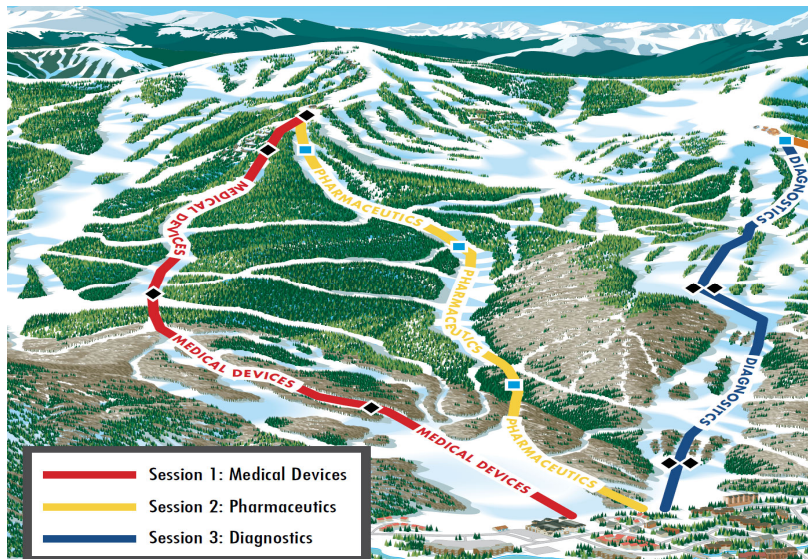




**ENTREPRENEURIAL FACULTY SCHOLARS**  
THE UNIVERSITY OF UTAH

# PARTNERSHIPS FOR PROPELLING CLINICAL TRANSLATION



## 20 **TRANSLATIONAL** 19 **MEDICINE** SYMPOSIUM

**February 25th, 2019**  
**University Guest House Ballroom**

<https://efs.utah.edu/tms2019.php>



CENTER FOR  
**Clinical & Translational Science**  
University of Utah Med  
into Grad Program (U2M2G)

CENTER FOR  
**MEDICAL  
INNOVATION**



# 20 19 **TRANSLATIONAL** **MEDICINE** SYMPOSIUM

- 11:30am** Arrive and Collect Lunch Boxes
- 12:00pm** Welcome (Kai Kuck)
- 12:05pm** Introduction and Opening Remarks (Michael Good, SVP University Health)
- 12:25pm** Keynote Address: Innovation and Translation (Kelvyn Cullimore, BioUtah)
- 01:00pm** Roundtable: Translation and Innovation Resources at the U (Moderator: Keith Marmer)  
John Langell (Vice Dean for Innovation, Executive Director Center for Medical Innovation)  
Anthea Letsou (Co-Director, CCTS Workforce Development)  
Martin McMahon (Senior Director, Preclinical Translation, Huntsman Cancer Institute)  
Satoshi Minoshima (Chair, Dept. of Radiology, Chair HSRC Entrepreneurship Committee)  
Randall Peterson (Dean, College of Pharmacy)
- 2:00pm** BREAK
- 02:15pm** **Session I: Diagnostics**  
Trends in Diagnostics Innovation (Noah Nasser, Chief Commercial Officer, Human Longevity)  
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Q & A with Speakers and Panelists
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Translational Case Study: Intraoperative Detection of Kidney Injury Risk (Kai Kuck)  
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# Introduction and Opening Remarks

## Michael Good, MD, SVP University Health

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**Dr. Michael L. Good** is the CEO of University of Utah Health, the Dean of the University of Utah School of Medicine, and the Senior Vice President of Health Sciences.

Dr. Good oversees the only academic medical center in Utah, with more than 20,000 faculty, staff and students, sixteen hospitals and community clinics; a 1,400-member University of Utah Medical Group; a highly-ranked research enterprise encompassing six schools and colleges, a 200,000-member health plan; one of the nation's largest reference laboratories, ARUP Laboratories; and numerous institutes and centers reflecting interdisciplinary, professional expertise in over 200 specialties.

Prior to coming to the University of Utah, Dr. Good served as dean of the University of Florida College of Medicine. A professor of anesthesiology, Dr. Good is also a noted inventor. Early in his academic career, he led a team of UF physicians and engineers to create the Human Patient Simulator, a sophisticated computerized teaching tool that is now used in health-care education programs throughout the world.

