

Inaugural Symposium

Penn Center for Health, Devices and Technology

- 11:30-12:30 **Lunch and exhibits**
- 12:30-12:45 **Welcome:** - Dawn A. Bonnell, PhD, *Vice Provost for Research, Henry Robinson Towne Professor of Materials Science and Engineering (MSE)*
- 12:45-1:15 **Intro to the Penn Center for Health, Devices and Technology** – Brian Litt, MD, *Professor of Neurology, Neurosurgery and Bioengineering (BE), Director Center for Neuroengineering and Therapeutics, Penn Epilepsy Center.*
- 1:15-2:00 **Round Table: The Device Ecosystem Within Grasp**
Moderator - Mark Turco, MD, *Chief Innovation and Corporate Outreach Officer, PennCenter for Innovation (PCI)*
- Vijay Kumar, PhD, *Nemirovsky Family Dean, Penn Engineering and Professor, Mechanical Engineering and Applied Mechanics (MEAM), Computer and Information Science (CIS), Electrical and Systems Engineering (ESE)*
- Jon Epstein, MD, PhD, *Executive Vice Dean and Chief Scientific Officer, William Wikoff Smith Professor of Cardiovascular Research*
- Kevin Mahoney, MBA, *Executive vice president and chief administrative officer for the University of Pennsylvania Health System and executive vice dean for integrative services for the University of Pennsylvania School of Medicine*
- John S. Swartley, MBA/PhD, *Associate Vice Provost for Research and Managing Director, Penn Center for Innovation (PCI)*
- Flaura K. Winston MD, PhD, *Attending Physician, Children’s Hospital of Philadelphia, Founder and Scientific Director, Center for Injury Research and Prevention, Director, CChIPS, Professor of Pediatrics, Perelman School of Medicine*
- 2:00 - 3:00 **Penn Device Pioneers (10-15 min each)**
Moderator: Louis J. Soslowsky, PhD, *Fairhill Professor of Orthopedic Surgery; Associate Dean for Research Integration, Director, McKay Orthopedic Research Labs*
- Bert O’Malley, Jr, MD TransOral Robotic Surgery (Department of Otorhinolaryngology – Head and Neck Surgery)
- Mark G. Allen, PhD Cardiomechs and Axion Biosystems: Implantable and In Vitro Device Examples (SEAS)
- Paul Ducheyne, PhD Orthovita to Gentis to XeroThera (BE, Ortho)
- Alan W. Flake, MD Extracorporeal Support of the Premature Infant – Extending Fetal Physiology Beyond the Womb (CHOP)
- 3:00-3:15 **Break**
- 3:15-4:15 **Exciting New Companies and Licenses (10 min each)**
Moderator: Thomas Schaer DVM; *Director, Translational Orthopaedic Research &*

Preclinical Studies, Penn School of Veterinary Medicine, New Bolton Center

Sarah Rottenberg, MA	Lia Diagnostics: (Design, SEAS, OBGYN)
Pitou Devgon, MD, MBA	Velano Vascular: "Innovating around the obvious: Velano Vascular's mission to improve blood draws" (SOM, Wharton)
Jake Brenner, MD	RightAir: An early example of how Penn HealthTech can bring device ideas to patients (SOM)
John P. Fischer, MD	Paradigm Surgical: Incisional Hernia Prevention– Device Development to Improve Outcomes (HUP Surgery)
Michelle Davey, RN	SEE IV: Innovation Starting at the bedside (CHOP, nursing)

4:15-5:15

Hot New Technology (10 min each)

Moderator - Kathleen Stebe, PhD, *Deputy Dean for Research, SEAS, Richer and Elizabeth Goodwin Professor of Engineering and Applied Science, Department of Chemical and Biomolecular Engineering*

Shu Yang, PhD	Foldable and Knittable Materials (Materials Science)
Jim Weimer, PhD	Personalizing Medicine in an Impersonal World (CIS)
Charlie Johnson, Jr., PhD	Nano/bio sensors for medical diagnostics (Physics)
Dave Issadore, PhD	Diagnosing Disease on a Microchip: Scaling up Micro- and Nano-Fluidics (BE)

5:15-5:30

Announcing PHT Grant competition, - fall symposium, adjourn - Insup Lee, *Cecilia Filter Moore Professor of Computer and Information Science (CIS).*

5:30-7:00

Reception and exhibits

Join Penn Health-Tech at: <https://is.gd/joinpennhealthtech>

Visit us on Slack at: <https://pennhtech.slack.com/signup>

Email us at: htec@med.upenn.edu



Bert O'Malley

Bert W. O'Malley, Jr., M.D. is the Gabriel Tucker Professor and Chairman of the Department of Otorhinolaryngology – Head and Neck Surgery. He is the Co-Director of the Center for Head and Neck Cancer, with joint appointments in the Departments of Neurosurgery, Radiation Oncology, the Abramson Cancer Center and the School of Dental Medicine. Dr. O'Malley also serves as Associate Vice President of Physician Network Development to further develop clinical programs and improve the coordination of care of patients between Penn Medicine and referral networks in the face of health care reform. Dr. O'Malley is a very active medical device innovator, inventor and entrepreneur, in addition to his clinical, administrative and research efforts.



