics markets.

Robert Winslow, M.D.

Sangart

For outstanding contributions to hemoglobin synthesis, structure and function in health and disease, and development of efficacious hemoglobin-based oxygen carriers.

Jan Maria Wojcicki, Ph.D., D.Sc.

Polish Academy of Sciences

For seminal contributions to treatment of diabetes, home telecare, innovative application of measurement technologies and monitoring techniques for improved therapy.

Mary Leigh Wolfe, Ph.D.

Virginia Tech

For critical leadership in the establishment and implementation of accreditation criteria for biological engineering programs.

Joyce Y. Wong, Ph.D.

Boston University

For innovative development of biomaterials to probe how structure, material properties and composition of cell-biomaterial interfaces modulate fundamental cellular processes.

Youseph Yazdi, MBA, Ph.D.

Johnson & Johnson

For contributions to energy-based therapeutic medical devices and optical and nanotechnology medical diagnostics.

Peter Zandstra, Ph.D

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For pioneering work in the development of stem cell biology and its clinical applications.

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For research using combined mathematical, genomic and engineering approaches has led to several new industrial bioprocesses.

Huimin Zhao, Ph.D.

University of Illinois

For pioneering contributions in the area of directed evolution for industrial and medical biotechnology applications.

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Jennifer Ayers, MPA

Executive Director

Jennifer Ayers became Executive Director of the American Institute for Medical and Biological Engineering (AIMBE) in July 2006. She is responsible for day-to-day management of the organization, which represents more than 50,000 scientists and engineers involved in developing and improving medical and biological technologies.

From AIMBE's Washington headquarters, Ayers interacts daily with the organization's senior officers and 17-member Board of Directors, oversees all government affairs programs and manages internal communications and other relations with AIMBE members.

Prior to joining AIMBE, Ayers was Director of Products and Services for PLANET — the Professional Landcare Network — an association for the landscape and lawncare industry based in Herndon, VA. There, she managed day-to-day operations for all educational offerings, oversaw operations and strategic planning for the organization's national events and supervised a variety of other initiatives.

Earlier, Ayers spent four years with the National Association of Alcohol and Drug Abuse Counselors (NAADAC) in Alexandria, VA. As that organization's Assistant Director, her duties included: supervising program and resource development in membership services, certification and affiliate relations; forming and developing new partnerships with external organizations and maintaining relationships with existing partners; managing membership marketing and oversight of marketing consultants; organizing national and regional training conferences and planning meetings; and securing funding for national and regional conferences. Ayers originally had joined NAADAC as Affiliate Relations Manager.

Her experience also includes serving as Marketing & Promotions Manager for the non profit leg of the New York City Department of Parks & Recreation, City Parks Foundation — managing activities related to youth tennis & junior golf — and working as a district executive for the Boy Scouts of America's San Gabriel Valley Council in Pasadena, CA.

Ayers holds a Master of Public Administration from the University of Southern California and a Bachelor of Arts in Policy Studies and English Textual Studies from Syracuse University.

Jennifer is the contact for all strategic initiatives, the Board of Directors, Industry Council, and fundraising.

Benjamin Corb

Director of Public Policy

Benjamin Corb is the Director of Public Policy at the American Institute for Medical and Biological Engineering. As such, he heads all government relations efforts, as well as coordinating Capitol Hill briefings and writing AIMBE's biweekly Federal Update newsletter. He is also responsible for retention and recruitment of organizational and individual members for AIMBE, oversees the Institute's external communications, and builds alliances and business opportunities with a wide range of third parties.

Corb previously served as both the Acting Executive Director and Senior Technical Coordinator at the Next Generation Air Transportation System (NextGen) Institute, which is laying the groundwork for a massive rebuilding of U.S. air traffic control technologies to deal with the explosive growth in commercial air traffic. He also has managed the civil aeronautics portfolio for the Government Affairs Office of the American Institute of Aeronautics and Astronautics (AIAA) and was part of the Department of Veteran Affairs' Office of Asset Enterprise Management, where he helped draft the VA's Energy Conservation Program Guidance in 2003.

Benjamin studied Political Science at American University in Washington, DC. He is married and has a daughter.

William Flanagan

Program Coordinator

William joined the AIMBE staff in November of 2008 as Program Coordinator. In this role, he is responsible for many of the day-to-day functions of the office, as well as event management, member relations, and AIMBE's direct marketing campaigns.

Prior to his employment with AIMBE, William worked for the Human Rights Campaign, the nation's largest LGBT rights organization, where he honed his skills in event planning, marketing, member relations, and development.

William graduated from The College of William and Mary in Williamsburg, Virginia with a Bachelor of Science degree in Music and Psychology, as well as a Pre-medical course load. He is a tenor with the Master Chorale of Washington, which is Washington, DC's premiere symphonic choir.

William is the contact for general questions, the AIMBE Digest, WIMBE Quarterly Newsletter, and Fellows and Board of Directors election materials.

Teresa Johnson

Administrative Assistant

Teresa Johnson joined the American Institute for Medical and Biological Engineering in October, 2007, as an administrative assistant. She assists the entire office with the day-to-day activities, as well as maintains the internal member database and handles member billing and invoicing.

Prior to joining AIMBE, Teresa was a foster mother for special needs children and she home-schooled her daughter for several years. She currently sits on the Board of Directors for Mt. Carmel House, a homeless shelter for women.

Teresa has previously worked for The Global Health Council, Pitney Bowes, and XM Satellite Radio.

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