Title: Translation of Biomedical Engineering Advances

Abstract: This presentation will concentrate on describing the translation of various engineering advances to medicine via technology transfer mechanisms. By discussing specific startups, a description of entrepreneurial activities emanating from my university research will be provided in the context of medical devices and biologics. In the second portion of the talk, cell-based and regenerative medicine therapies will be discussed, as guided by regulatory agencies. Finally, the talk will also provide a discussion of my salient philosophical underpinnings and their practical application.

Bio: Prof. Athanasiou has established one of the most recognized research groups in tissue engineering and regeneration. His pioneering work has addressed important medical needs, such as cartilage healing. He has developed the self-assembling process in tissue engineering, demonstrating the fabrication of entire sections of cartilage with properties on par with those of native cartilages. His work in biomedical engineering is trailblazing, as recognized by election to the National Academy of Medicine and National Academy of Inventors. His list of awards includes an Honorary Doctor of Science from the New York Institute of Technology, Medal of Excellence from the Republic of Cyprus, “Great Immigrant, Great American” (Carnegie Corp), Lifetime Achievement Award (TERMIS), Voigt Award (BMES), Lifetime Achievement Award (Federation of Cypriot American Organizations), Lissner Medal (ASME), Woo Medal (ASME), Nemitsas Prize (Cyprus Academy), Edison Medal (ASME), Mow Medal (ASME), and Urist Award (ORS). However, his success is not merely academic.  He has founded four US companies and one international on his discoveries which have brought to the market 15 FDA-approved and widely used products. His patents on biodegradable scaffolds resulted in the first cartilage implant used to treat focal lesions in knee injuries. His invention on intraosseous infusion has won Wall Street Journal's Innovation award. He is also known for his tremendous service to the bioengineering profession, having served as BMES President and as editor-in-chief of the Annals of Biomedical Engineering, BMES’ flagship journal. Dr. Athanasiou has had multi-faceted impacts in medical engineering, science, and technology, and especially tissue engineering, as evidenced by his inventing medical treatments that are widely used to address significant societal needs, including cartilage repair, emergency intra-osseous infusion, and reduction of lower extremity complications in diabetic patients.