Dr. Good graduated with distinction from the University of Michigan with a bachelor's degree in computer and communication sciences. He also earned his medical degree from Michigan and moved to Gainesville in 1984 to complete residency training in anesthesiology and a research fellowship at the University of Florida.

## Kelvyn Cullimore, President & CEO BioUtah

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**Kelvyn Cullimore** is the CEO and President of BioUtah, an independent, non-profit trade association serving Utah's life sciences industry. Their primary members include organizations focused on research and development, manufacturing and commercialization or support services to life sciences technologies and treatments.

Mr. Cullimore has served for 25 years as president and CEO of Dynatronics Corporation, a publicly traded medical device manufacturer headquartered in Cottonwood Heights, Utah, founded by him and his father. He stepped down from his position with Dynatronics in June 2018, but continues to serve on the company's board of directors.

Mr. Cullimore served from 2002 to 2015 on the board of the Medical Device Manufacturers Association in Washington D.C., and on the board of trustees for the Utah Technology Council from 2014 to 2018. In addition, Cullimore was the first mayor of Cottonwood Heights, Utah, serving from 2004 to 2017. He has a bachelor's degree in science from Brigham Young University.

## TRANSLATION AND INNOVATION RESOURCES AT THE U

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**Keith Marmer, DPT, MBA**

Dr. Marmer is the Executive Director and Associate Vice President of TVC. With 30 years of experience as an inventor, entrepreneur and investor, he oversees operations for TVC. He has three patents, launched four companies, and helped entrepreneurs raise more than \$500 million in investment capital. An avid skier, hiker and traveler, he has visited almost all 50 states, and more than forty countries. He holds a doctor of physical therapy and MBA from the University of Philadelphia.

Moderator



Panelist

**John Langell, MD, PhD, MPH, MBA, FACS**

Dr. Langell is a Stanford-trained minimally invasive general surgeon and Vice Dean for Innovation and Executive Director of the Center for Medical Innovation at the University of Utah School of Medicine. His research efforts are focused on the translation and commercialization of medical technologies and digital medical therapeutics. His work has resulted in the development of many innovative new devices and software applications in the fields of laparoscopic surgery and patient care access for advanced and resource-poor regions.



Panelist

**Anthea Letsou, PhD**

Dr. Letsou is co-director of the CCTS Workforce Development Foundation for Discovery and Professor of Human Genetics. She carries out research in *Drosophila* as a model to investigate developmental defects such as spina bifida and neurodegenerative disorders. Dr. Letsou served as a Developmental Systems Program Director and more recently as the Science Advisor in the Division of Organismal Systems at the National Science Foundation. She holds a BA from Harvard University and a PhD from Yale University.



Panelist

**Martin McMahon, PhD**

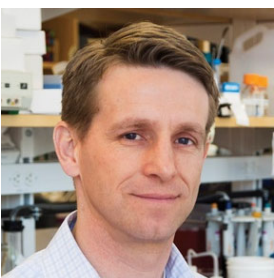
Dr. McMahon is the Cumming-Presidential Professor of Cancer Biology and the Senior Director for Preclinical Translation at the Huntsman Cancer Institute. Dr. McMahon's translational cancer research program focuses on the mechanisms underlying the development of metastatic melanoma, lung and thyroid cancer. He joined the faculty of the Department of Dermatology and the Huntsman Cancer Institute of the University of Utah in 2015 after many years at the UCSF Helen Diller Family Comprehensive Cancer Center. Dr. McMahon holds a PhD from King's College, University of London.



Panelist

**Satoshi Minoshima, MD, PhD**

Satoshi Minoshima, M.D., Ph.D. is Professor and Chair in the Department of Radiology and Imaging Sciences at the University of Utah. Dr. Minoshima is a radiologist specialized in Nuclear Medicine and Molecular Imaging with significant scientific contributions including the discovery of very early signs of Alzheimer's disease and worldwide dissemination of diagnostic statistical mapping technology. He is a nationally and internationally recognized leader in radiology and the peaceful use of nuclear technology in medicine. He also chairs the Health Sciences Research Council subcommittee on Research Entrepreneurship and Industry Partnership. He received his PhD and MD from Chiba University School of Medicine.



