

ADVISORY BOARD MEETING

Biocomputational Engineering

The Fischell Department of Bioengineering

University of Maryland

November 19, 2021



This fall, the Fischell Department of Bioengineering welcomed its first-ever class of Biocomputational Engineering degree students. Above is a photo from our recent Open House event in one of our computer labs at the Universities at Shady Grove.



FISCHELL DEPARTMENT OF
BIOENGINEERING

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ADVISORY BOARD COMMITTEES

Advisory Board Chair: Claudio Knizek

Development:

Ivor Knight
Steven Lehrer
Naresh Menon*
Peter Soltani
Diana Yoon

Strategic Planning:

Matthew Dowling
David Lindsay
Brenda Ogle
Jon Rowley
Bret Schreiber*
Reg Seeto

Student Engagement:

Patricia Gonzales Hurtado*
Woodie Kessel
Susanna Naggie
John Page
Minh-Quan Pham

* Notes committee chair

DEPARTMENT FACULTY LISTING

Aranda-Espinoza, Helim

Associate Professor
Associate Chair, Graduate Studies



Bentley, William

Distinguished University Professor
Director, Robert E. Fischell Institute for
Biomedical Devices



Clyne, Alisa Morss

Associate Professor
Associate Chair, Diversity, Equity, & Inclusion



Duncan, Gregg

Assistant Professor



Eisenstein, Edward

Associate Professor



Fisher, John

Department Chair
Fischell Family Distinguished Professor



He, Xiaoming (Shawn)

Professor



Huang, Huang Chiao (Joe)

Assistant Professor



Jay, Steven

Associate Professor



Jewell, Christopher

Minta Martin Professor of Engineering



Kuo, Catherine

Associate Professor



Locascio, Laurie

Vice President for Research
Professor



Lowe, Tao

Professor



Maisel, Katharina

Assistant Professor



Matysiak, Silvina

Associate Professor



Montas, Hubert

Associate Professor



Mueller, Jenna

Assistant Professor



Scarcelli, Giuliano

Associate Professor



Stroka, Kimberly

Associate Professor



Tao, Yang

Professor



White, Ian

Associate Professor
Associate Chair, Undergraduate Studies



Zhang, Li-Qun

Professor



ADVISORY BOARD MEMBERS

Dowling, Matthew

Matthew Dowling, Ph.D., is Chief Scientific Officer and Director of Medcura. Matt completed his graduate work at the Fischell Department of Bioengineering, after completing his undergrad in chemical engineering from the University of Notre Dame. At UMD, he was awarded the Fischell Fellowship in Biomedical Engineering for his innovative ideas in drug delivery systems. Matt then co-created gel-e, a novel biomaterial platform, raising several initial grants to develop the technology and to launch Medcura as a corporate entity. Matt was the recipient of the Dean's Doctoral Research Award from the UMD Clark School of Engineering for his work on chitosan-based self-assembled soft materials for use in wound treatment. He has been the Principal Investigator on \$6 million in non-dilutive grant awards to Medcura; these have been used to achieve five FDA clearances, eight issued patents, 10+ peer-reviewed publications in high-impact journals and a commercial partnership with one of the world's largest pharmacy retailers. Matt's work has been featured on several U.S. and international media outlets including the BBC TV program, *Brave New World with Stephen Hawking*.



Fischell, Tim (*Emeritus*)

Dr. Fischell is Professor of Medicine at Michigan State University, Clinical Professor of Medicine at Western Michigan University, Medical Director of the Department of Cardiovascular Research, and Director of the Interventional Cardiology Fellowship Program at the Borgess Heart Institute in Kalamazoo. He has an active practice as an interventional cardiologist at the Heart Center for Excellence in Kalamazoo. After receiving his medical degree from Cornell University Medical Center in New York City, Dr. Fischell completed an internship and residency in internal medicine at Massachusetts General Hospital/Harvard University in Boston, and then completed his interventional cardiology fellowship at Stanford University Medical Center in Palo Alto. He was on the faculty at Stanford for five years, and then served as director of the cardiac cath labs and interventional cardiology at Vanderbilt University from 1992-1996. Dr. Fischell is board certified in internal medicine, cardiovascular medicine, and interventional cardiology. He is an active inventor and serial entrepreneur, with more than 100 medical device patents, founder or cofounder of seven medical device companies, and was elected in 2017 as a Fellow in the National Academy of Inventors.