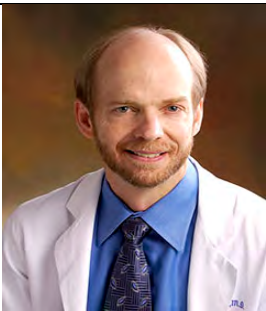
Mark Allen

Combining insights from the worlds of electrical engineering, mechanical engineering, chemistry and materials science, Allen is a pioneer in the field of micro-electromechanical systems, or MEMS, and nanofabrication technology. His research allows the creation of structures, sensors and actuators that exploit the unique potential of the small scale. For example, such miniscule devices can sit at the intersection of the biological and the digital, sensing the physical and electrical signals found in the heart and in the brain and transmitting them to computers for processing. Allen has published approximately 120 journal articles and holds approximately 40 patents. Allen is the Alfred Fitler Moore Professor of Electrical and Systems Engineering and Mechanical Engineering and Applied Mechanics at the University of Pennsylvania.



Paul Ducheyne

Professor of Bioengineering and Professor of Orthopaedic Surgery Research at the University of Pennsylvania, Philadelphia, PA, USA. He has been Director of its Center for Bioactive Materials and Tissue Engineering and was a Special Guest Professor at K.U. Leuven, Belgium. Paul Ducheyne is Founder, President-designate and Chairman of the Board of Directors of XeroThera, a spin-out from the University of Pennsylvania, developing advanced controlled delivery concepts for prophylaxis and treatment of surgical infections, including resistant infections. Paul Ducheyne has more than 30 years of scientific, technical, entrepreneurial and governance experience in the biomaterials, medical device, tissue engineering and controlled release fields, especially as it concerns orthopaedics, but also as it relates to cardiology, dentistry and medicine.



Alan Flake

Dr. Flake is an attending surgeon in the [Division of Pediatric General, Thoracic and Fetal Surgery](#) and holds the Ruth M. and Tristram C. Colket, Jr. Endowed Chair in Pediatric Surgery at The Children's Hospital of Philadelphia. He serves as director of CHOP's [Center for Fetal Research](#) and is a professor of Surgery and Obstetrics and Gynecology at the Perelman School of Medicine at the University of Pennsylvania.



Pitou Devgon

Dr. Pitou Devgon is the co-founder and president of Velano Vascular, Inc, which is a medical device company commercializing a novel solution to the most common invasive, inefficient and unpleasant procedures performed in hospitals today... *good old blood draws!* Prior to Velano, Pitou was a healthcare venture capitalist and a recovering dot-com entrepreneur. He has strong ties to the Penn community including completing his Internal Medicine Residency at HUP and earning his MBA in Healthcare Management from Wharton.



Jake Brenner

Dr. Brenner did his MD, PhD, and medical residency at Stanford. While there, he was also a fellow in Stanford Biodesign, a program that teaches medical device entrepreneurship. He moved to Penn in 2012, where he completed his fellowship and then joined the faculty in the Pulmonary, Allergy, & Critical Care Division. He has founded 3 medical device companies, 2 of which made it to multi-center clinical trials, and one of which has FDA approval for a first-in-class device. In addition to his medical device work at Penn, Dr. Brenner also attends in the ICU and has an NIH-funded research program applying nanotechnology to critical care.



Sarah Rottenberg

Adjunct Assistant Professor in the School of Design and the Associate Director of the Integrated Product Design Program at the University of Pennsylvania, a Master's Program that brings together design, business, and engineering. Sarah specializes in bringing people together to design products, experiences and businesses that are desirable, meaningful, and viable. She began her career as a design strategist at Doblin, Inc. and was formerly a Directing Associate at Jump Associates where she worked with clients as diverse as Target, Chrysler Fiat and GE to identify new products and new business opportunities. She is a cofounder of Lia Diagnostics, a company that has developed the first flushable pregnancy test. Sarah has a Master of Arts in Social Sciences from the University of Chicago, where she specialized in anthropology, and a Bachelor of Science in Foreign Service from Georgetown University.