Panelist

**Randall Peterson, Ph.D.**

Randall T. Peterson, PhD is a chemical biologist whose research utilizes high-throughput screening technologies to discover new drug candidates for cardiovascular and nervous system disorders. The Peterson lab screens using living zebrafish, ensuring that the drug candidates discovered are active in vivo. Several of the compounds discovered by the Peterson laboratory have become widely used research tools or preclinical drug candidates. After 14 years on the faculty at Harvard University, he joined the University of Utah in 2017 as L.S. Skaggs Presidential Endowed Professor and Dean of the College of Pharmacy.

# Session 1

## DIAGNOSTICS

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### SYNOPSIS OF INNOVATION CASE STUDY

IDbyDNA is a transformative metagenomics technology that can simultaneously identify tens of thousands of microorganisms and pathogens in any sample. \$9 million in Series A venture capital funding was raised in 2016. The first-to-market metagenomics clinical test, Explify, went live in 2017. Other products include a google-like search engine and database technology for metagenomics data, funded in part through a TAP award from USTAR.



Panelist

**Gregory C. Critchfield, MD, MS**

Dr. Critchfield is the CEO of Sera Prognostics since November 2011. Before joining Sera, Dr. Critchfield was president of Myriad Genetics Laboratories from 1998-2010. Under his leadership, Myriad launched seven novel molecular diagnostic products across a variety of technology platforms and increased annual revenues from \$2.2 million to \$326.5 million. Prior to Myriad, he served as senior vice president/chief medical and science officer at Corning Clinical Laboratories/Quest Diagnostics. He holds a B.S. in Microbiology (BYU), an MD (University of Utah), and an MS in Biophysical Sciences (University of Minnesota).



Moderator

**Aaron Duffy, PhD**

Dr. Duffy is a technology manager who is responsible for commercialization activities at the University of Utah. As a biochemist with expertise in technology transfer and IP, Aaron works closely with faculty to help them understand the commercial value of their technologies, helping them navigate the intricacies of commercialization. Originally from Hawaii, Aaron received his BS, MS and Ph.D. from the University of Alabama at Birmingham.



Panelist

**Julie Eggington, PhD**

Dr. Eggington co-founded the Center for Genomic Interpretation (CGI) in 2016 with the mission to drive quality in clinical genetics. CGI provides a variety of services to health insurers, laboratories, clinicians and patients. She is an expert in the initial classification of novel clinical genetic variants, high throughput literature curation, as well as the accurate reclassification of Variants of Uncertain Significance (VUS) through optimized research methods. Dr. Eggington has directed variant classification and reclassification programs at Myriad Genetics, Courtagen, and 23andMe. Dr. Eggington received her Ph.D. in Biochemistry from the University of Wisconsin-Madison, her M.S. from the University of Utah, and her B.S. from BYU.



Panelist

**Charles A. Meeker, JD, PhD**

Dr. Meeker is a patent attorney and shareholder at Workman Nydegger, working on the procurement and protection of intellectual property rights, for pharmaceutical drugs and drug delivery systems, chemical compositions and systems, plant science and cell culture technology, PCR technologies and DNA melting curve analysis, fluorescence/luminescence imaging and monitoring, pathology diagnostic methods, hydrocarbon purification and treatment systems, liquid filtration materials and systems, and a variety of other products, systems, and methods. Dr. Meeker holds a JD from Indiana University, a PhD in oncological sciences from the University of Utah School of Medicine, and a BS in Biology from BYU.



Speaker

**Noah Nasser, BS**

Mr. Nasser is the Chief Commercial Officer for Human Longevity, Inc. With more than 25 years of experience in life sciences tools, diagnostics and genetic screening, Mr. Nasser has a broad background in the development and commercialization of new and novel technology to advance human health. This includes the development and commercialization of immuno- and molecular based devices, the commercialization of novel genetic screening applications, general management, quality and regulatory. Mr. Nasser has held operational and commercial positions with US and international responsibilities at Counsyl, AltheaDx, Verinata Health, and Quidel. Mr. Nasser holds a BS in Molecular Biology from University of California, San Diego.