Gonzales Hurtado, Patricia

Dr. Patricia Gonzales Hurtado is a Scientific Review Officer at the National Institute of Allergy and Infectious Diseases (NIAID). In 2003, she received a B.S. in chemical engineering from the University of Maryland, College Park (UMD). She received her Ph.D. in chemical engineering from the University of Maryland, College Park (UMD) in 2009. She conducted her doctoral research at the Laboratory of Kidney and Electrolyte Metabolism, part of the National Heart Lung Blood Institute (NHLBI) at the NIH. In 2009, she received the Ph.D. of the Year Award from the Department of Chemical and Biomolecular Engineering for her doctoral research, "Proteomic Analysis of Human Urinary Exosomes." She conducted her postdoctoral fellowship at the Epithelial Systems Biology Laboratory at NHLBI.



Kessel, Woodie

Dr. Woodie Kessel, B.S.E.E., M.D., M.P.H., is a pediatrician and child advocate. He has had a long career as an educator, investigator, and practitioner in medicine, public health, bioengineering, community-based programming, and public policy. His research focuses on improving the health of children and families, with a special focus on preventing gun violence. Dr. Kessel is currently the CEK Senior Child Health Scholar in Residence at the C. Everett Koop Institute, Dartmouth College and Medical School; Professor of Pediatrics, Geisel School of Medicine, Dartmouth College; and Professor of the Practice at the University of Maryland's School of Public Health. Previously, Dr. Kessel served in the U.S. Public Health Service as an Assistant Surgeon General and senior advisor on child and family health matters to the White House, Cabinet Secretaries, Surgeons General, and Health and Human Services officials spanning eight administrations.



ADVISORY BOARD MEMBERS

Knight, Ivor

Dr. Ivor Knight leads research and graduate programs in the Behrend College at Penn State University. Prior to this academic appointment he was senior VP and CTO at Canon U.S. Life Sciences and Canon BioMedical, Inc., where he oversaw the R&D functions of both companies. Prior to joining Canon, Dr. Knight was a professor at James Madison University, where he taught and conducted research in molecular genetics and microbiology. He has published widely in his field and is an inventor on numerous patents in the area of diagnostic instrumentation and chemistry. He holds a Ph.D. from the University of Maryland and is a Fellow of the American Association for the Advancement of Science.



Knizek, Claudio (*Advisory Board Chair*)

Claudio Knizek joined EY-Parthenon in September 2021 and is a Principal/Partner in EY's McLean office. Over his 20-year career in management consulting, he has focused on a variety of operational and strategic issues within the Industrial and Consumer Goods sectors. The majority of Claudio's work with clients has been focused on operational topics, particularly manufacturing and supply chain. Claudio currently serves as EY-Parthenon's global lead for Advanced Manufacturing & Mobility. Prior to joining EY, Claudio worked at BCG for 15 years. Claudio has a B.S. and M.S. from Stanford University and an M.B.A. from Harvard Business School.



Lehrer, Steven

Steven Lehrer brings over 30 years of experience starting, growing, and running life science-based businesses focused on commercializing new technology and expanding businesses globally. SBLehrer LLC works with life science companies to develop and introduce drugs worldwide. Steve has extensive experience in pharmaceutical, biopharmaceutical, and biosimilar R&D, regulatory, operations and commercialization. In addition, his companies and businesses have developed and commercialized new drug delivery approaches for pharmaceuticals, developed multiple molecular genetic diagnostic tests, and developed outcomes databases for bioinformatics and healthcare econometric modeling. Steve has built and run businesses in the U.S., EU, Brazil, China, India, Japan and SEA. Steve previously served as Head of Biologicals at Cipla Ltd., CEO at Cipla BioTec, President at Glycominds, EVP at Adamas Pharma, CEO at GeneOs Ltd, CEO at DNA Sciences and division President at Monsanto. Prior to Monsanto, Steve worked for McKinsey & Co. and P&G. Steve has a master's degree from The Graduate School of Business at Harvard University and a B.S.E. in chemical engineering as well as a B.A. in economics from the University of Maryland.



