

# ADVISORY BOARD MEETING

Celebrating the Bioengineering Community

The Fischell Department of Bioengineering  
University of Maryland  
May 10, 2021



*Pictured above are photos from recent #FischellFriday Instagram takeovers. The takeovers were launched as a means of building community and keeping our students and faculty connected during the pandemic.*



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  
 Andy Steggles

#### Student Engagement:

Emily English\*  
 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

Assistant Professor



### Tao, Yang

Professor



### White, Ian

Associate Professor  
 Associate Chair, Undergraduate Studies



### Zhang, Li-Qun

Professor



## ADVISORY BOARD MEMBERS

### Dowling, Matthew

Dr. Matthew Dowling, Ph.D., is Founder and Chief Scientific Officer of Medcura. Matt completed his graduate work at the Fischell Department of Bioengineering at the University of Maryland in 2010 and has since pursued Medcura on a full-time basis. In 2005, after graduating in chemical engineering from the University of Notre Dame, 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, which led to being granted the Dean's Doctoral Research Award from the UMD A. James Clark School of Engineering for his work on chitosan-based self-assembled soft materials for use in wound treatment. Medcura has since successfully licensed the gel-e platform from UMD and has raised another \$6 million in non-dilutive funding, which has been used to achieve five FDA clearances, a large and growing patent estate, and numerous peer-reviewed publications in high-impact journals.



### English, Emily

Emily P. English, Ph.D., is Director, Quality at Cartesian Therapeutics. Prior to this role, she served as a Venture Partner with Baltimore Venture Partners. Dr. English is a proven innovator with a passion for transitioning early-stage technologies to operational capabilities and commercial products. Previously, Dr. English was the CEO of Johns Hopkins University-spinout, Gemstone Biotherapeutics, and she spent eight years at the Johns Hopkins University Applied Physics Laboratory, where she was the Global Communications Program Manager and led a team of 35 scientists and engineers. She holds a Bachelor's degree, Magna cum laude, in chemistry from the University of Maryland, College Park, and a Ph.D. in chemistry from the University of Wisconsin, Madison. Outside of work, Dr. English enjoys spending time with her family, and she is an avid curler.



### 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.



## ADVISORY BOARD MEMBERS

### Kessel, Woodie

Dr. Woodie Kessel, B.S.E.E., M.D., M.P.H., is a pediatrician and child advocate with experience 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 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.



### 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. During his career at Canon he established Canon's biomedical research and development organization and facility in Rockville, Maryland, and led the development of the first products brought to market. 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 The Boston Consulting Group in January 2006 and is a Managing Director & Partner in BCG's Washington D.C. office. Throughout his tenure at BCG, he has focused on a variety of operational and strategic issues affecting the Industrial and Consumer Goods sectors. The majority of Claudio's work at BCG has been focused on operational topics, particularly manufacturing and supply chain. Claudio currently co-leads BCG's Manufacturing & Supply Chain business globally. Prior to joining BCG, Claudio worked at A. T. Kearney for five 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, multiple molecular genetic diagnostic tests and developed outcomes databases for bioinformatics and healthcare econometric modeling. Steve has built and run businesses in the US, 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.



## ADVISORY BOARD MEMBERS

### 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 focused 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.



### 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, at 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.



### 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



## ADVISORY BOARD MEMBERS

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 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 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, over 100 publications and 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 world-wide 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, San Antonio's BIOMED SA Award (2017), 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 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 young 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 an experienced leader and has held executive leadership roles in both biotech and large pharma and across a broad range of functions. 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. His responsibilities included leading corporate development and strategy, global strategic marketing and portfolio management for all therapeutic areas, as well as a country leadership role at AstraZeneca in Thailand. He started his career as a physician, during which time he performed a medical rotation in a renal transplant unit, 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 involved technology innovation involving semiconductor and optical materials for energy conversion and imaging. He joined Hologic, Inc., a women's health focused medical device company, in 2000, 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, Lab Automation and Informatics businesses.



## ADVISORY BOARD MEMBERS

### Steggles, Andy

Andy Steggles, a serial entrepreneur, has founded and advised multiple software startups. His most notable software success started with an idea he formed while operating as the head of technology for a New York-based association (RIMS), where he recognized the need for, and subsequently built, the next generation of large group collaboration software. After selling and delivering the software to several organizations, he then partnered with a friend and colleague to create what became Higher Logic. Over the next eight years, Andy helped grow this Software-as-a-Service (SaaS) company into a “Community Platform.” In 2016, this small, bootstrapped company had grown to a \$100 million+ enterprise. Andy and his business partner then decided to accept a \$55 million growth equity investment, and once again hit the accelerator. One year later, they had acquired four adjacent software businesses and tripled the size and value of Higher Logic. In 2018, Andy decided to step out of his operating role to focus on his responsibilities as Co-Chair of the Board of Higher Logic as well as his other passions, which included completing his studies at Harvard Business School’s three-year Owner/President Management (OPM) leadership program. Today, in addition to being an author, speaker, investor and board member, Andy focuses his time as CEO of his small family business, where he is able to leverage that same passion – which helped shape Higher Logic into what it is today – by helping leaders of early stage SaaS companies maximize their enterprise value while continuing to scale and preparing to exit.