John P. Fischer, MD, MPH

Assistant Professor of Surgery in the Division of Plastic and Reconstructive Surgery. His clinical practice focuses on both reconstructive and cosmetic surgery with a special interest in abdominal wall and hernia repair, breast reconstruction, and aesthetic surgery of the trunk. Dr. Fischer obtained his MPH from the Bloomberg School at Johns Hopkins University, and he oversees the Clinic Research Program within the Division of Plastic Surgery. His research focuses on health services research, qualitative outcomes, risk prediction, and translational device development.



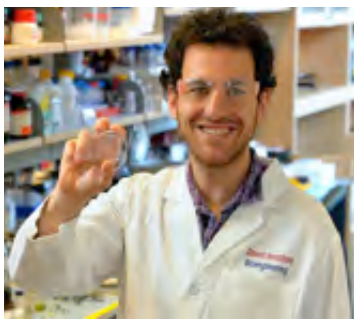
Michelle Davey

Michele Russen Davey graduated from St. Luke's School of Nursing, Bethlehem, Pennsylvania and has been part of the CHOP community for the past 22 years. During her early experience in the Cardiac Intensive Care Unit, she developed a passion for pediatric surgery and transitioned into the Operating Room. During this time, Michele specialized in General Surgery and soon advanced to become the Fetal Surgery Specialty Nurse at a time when the field of fetal surgery was rapidly expanding at CHOP. Michele has presented her work with the fetal surgical patient at National conferences and helped to build the fetal surgery surgical team. More recently, Michele has been caring for complex pediatric patients on a medical/surgical floor. She remains a strong patient advocate and desires to integrate her extensive clinical expertise with rapidly advancing medical technologies to deliver cutting-edge nursing to the pediatric patient.



Shu Yang

Shu Yang is a Professor in the Departments of Materials Science & Engineering, and Chemical & Biomolecular Engineering at University of Pennsylvania, and Director of Center for Analyzing Evolved Structures as Optimized Products ([AESOP](#)): Science and Engineering for the Human Habitat. Her group is interested in synthesis, fabrication and assembly of polymers, liquid crystals, and colloids with precisely controlled size, shape, and geometry; investigating the dynamic tuning of their sizes and structures, and the resulting unique optical, mechanical and surface/interface properties. Yang received her B.S. degree from Fudan University, China in 1992, and Ph. D. degree from Chemistry and Chemical Biology while researching in the Department of Materials Science and Engineering at Cornell University in 1999. She worked at Bell Laboratories, Lucent Technologies as a Member of Technical Staff before joining Penn in 2004. She received George H. Heilmeier Faculty Award for Excellence in Research from Penn Engineering (2015-2016). She is elected as Fellow of National Academy of Inventors (2014) and TR100 as one of the world's top 100 young innovators under age of 35 by MIT's Technology Review (2004). She was a recipient of ICI (1999) and Unilever (2001) student awards from American Chemical Society (ACS) for outstanding research in polymer science and engineering



Dave Issadore

David is an Assistant Professor of Bioengineering and Electrical and Systems Engineering at the University of Pennsylvania. His research focuses on the integration of microelectronics, microfluidics, nanomaterials and molecular targeting, and their application to medicine. This multidisciplinary approach enables Issadore's lab to explore new technologies to bring medical diagnostics from expensive, centralized facilities, directly to clinical and resource-limited settings for applications including early detection of pancreatic cancer, Tuberculosis diagnosis in patients co-infected with HIV, and prognosis of traumatic brain injury. His academic background in electrical engineering and applied physics (PhD, Harvard 2009) and his research experience in a hospital research laboratory (MGH) have prepared him to work and collaborate effectively on these inherently cross-disciplinary problems.



Jim Weimer

James Weimer is a Research Assistant Professor in the Department of Computer and Information Science at the University of Pennsylvania. His research interests include the design and analysis of cyber-physical systems with application to medical devices/monitors and security. James holds a Ph.D. degree in Electrical and Computer Engineering from Carnegie Mellon University and prior to joining Penn held a Postdoctoral Researcher position at the KTH Royal Institute of Technology. He has earned the best paper award and been a best paper finalist at the International Conference on Cyber-Physical Systems (ICCPS) in 2014 and 2015, respectively.



Charlie Johnson

Alan T. Charlie Johnson is an [American physicist](#), professor of Physics and Astronomy at the [University of Pennsylvania](#), and the Director of the Nano/Bio Interface Center at the University of Pennsylvania

Johnson's research spans experimental nanoscale physics, which combines [nanotechnology](#) and [biophysics](#). His research is involved specifically in transport within nanostructures and [carbon nanotubes](#), which revolves around [graphene](#), [DNA](#), synthetic proteins, and other biomolecules. His research also involves the development of scanning probe techniques to measure electronic properties in nanomaterials and nanodevices.

Johnson is also the Founding Executive Editor of [AIP Advances](#) and the co-founder of Graphene Frontiers, LLC.