Lindsay, David

Dr. David A. Lindsay is Senior Vice President at Leidos Biomedical Research, Inc. His role is Director of the Vaccine Clinical Material Program (VCMP) and he sits on the Executive Leadership Team at the Frederick National Lab (FNL). David has oversight and accountability of all scientific/technical, facility, administrative, and strategic operational aspects of a GMP vaccine pilot plant located in Frederick, Maryland. The mission of the VCMP at the FNL is to advance the development and clinical manufacture of biologicals/vaccine candidates for Phase I/II clinic studies in humans; all research, discovery and process/method development is led by principal investigators (PIs) at the Vaccine Research Center (VRC) at NIH's National Institute of Allergy and Infectious Diseases (NIAID). David represents the VCMP on the VRC's PI leadership team. While significant focus has been centered on producing broadly neutralizing monoclonal antibodies for clinic evaluation in passive treatment of HIV-AIDS patients, the vaccine pilot plant is presently engaged in advancing a nanocage, universal flu vaccine and several novel subunit proteins and peptide conjugate candidate vaccines for active HIV prevention. The VCMP collaborates with NIAID/VRC, under contract through the National Cancer Institute (NCI), to address infectious disease agents of global significance, including Coronavirus, Ebola, Influenza, and Malaria.



ADVISORY BOARD MEMBERS

Menon, Naresh

As the founder of ChromoLogic, Dr. Menon is passionate about developing novel biomedical solutions that result in new biological insights and lead to superior patient outcomes while being cost-effective and affordable. Dr. Menon received his Ph.D. in physics from Purdue University, with an emphasis in sensor fabrication, instrumentation, and novel data analytic methods that were applied at multiple national and international laboratories towards fundamental physics discoveries. His early career was spent at Corning Incorporated and Northrop Grumman Mission Systems, where he was groomed for leadership positions in multiple businesses. Founded in 2007, ChromoLogic is a boutique Innovation Center that partners with the federal government, academia, and industry to develop breakthrough solutions that save lives and make the world secure. Our Biomedical Solutions product portfolio covers point-of-care solutions in wound care & infectious diseases, diagnostics/screening, drug delivery, and telehealth.



Naggie, Susanna

Dr. Susanna Naggie completed her undergraduate degrees in chemical engineering and biochemistry at the University of Maryland, College Park, and her medical education at Johns Hopkins School of Medicine. She conducted her internal medicine and infectious diseases fellowship training at Duke University Medical Center, where she also served as Chief Resident. She joined the faculty in the Duke School of Medicine in 2009. She is an Associate Professor of Medicine with Tenure and currently holds appointments at the Duke University School of Medicine, the Duke Clinical Research Institute, and at the Durham Veterans Affairs Medical Center. Dr. Naggie is a clinical investigator with a focus in clinical trials and translational science in HIV and HCV. Dr. Naggie is a current member of the NIH COVID-19 Treatment Guidelines and DHHS Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV. She serves as the Duke SOM Vice Dean of Clinical Research.



O'Connor, Michael

Dr. Michael O'Connor is the Director, Strategy and Project Management with Medtronic, Plc. Medtronic is a global healthcare solutions company committed to improving the lives of people through their medical technologies, services, and solutions. O'Connor has over 30 years of professional experience in the Medical Device Industry developing products from idea to commercialization. He holds patents in the areas of medical catheters and stents. He holds Graduate degrees in Project Management, Technology Management and Business Administration. O'Connor earned his Ph.D. in Civil Engineering, majoring in Project Management, from the University of Maryland A. James School of Engineering. He was selected as an American Society for Quality Fellow, Medtronic Technical Fellow, Biomedical Engineering Society Fellow and Association for Project Management Fellow. He has volunteered his time with many professional societies and universities/colleges over many years. He is also an Adjunct and Community Faculty Member teaching graduate-level Project Management, Project Capstone, Project Procurement, and Culture/Organizational course(s). In addition to Medtronic, his corporate experience also includes 3M and Pfizer, as well as three startup medical device companies.