Panelist

**William E. (Bill) Rusconi, MBA, BS**

Mr. Rusconi is an independent consultant and a healthcare mentor/advisor for TVC and acting President and General Manager of the US subsidiary of Cambridge Cognition, a UK-based cognitive assessment company. He has over 30 years experience in drug, device, diagnostics and consumer products and has held a variety of commercial, operations and general management positions in companies ranging from start-ups to the Fortune 50 including, Procter and Gamble, Baxter Healthcare and Myriad Genetics. Mr. Rusconi earned his BS in Molecular Biology from Vanderbilt University and MBA from the Kellogg Graduate School of Management at Northwestern University.



Speaker

**Mark Yandell, PhD**

Mark Yandell received his PhD (Molecular, Cellular and Developmental Biology) from the University of Colorado, Boulder in 1996. He spent three years at the Genome Sequencing Center at Washington University School of Medicine, St. Louis, where amongst other things he was partially responsible for PolyBayes. He then spent three years at Celera Genomics where he led the Annotation Software Research and Development group. From 2002-2004 Mark was a Senior Scientist with HHMI at the University of California, Berkeley. In 2004 he joined the Faculty of the Eccles Institute of Human Genetics at the University of Utah.

## Session 2 THERAPEUTICS

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- 5:00pm** Open Discussion and Closing Remarks (Kai Kuck)

### SYNOPSIS OF INNOVATION CASE STUDY

Opioids are powerful analgesics that relieve suffering but frequently lead to addiction and overdose deaths; medicines that work by alternative mechanisms of action are desperately needed. Molecules synthesized by venomous marine organisms have been evolutionarily refined to have high potency and specificity for receptors and ion channels. We have capitalized on these properties to develop drug candidates to not only treat pain, but also to modify disease processes that lead to chronic pain.



Moderator

**Leena Bhoite, PhD**

Dr. Bhoite is TVC's technology manager, managing a University of Utah innovation portfolio in a cross-disciplinary setting with a focus on therapeutics. She has more than 11 years of industry experience along with a decade of scientific expertise and consulting experience in the diagnostic and medical device industry. At Myriad Genetics, she led preclinical drug discovery and development programs, managed cross-functional teams, and is a co-inventor on several patents. Leena has completed a wide range of licensing deals. Dr. Bhoite is passionate about cutting edge innovations and partnership development for advancing early stage technologies. She holds a PhD in molecular carcinogenesis (University of Mumbai) and completed a post-doctoral fellowship at the Salk Institute in San Diego.



Panelist

**Ron Heffernan, BA**

Mr. Heffernan is General Partner of Mountain Pacific Venture Fund, which invests in early-stage biotech and life sciences companies. He is co-founder of Church & State, a nonprofit dedicated to creating a sustainable entrepreneur ecosystem and business incubation platform. Mr. Heffernan is a serial entrepreneur, angel investor and licensed investment banker, with more than 25 years of hands-on experience in executive leadership, sales, strategy, finance and capital raising for companies at every stage of the business cycle. He received his BA in Economics from the State University of New York at Albany and completed Executive Education classes through The Wharton School of the University of Pennsylvania.



Panelist

**Michael R. Langer, JD**

Michael R. Langer, JD, is an intellectual patent attorney and partner at Michael Best & Friedrich LLP. He works with clients to provide practical, strategic patent counsel. He represents clients of all sizes, including universities, emerging and mid-sized companies and Fortune 500 corporations. Mr. Langer has experience working on a broad range of technologies, but has particular experience with technologies in the chemical and life science arts.



Speaker

**Kevin Lynch, PhD, MBA**

Dr. Lynch is Chief Business Officer at Recursion Pharmaceuticals. He has more than 25 years of pharmaceutical industry experience. Prior to his current position, Dr Lynch served as Vice President, Search and Evaluation at AbbVie, where he lead a global team of licensing professionals responsible for search, evaluation, and due diligence of all business development opportunities. He also worked in Abbott's portfolio analysis and strategic decision support group and in the Gene Medicine Department at Rhone-Poulenc Rorer Pharmaceuticals. Dr. Lynch received his PhD in Microbiology and an NIH post-doctoral fellowship at Pennsylvania State University, and holds an MBA from Northwestern University Kellogg School of Management.



