**2024 Athanasiou Medal of Excellence in Translational Bioengineering Award Winner**

**Dr. Christine E. Schmidt**

J. Crayton Pruitt Family Department of Biomedical Engineering

University of Florida

**Title**: Engineering Materials for Clinical Nerve Repair, and Other Applications Along the Way

**Abstract**: Damage to nerve tissue can have a devastating impact on the quality of life for individuals suffering from traumatic injuries. Dr. Schmidt’s research is focused on analyzing and designing natural-based biomaterials that can interface with neurons and specifically stimulate and guide nerves to regenerate. These biomaterials can ultimately be used for facial and hand reconstruction or in trauma cases, and potentially could be used to aid the regeneration of damaged spinal cord as well. This presentation will focus first on peripheral nerve applications and one key success that is the foundation for the Avance Nerve Graft from Axogen (Alachua, FL). In addition, along the way to uncovering strategies for nerve regeneration, Dr. Schmidt and her team also discovered a biomaterial processing approach that led to a separate application of protecting tissues after surgery, resulting in VersaWrap from Alafair Biosciences, a start-up company in Austin, Texas. Both clinical successes stemmed from academic research while Dr. Schmidt was a faculty member at the University of Texas. Since being at the University of Florida, her research has focused predominantly on spinal cord injury (SCI) applications. She and her team are engineering injectable biomaterials for less invasive applications in crush injuries, which are the most prominent form of SCI. To date they show that these injectable materials serve as effective therapeutic agents for SCI in rats and are promising delivery agents for cell transplantation applications. Dr. Schmidt’s goal is to someday translate these technologies for SCI patients.

**Bio**: Dr. Schmidt is a Distinguished Professor, the J. Crayton Pruitt Family Endowed Chair, and former Department Chair for the University of Florida J. Crayton Pruitt Family Department of Biomedical Engineering. Prior to joining UF, Dr. Schmidt was the B.F. Goodrich Endowed Professor at the University of Texas at Austin in both Biomedical Engineering (founding member) and Chemical Engineering. She earned her Ph.D. in Chemical Engineering from the University of Illinois at Urbana-Champaign and her B.S. in Chemical Engineering from the University of Texas at Austin. She is an elected member of the National Academy of Engineering (NAE) and a Fellow of the American Institute of Medical and Biological Engineering (AIMBE), the National Academy of Inventors (NAI), the Biomedical Engineering Society (BMES), the American Society for the Advancement of Science (AAAS), the International Academy of Medical and Biological Engineering (IAMBE), and the International Union of Societies for Biomaterials Science and Engineering (FBSE/IUSBSE). She is an inductee into the Florida Inventors Hall of Fame and an elected member of the Florida Academy of Science, Engineering and Medicine of Florida. Dr. Schmidt has received other prominent recognitions, including AIMBE’s prestigious Pierre Galletti Award, the BMES Diversity Award (UF BME Representative), the TERMIS-AM Commercialization/Innovation Award, the Clemson Award for Applied Research from Society For Biomaterials, the American Competitiveness and Innovation Fellowship from the National Science Foundation, and the Chairmen's Distinguished Life Sciences Award from Christopher Columbus Fellowship Foundation and U.S. Chamber of Commerce. Dr. Schmidt is a past president of AIMBE and has served as AIMBE’s Chair of the College of Fellows. For BMES, Dr. Schmidt has previously served on the Board of Directors and was Conference Chair of the 2010 Annual BMES. She has also served as Chair of the BMES National Meetings Committee, Chair of the BMES Diversity Committee, and has been a recurring member of the BMES Fellows Selection Committee and the Awards and Nominations Committees. Dr. Schmidt’s research has focused on biomaterials for neural tissue engineering and wound healing, and currently is geared toward injectable biomaterials and therapies for spinal cord injury repair. Her work is the foundation for the Avance Nerve Repair graft from Axogen and the VersaWrap Protector from her affiliated start-up company, Alafair Biosciences.