Ogle, Brenda

Dr. Brenda Ogle is Professor and Head of Biomedical Engineering, Professor of Pediatrics, and Director of the Stem Cell Institute at the University of Minnesota. Her research team investigates the impact of extracellular matrix proteins on stem cell behavior especially in the context of the cardiovascular system. Insights gleaned over the years established mechanistic links between integrin engagement and the activity of critical transcription factors and most recently led to the development of optimized, extracellular matrix-based bioinks for 3D printing of cardiac muscle mimics featured in Newsweek. The primary strength of her laboratory is the ability to span multiple subdisciplines within both basic science (i.e., stem cell biology, cell-cell fusion, and extracellular matrices) and engineering (cytometry, instrumentation, and 3D printing) fields. Her work received funding from the National Institutes of Health, the National



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Science Foundation, the Department of Defense, the American Heart Association, the Coulter Foundation, Regenerative Medicine Minnesota, and MnDRIVE. She has partnered on research projects with Becton Dickinson, iCyt and Medtronic. Professor Ogle is an elected fellow of the American Institute for Medical and Biological Engineering and previously served as a member of the Board of Directors of the Biomedical Engineering Society. She has served as co-chair of the Women's Faculty Cabinet, UMN and is a recipient of the Mullen-Spector-Truax Women's Leadership Award.

Page, John

John Page, Vice President of Engineering, BD Integrated Diagnostic Solutions has over 35 years of product development experience for the Defense and Medical Diagnostics industries. John's early career included embedded software development, (Lockheed Martin, 10 years), and medical device/data management systems, (Becton Dickinson 25+ years). John has many years of cross functional program management experience leading development teams from initial concepts to commercial launches of medical diagnostic products that consist of hardware, software, and reagents. John's background includes running the BD Diagnostic Systems Program office in Sparks, MD, which serves the Point of Care, Women's Health and Cancer, Molecular, and Microbiology businesses of BD Diagnostic Systems. John has been involved with early acquisitions, including the BD Kiestra line of laboratory automation equipment, for which John has led the R&D function for several years. Since the fall of 2019, John has been leading the engineering organization for BD's Integrated Diagnostic Solutions business unit. John holds a B.S. in electrical engineering from the University of Maryland, and an M.S. in technical management from Johns Hopkins University.



Pham, Minh-Quan

Dr. Minh-Quan K. Pham is a patent attorney with over ten years of experience in protecting innovations and providing creative legal solutions through a unique combination of perspectives, including as an inventor, a scientist/engineer, an entrepreneur, an examiner, and an attorney. Dr. Pham is experienced in all aspects of intellectual property protection, including counseling, prosecution, litigation, licensing, and portfolio management. He has represented authors, artists, educators, engineers, physicians, and scientists, as well as universities, small companies, and international corporations. Prior to his legal practice, Dr. Pham was a patent examiner in group 1600, examining biotechnology patent applications. He was also a founder of Chesapeake PERL, a recombinant protein production company. Dr. Pham received his B.S. and Ph.D. in chemical engineering from the University of Maryland, and his J.D. from the Georgetown University Law Center.



Pinchuk, Leonard (*Emeritus*)

Dr. Pinchuk has 135 issued U.S. patents and over 100 publications, and has founded 10 companies. His major accomplishments include the invention of the Nylon 12 angioplasty balloon (used by all interventional cardiology companies), the helical wire stent (Cords, FL and Medtronic, MN), the modular stent-graft, a drug-eluting stent (TAXUS®, Boston Scientific, MA), several biomaterials (Bionate® and SIBS), a novel glaucoma treatment device (the PRESERFLO® MicroShunt, InnFocus/Santen, Osaka, JP) and the next generation intraocular lens (EyedeaL, Xi'an China). His inventions are used in hundreds of millions of patients worldwide with a financial impact well over \$100 billion. He was inducted into the National Academy of Engineering (NAE) in 2012, was awarded the 2017 Society for Biomaterials Innovation and Technology Award, and San Antonio's BIOMED SA Award (2017), and he received the Ohio University/NAE 2019 Fritz J. and Dolores H. Russ Prize, which is considered the Nobel Prize in Engineering, for innovations in medical devices that enable minimally invasive angioplasty treatment of advanced coronary artery disease. He was inducted into the National Academy of Inventors in 2021. Dr. Pinchuk continues to serve as Innovia's and Innolene's CEO and President and he enjoys an appointment as Distinguished Research Professor of Biomedical Engineering at the University of Miami (Miami, FL).