Speaker

**J. Michael McIntosh, MD**

Dr. McIntosh graduated from the University of California at Los Angeles Medical School, completed residency training at the University of Colorado and is board-certified in general adult psychiatry. He is medical director of Primary Care Mental Health Integration at the Salt Lake City VA Medical Center and is ranked by US News and World Reports among the top 1% of doctors in the US. He is Professor with tenure in the Department of Psychiatry and Research Professor in the Department of Biology. His NIH funded research focuses on the development of novel compounds for the treatment of addiction and the treatment of chronic pain.



Panelist

**Steven L Warner, PhD**

Dr. Warner is Vice President, Drug Discovery and Development at Tolero Pharmaceuticals. He has a broad background in molecular and cell biology and more than a decade involvement in small molecule drug discovery, new screening platforms in drug discovery, translational research focusing on cancer therapeutics. Dr. Warner has played integral roles in moving multiple compounds into clinical trials in both academic and pharmaceutical industry settings. He earned his PhD in Pharmaceutical Sciences at the University of Arizona and completed a postdoctoral fellowship under the mentoring of Dan Von Hoff at the Translational Genomics Research Institute (TGen).



Panelist

**Kenton Zavitz, PhD**

Dr. Zavitz is Director of Clinical Affairs at Cambridge Cognition. He has over 18 years of biotechnology and pharmaceutical experience with involvement in all aspects of the industry from drug discovery and clinical development through to pre-commercialization. Prior to joining Cambridge Cognition, Kenton served as Chief Scientific Officer for Zocere Inc. and for Myriad Genetics as Senior Director of Clinical Affairs, Chief Scientist, Director of Neurodegeneration Therapeutics Discovery, and Director of Strategic In-licensing and Scientific Evaluation. Dr. Zavitz received his PhD in Biochemistry and Molecular Biology from the Weill Cornell Graduate School of Medical Sciences in New York City.

# Session 3

## MEDICAL DEVICES

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### SYNOPSIS OF INNOVATION CASE STUDY

Acute kidney injury (AKI) is a common complication of cardiac surgery occurring in up to 40% of patients. It leads to increases in mortality, ICU, and hospital length of stay and doubling of hospital costs. One major limitation in the efforts to reduce the incidence of AKI is the lack of a real-time monitor of renal perfusion. AKI diagnostics exist, but are detecting kidney injury when it has already happened. We are evaluating a minimally invasive sensor indicating in real-time intraoperatively the risk of AKI. Currently we are exploring options for next steps towards translating/commercializing this technology.



Panelist

**Logan B. Christensen, MS, JD**

Logan B. Christensen is an IP prosecution attorney at Workman Nydegger, working with clients on both international and U.S. patents. His undergraduate and advanced degrees in biological engineering, as well as his research and experience in medical device design, bioreactor and bioprocess design, bioreactor control system programming and design, recombinant microorganism design and related molecular biological techniques, biofuels production, environmental remediation, and wastewater treatment, give him a deep understanding that contributes to his preparation and prosecution of patent applications for clients in the life science, chemical, mechanical, and software arts.



Panelist

**Vicki Farrer, Esq.**

Vicki Farrer is the CEO of Light Line Medical. She has over 30 years of experience as an attorney representing companies in the medical device and pharmaceutical fields, over 20 years experience in strategic intellectual property planning, and 15 years working in local start-up companies. She was the initial CEO of Catheter Connections, Inc. and was the Chief Legal and IP Officer and a Director at the time of its acquisition by Merit Medical, Inc. Vicki Farrer holds a JD from Wayne State University in Detroit, and a B.A. from American University in Washington, DC



Panelist

**Myles Greenberg, MD, MBA**

Dr. Greenberg is the President and CEO of Alucent Biomedical. He has more than 20 years of experience in growing healthcare, medical technology and life sciences firms as an entrepreneur, operating executive, board member, clinician and investor. Prior to joining Alucent, he served as chief development officer at IntegraMed America, a private equity backed healthcare services firm. Previously, Dr. Greenberg spent most of his career as an early-stage venture capital investor with CHL Medical Partners, HealthInvest Equity Partners and Pappas Ventures. He holds an MBA from Harvard Business School, MD from Yale University, and a Bachelor of Applied Science from the University of Pennsylvania.



