



**February 9, 2009      FOR IMMEDIATE RELEASE**

## **Institute Elects New Members of the College of Fellows**

**Washington, DC**– The American Institute for Medical and Biological Engineering (AIMBE) announced the election of 96 new members of the College of Fellows. The newly elected Fellows were nominated and approved by current Fellows of the College, consisting of over 900 engineers and scientists.

Recipients of this honor are recognized for their outstanding achievements in medical and biological engineering. A formal induction ceremony will be held during the Institute's Annual Event at the National Academy of Sciences building in Washington, D.C. on February 12, 2009. For more information about the AIMBE Annual Event, please visit [www.aimbe.org/annualevent](http://www.aimbe.org/annualevent).

"We are delighted to welcome the 96 newly elected Fellows of AIMBE," stated Jennifer Ayers, AIMBE's Executive Director. "They represent some of the most imaginative and distinguished medical and biological engineers in the field. Their contributions have had a major impact in biomedical devices and processes, treatment of diseases, and public policy related to all aspects of medical and biological engineering."

The College of Fellows leads the way in technological advancement, advocating for public policies facilitating progress in medical and biological research and development to benefit the public. Since 1991, AIMBE Fellows have helped to revolutionize medicine, engineering and related fields that enhance and extend the lives of people all over the world. Counting several Nobel Prize winners among them, through their work the Fellows also help protect the environment, lead to new national security safeguards and contribute to a better, healthier society in many other ways.

With Fellows in every U.S. state – and in nations around the world – the College includes leaders in industry as entrepreneurs, directors of research and development, and the corporate boardroom. Further, Fellows are heads of engineering and medical schools at major universities, along with some of the most respected professors and researchers at those institutions. Within academia, AIMBE Fellows are regularly recognized for their contributions in teaching, research, and innovation. Fellows are members of the National Academy of Engineering, the Institute of Medicine and the National Academy of Sciences. Further, Fellows can be found outside the field of engineering, working in clinical settings and government.

AIMBE ([www.aimbe.org](http://www.aimbe.org)) 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. Representing over 75,000 bioengineers, AIMBE serves and coordinates a broad constituency of medical and biological scientists and practitioners, scientific and engineering societies, academic departments and industries.

**Newly Elected Members of the College of Fellows' Class of 2009 are:**

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.*

William 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  $\beta$ -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 fracture 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.

BIOGEN IDEC PHARMACEUTICALS, INC.

*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.

Ford Motor Company

*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.*

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

University of Toronto

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

Maciej Zborowski, Ph.D.

Cleveland Clinic

*For significant contributions to development of the fundamental relationships (and practical devices) that define the interactions of magnetic forces and cells.*

An-Ping Zeng, Ph.D.

Hamburg University of Technology

*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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