ADVISORY BOARD MEMBERS

Rowley, Jon

Dr. Jon A. Rowley is the Founder & Chief Product Officer of RoosterBio Inc. Jon started RoosterBio in 2013 as part of his personal quest to have the biggest impact possible on the commercial translation of technologies that incorporate living cells, including cellular therapies, engineered tissues, and tomorrow's medical devices. Jon holds a Ph.D. from the University of Michigan in biomedical engineering and has authored over 35 peer-reviewed manuscripts and 20 issued or pending patents related to biomaterials development, tissue engineering, and cellular therapy.

Jon started his industry career at BD as a scientist and R&D manager in a Cell & Tissue Technologies group focused on applying high throughput screening technologies to cell therapy media development and tissue engineering. Jon then contributed to the clinical development of Aastrom Biosciences' Tissue Repair Cell product, where he was Sr. Manager of Process Development responsible for manufacturing process improvements and cell delivery to the patient. Jon most recently spent five years as Director of Innovation and Process Development in Lonza's Cell Therapy CMO business, and currently resides in Walkersville, MD, with his wonderful wife and their three children.



Schreiber, Bret

Bret Schreiber has worked for 20 years in the field of government and community relations, driving policy and economic development initiatives and developing strong ties to local, state and national legislators and policy leaders. Currently, Mr. Schreiber is Vice President for Life Sciences and Technology for Fulton Bank. Fulton Bank is a \$26 billion financial institution based in Lancaster, Pennsylvania. Mr. Schreiber will be overseeing the development of a new division for Fulton Bank, creating disruptive, innovative initiatives to support and grow the life science and technology industries in Fulton's five state footprint. Most recently, Mr. Schreiber led the Office of BioHealth and Life Sciences for the Maryland Department of Commerce, seeking to develop and build the State's thriving Life Science ecosystem. Among other efforts, the office developed innovation assets for the industry, created International pipelines to bring companies into the state, and sought to provide fiscal and other support to companies already located in the state. Prior to leading the Office of BioHealth and Life Sciences, Schreiber was recruited to Commerce to start a new Division - Education and Innovation.



Seeto, Reginald

Dr. Seeto is the President and CEO of CareDx, a transplant focused company. He is an experienced leader and has held executive positions in both biotech and large pharma. Before joining CareDx, Dr. Seeto was Chief Operating Officer at Ardelyx leading pre-launch efforts for tenapanor and corporate development where he completed a series of partnerships. Prior to this, Dr. Seeto worked at AstraZeneca/MedImmune and was a member of the MedImmune Executive Team, where his roles included executive vice president of corporate development and strategy, vice president of global strategic marketing and portfolio management for all therapeutic areas, and a country leadership role as the general manager for AstraZeneca in Thailand. He started his career as a physician before joining McKinsey and Company.



Soltani, Peter

Dr. Soltani is a native of greater Washington, D.C., and has been involved in the medical device and diagnostics space for nearly 20 years. Peter's early career centered on technology innovation involving semiconductor and optical materials for energy conversion and imaging. In 2000, he joined Hologic, Inc., a women's health-focused medical device company, where he led the company's Women's Health business segment. Notable accomplishments include helping develop Hologic's digital mammography platform, and the development and commercialization of the first 3D digital mammography system for early cancer detection. Peter joined Siemens Medical Solutions between 2014-2016 to lead its North American Healthcare Services business, helping develop solutions to meet the changing and complex needs of the healthcare delivery market. Peter has been with Beckman Coulter Diagnostics, Inc. (a Danaher company) since early 2016, leading its Hematology, Urinalysis, and Digital Solutions businesses.



ADVISORY BOARD MEMBERS

Yoon, Diana

Dr. Diana Yoon has been working as a regulatory scientist in the U.S. Food and Drug Administration (FDA) since 2011. She started as a Commissioner's Fellow working on a project evaluating standards for premarket review of bone regenerative medicine products. During her tenure at the FDA, she has conducted premarket regulatory review in the Center for Biologics Evaluation and Research and the Center for Devices and Radiological Health. She is currently a Senior Scientific Reviewer for product classification and jurisdiction in the Office of Combination Products. In 2003, she received a B.S. in chemical engineering and biomedical engineering (double major) from Carnegie Mellon University. She attended the University of Maryland, College Park (UMD) for her Ph.D. in chemical and biomolecular engineering and graduated in 2008. During her time at UMD, she was awarded the Fischell Fellowship in 2006 for translational research in cartilage tissue engineering. She attended Rice University as a postdoctoral fellow to conduct bone tissue engineering research and was awarded the Gulf Coast Consortia Nanobiology Fellowship.