Panelist

**Anh Hoang, PhD**

Dr. Hoang is the Chief Science Officer of Sofregen a Massachusetts biotechnology startup. As a co-founder of Sofregen, Dr. Hoang leverages her 10+ years of biomedical research experience with her strategic vision to bring silk-based products to market. Dr. Hoang is also an active member of the New England Women in Science Executives Club and on the Mount Holyoke College Career Development Leadership Board. She earned her PhD in interdisciplinary material science engineering from Vanderbilt University as an NSF graduate fellow and completed her post-doctoral training in biomedical engineering at Harvard Medical School/Massachusetts General Hospital as an Executive Committee on Research fellow.



Moderator

**Jeremy Horton, BS**

Mr. Horton is the TVC's Entrepreneurship Program Manager. He has 20 years experience in medical device product development, 15 years experience as a project management professional, 12 years experience in management and 8 years experience in executive management. His expertise stretches into all aspects of the product development cycle, including R&D, sustaining engineering, quality, regulatory, marketing, and operations.



Speaker

**Kai Kuck, Ph.D.**

Professor of Anesthesiology and Director of Bioengineering and immediate Past-President of the Society for Technology in Anesthesia, has been involved in the research and development of anesthesia and critical care technologies since 1991. He has authored more than 30 publications and 14 US and international patents. Prior to joining the faculty, Dr. Kuck served many years in a senior management position as Dräger's head of research, overseeing 40 corporate scientists and 30 students.



Panelist

**Jay Muse, MS**

Jay Muse is an Operating Partner with the Med Venture Holdings group. He is currently President and CEO of Piper Access, LLC, a vascular access company and Talon Medical, LLC, a heart access company. He has 27 years of experience in innovation, engineering, technology development, and commercialization. Mr. Muse is passionate about developing medical devices that are loved by both clinicians and patients. Prior to the Piper Access and Talon Surgical, Jay worked for GE, IOMEGA, BD, & BARD in the management of product innovation & technology development. He received his BS in Mechanical Engineering from BYU and his Masters in Mechanical Engineering from San Jose State University.



**Leena Bhoite, PhD**

Dr. Bhoite is TVC's technology manager, managing a University of Utah innovation portfolio in a cross-disciplinary setting with a focus on therapeutics. She has more than 11 years of industry experience along with a decade of scientific expertise and consulting experience in the diagnostic and medical device industry. At Myriad Genetics, she led preclinical drug discovery and development programs, managed cross-functional teams, and is a co-inventor on several patents. Leena has completed a wide range of licensing deals. Dr. Bhoite is passionate about cutting edge innovations and partnership development for advancing early stage technologies. She holds a PhD in molecular carcinogenesis (University of Mumbai) and completed a post-doctoral fellowship at the Salk Institute in San Diego.



**Elizabeth Fregulia, BA**

As marketing and communications director, Ms. Fregulia drives TVC's strategic branding and outreach, directs event and educational programming, helps develop strategic partnerships, and manages sponsorships. She graduated from the University of Wisconsin-Madison with a bachelor's in English and Art History, and also served as editor of one of the school's two daily newspapers.



**Robli Kennedy**

Robli Kennedy is an Administrative Assistant for Department of Anesthesiology, University of Utah. She has 35 years of Customer Service experience, including 11 years as a Human Resource Manager for Nordstrom, 16 years running her own manufacturing business and 6 years with the University of Utah.



**Kai Kuck, Ph.D.**

Professor of Anesthesiology and Director of Bioengineering and immediate Past-President of the Society for Technology in Anesthesia, has been involved in the research and development of anesthesia and critical care technologies since 1991. He has authored more than 30 publications and 14 US and international patents. Prior to joining the faculty, Dr. Kuck served many years in a senior management position as Dräger's head of research, overseeing 40 corporate scientists and 30 students.



**Tomasz J. Petelenz, Ph.D.**

Dr. Petelenz is a Research Associate Professor at the Department of Bioengineering, University of Utah. His teaching and research interests include translational bioengineering, regulatory science, and medical device design. His professional experience encompasses a range of bioengineering areas, including implantable cardiac pacemakers, iontophoretic and infusion drug delivery, kidney dialysis machines, biosensors, optical sensors, cardiovascular devices, wireless data communication, prosthetics, and small business startups. Dr. Petelenz holds degrees in physics-microelectronics (MS) and bioengineering (PhD), and is an inventor / co-inventor on 30 patents, and author/co-author of more than 40 publications and presentations.