### 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.



## 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 (9500+ citations / 53 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.



# RECENT DEPARTMENT NEWS

Below are recent news highlights from the Fischell Department of Bioengineering:

- **Duncan & Maisel Earn NSF CAREER Awards:** BIOE Assistant Professor Gregg Duncan was named the recipient of a five-year, \$600,000 NSF CAREER Award supporting “Extracellular Barriers to Adeno-Associated Viral Gene Therapy.” Adeno-associated virus has emerged as a leading therapeutic gene delivery system and recently became the first virus to be granted approval by the U.S. Food and Drug Administration for clinical use.

BIOE Assistant Professor Katharina Maisel also received an NSF CAREER Award. Her five-year, \$650,000 award will support efforts to develop drug delivery systems to improve the efficacy of vaccines and immunotherapies.

- **BIOE Undergrad Earns 2nd Place in Do Good Challenge:** BIOE undergraduate Uzair Chaudhary and College of Computer, Mathematical, and Natural Sciences undergraduate Sanketh Andhavarapu earned second place in the University of Maryland’s 2021 Do Good Challenge’s Venture-Track category for their nonprofit, STEPS. STEPS aims to connect volunteers with K-12 families seeking personalized, one-on-one, long-term, and affordable tutoring and college advising services. The duo’s model has attracted 40 volunteer tutors and a growing paying client base, and has generated \$15,000 in revenue to date. STEPS’ first grant of \$2,500 provided free tutoring to 100 students in Baltimore-area programs.
- **Huang Awarded \$3.3 Million R01 Grant:** BIOE Assistant Professor Huang Chiao (Joe) Huang was awarded a \$3.3 million National Institutes of Health/National Cancer Institute R01 grant to advance understanding of how photodynamic therapy and antibiotics can work together to address drug resistance in ovarian and pancreatic cancer. Huang’s team has found that photodynamic priming can overcome multiple barriers to chemotherapy delivery, and the new use of antibiotics can target additional mechanisms of chemoresistance in cancer cells.
- **Mueller’s Mission to Bridge the Global Health Gap:** BIOE Assistant Professor Jenna Mueller is working to address disparities in health care access that exist between high-income countries and low- and middle-income countries. One of her aims centers on “see and treat” programs to improve treatment of cervical cancer.
- **He Lab Taps Machine Learning to Improve Cell-Based Medicine:** BIOE Professor Xiaoming (Shawn) He and members of his lab have developed an affordable system that uses machine learning and smartphone technology to improve how living cells are identified and sorted for applications in cell-based medicine. Their technique was highlighted last month in Small.
- **Patsy Granted NSF Graduate Research Fellowship:** BIOE senior Marisa Patsy was named an NSF Graduate Research Fellowship recipient. Patsy is an undergraduate researcher in BIOE Chair John Fisher’s Tissue Engineering & Biomaterials Laboratory, where she investigates the effects of cell co-culture and growth factors on the specification of endothelial progenitor cells (EPC) for vascular tissue engineering.
- **Patsy Granted NSF Graduate Research Fellowship:** BIOE senior Marisa Patsy was named an NSF Graduate Research Fellowship recipient. Patsy is an undergraduate researcher in BIOE chair John Fisher’s Tissue Engineering & Biomaterials Laboratory, where she investigates the effects of cell co-culture and growth factors on the specification of endothelial progenitor cells (EPC) for vascular tissue engineering.
- **Bentley Paves the Way for Internet of Bio-Nano Things:** BIOE Professor and Robert E. Fischell Institute for Biomedical Devices Director William Bentley is leading a team of researchers on a mission to bridge the gap between microelectronics and biological systems – a critical obstacle to transforming today’s smart devices into potentially lifesaving technology. Their latest findings were published earlier this spring in Nature Nanotechnology.
- **Ph.D. Student Shares Dream of Becoming an IP Attorney:** Scarcelli Lab member Jake Rosvold shared his story on why he became fascinated with optics in high school. He hopes to combine his engineering expertise with writing and storytelling by pursuing a career in intellectual property law.

# 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