FEATURED SPEAKERS

Councilmember Gabe Albornoz

Gabe is a lifelong resident of Montgomery County and is deeply committed to the County, its people, and, as the son of immigrant parents, its diversity. He graduated from Montgomery County Public Schools and has dedicated his career to public service and advocating for just social policies. In November 2018, Gabe was elected to the Montgomery County Council as an at-large member, representing more than 1 million county residents. He currently serves as the Council's Vice-President and chairs the Health and Human Services committee, where he oversees public health and human services that impact children, adults, and seniors in Montgomery County. Gabe also serves on the Public Safety committee, where he reviews current policies to maintain transparency and increase the accountability of our public safety departments. This committee also reviews policies for first responders in order to provide first-class resources to the County police, its department of fire/rescue, paramedics, and emergency operators. Gabe is truly "at-large," having lived in Gaithersburg, Silver Spring, Bethesda; and now, Kensington, where he lives with his wife Catherine, also a Montgomery County native, and their four young children. Gabe graduated from Walt Whitman High School, received his Bachelor of Arts in Communication from the University of Maryland, and an MBA from The Johns Hopkins University.



Eisenstein, Ed

Dr. Ed Eisenstein is an Associate Professor in the Fischell Department of Bioengineering, holds an affiliate appointment in the Department of Plant Science and Landscape Architecture at UMD, and is a Fellow in University Honors, and a Fellow at the University System of Maryland (USM) Institute for Bioscience and Biotechnology Research (IBBR). He joined the UMD faculty after spending 20 years at the University of Maryland Biotechnology Institute's (UMBI) Center for Advanced Research in Biotechnology (CARB) on the Shady Grove campus. He served over a decade as CARB's Associate Director and Director, during which he led the expansion of facilities, programs, and faculty spanning strengths in protein engineering and design to new areas that enabled research on the pathobiology of disease, drug discovery, and bioengineering, capitalizing on specialized facilities for insect and plant transformation as well as biomanufacturing. These endeavors led to a significant increase in external grants and contracts, which enabled new training programs for Montgomery County students. Eisenstein was appointed acting president of UMBI in 2009 not only to oversee and direct its mission in research, education, and economic development, but also to lead the disaggregation of UMBI as a separate institution in order to empower new collaborative research centers, including IBBR, among the largest universities in the USM.



FEATURED SPEAKERS

Khademian, Anne

Dr. Anne Khademian was named the Universities at Shady Grove's third executive director in October 2020, following a nationwide search. As executive director of USG – a regional higher education center of the University System of Maryland, with programs from nine universities on one campus – Dr. Khademian also holds the dual title of Associate Vice Chancellor for Academic Affairs for USM. Before joining USG, Dr. Khademian spent 17 years at Virginia Tech – most recently as a Presidential Fellow and Director of the School of Public and International Affairs. With more than 20 years of experience in higher education, Dr. Khademian is a nationally recognized scholar and author in the areas of inclusive leadership and organizational change, and is on the Board of Directors of the National Academy of Public Administration. She earned a B.A. in Political Science and a Master of Public Administration from Michigan State University, and a Ph.D. in Political Science and Government from Washington University in St. Louis, Missouri.



DEPARTMENT CHAIR

Fisher, John

Dr. John P. Fisher is the Fischell Family Distinguished Professor and Department Chair in the Fischell Department of Bioengineering at the University of Maryland. Dr. Fisher is also the Director of the NIBIB / NIH Center for Engineering Complex Tissue (CECT) that aims to create a broad community focusing on 3D printing and bioprinting for regenerative medicine applications. As the Director of the Tissue Engineering and Biomaterials Laboratory, Dr. Fisher's group investigates biomaterials, stem cells, bioprinting, and bioreactors for the regeneration of lost tissues, particularly bone, cartilage, and cardiovascular tissues. Dr. Fisher's laboratory has published over 200 articles, book chapters, and proceedings (11,500 citations / 60 h-index) as well as delivered over 350 invited and contributed presentations, while utilizing over \$15M in financial support from NIH, NSF, FDA, NIST, DoD, and other institutions. Dr. Fisher has been elected Fellow of the American Institute for Medical and Biological Engineering (2012), the Biomedical Engineering Society (2016), and the International Academy of Medical and Biological Engineering (2020). He is currently the Co-Editor-in-Chief of the journal Tissue Engineering, while also co-editing six texts in the field of tissue engineering.



ABOUT BIOCOMPUTATIONAL ENGINEERING

Increasingly, solutions for today's most pressing public health challenges lie at the interface of biology and data science. Biocomputational engineering is an emerging field that merges bioengineering – a discipline grounded in the fundamentals of physics, chemistry, and biology – with computation and data science. Biocomputational engineers apply their knowledge of computer programming to analyze biological data sets and create new diagnostic technologies for the treatment and prevention of disease. Biocomputational engineers are in high demand, particularly in the areas of biotechnology, pharmaceuticals, biomedical devices, telemedicine, and electronic medical records.

The new bachelor of science in biocomputational engineering degree program will address the rapidly growing demand for engineers with expertise in both the biological sciences and computational methods. This program is geared toward transfer students from community colleges or four-year institutions. The curriculum offers junior- and senior-level courses within the new state-of-the-art Biomedical Sciences and Engineering (BSE) education facility at the Universities at Shady Grove. Graduates of this program will receive a B.S. degree in biocomputational engineering from the University of Maryland, College Park. We proudly welcomed our first Biocomputational Engineering class this fall.

ADVISORY BOARD PURPOSE & RESPONSIBILITIES

The Fischell Department of Bioengineering Advisory Board at the University of Maryland A. James Clark School of Engineering is composed of leaders from industry, government, and academia committed to the advancement of the Department. Members of the Advisory Board are the Department's strongest advocates and champions.

The Advisory Board will be composed of approximately 20 members who represent a diversity of experiences and perspectives. The Advisory Board will have a Board Chair, appointed by the Chair of the Fischell Department of Bioengineering; the Advisory Board Chair will serve a two- (2) year term. The Advisory Board may also have committees related to the interests and growth of the Department, in areas including but not limited to strategic planning, development, and student engagement. The Chair of the Fischell Department of Bioengineering will be the primary facilitator, with assistance from the Advisory Board Chair as well as the Clark School of Engineering's Office of External Relations.

The purpose of the Fischell Department of Bioengineering Advisory Board is to:

1. Foster excellence in the Department;
2. Provide guidance to the Department regarding mission, goals, and strategic planning;
3. Promote the interests of the Department locally, nationally, and internationally;
4. Advise on curriculum and research, student recruitment, student career placement, and industry trends;
5. Strengthen and enhance the financial resources of the Department; and
6. Act as a liaison between the Department and industry, government, and other academic institutions.

Full Membership responsibilities include:

1. Service on the Advisory Board is for a three- (3) year term, with the option to renew for an additional three- (3) year term. Those who have demonstrated exemplary service may be invited by the Department Chair to continue as an Emeritus Member.
2. Attendance at two biannual meetings, typically held in the fall and spring (absence from three consecutive meetings may result in a request to step down from service);
3. Philanthropic support for the Department annually, at a level that is personally meaningful;
4. Active participation and engagement in strategic planning by advising the Department Chair on matters pertaining to curriculum, research, program initiatives, and external relations;
5. Visible ambassadorship to external constituencies and University of Maryland leadership;
6. Efforts to foster connections and identify resources to support Departmental initiatives; and
7. Volunteer work in assisting with a student, faculty, or alumni initiative.

Emeritus Membership responsibilities include:

1. Service on the Advisory Board for a three- (3) year term with the same responsibilities as a Full Member, without an expectation for attendance at the biannual meetings.

The Fischell Department of Bioengineering is committed to the following:

1. Soliciting feedback and recommendations from committee members on enhancing academic, research, and external relations programs;
2. Inviting members to marquee events such as the Fischell Festival and the Senior Capstone Design Competition;
3. Providing access to the Clark School Dean and UMD leadership; and
4. Providing updates on the state of the Department, including finances, undergraduate program, graduate program, and research initiatives.

Note: The Department will provide financial support for travel and housing to the biannual meetings for those members from academia.



FISCHELL DEPARTMENT OF
BIOENGINEERING