Engineering Program for Innovation and Entrepreneurship (EPIE) and the Division of Industrial Relations at the Cullen College of Engineering present:



## A Systems View of Technology Commercialization in a Highly Multidisciplinary World

## ABSTRACT

Effective technology commercialization is foundational to innovation and entrepreneurship as relevant to engineered products and solutions. As such, technology commercialization is a system engineering endeavor, where the multiple dimensions of hard and soft knowledge must converge. Systems as associated with hard disciplines like engineering, applied science, finance, and safety need to further converge with the soft systems and practices of design, creativity, operations, business, marketing, and human factors.

As an alumnus of the University of Houston (BSME, MSME and Ph.D.), a graduate of a multidisciplinary program at Cullen College of Engineering, with a rewarding professional career in multidisciplinary system development and commercialization – I look forward to sharing this experience and learning in two ways. First, by sharing my personal journey, starting with what led me to engineering, foundational experience at the university, a unique graduate studies program, and then an eclectic journey outside of Academia. Second, to provide an overview of how systems engineering, and multidisciplinary convergence are critical to successful technology commercialization and entrepreneurship. For the later, I will use industrial solutions realized over my career to touch on the different aspects of convergence. In summary, we will bring the two threads, the journey and multidisciplinary convergence back to the EPIE mission of fostering innovation and entrepreneurship with the themes of curiosity, challenging ourselves to step-out, continual learning, and mentorship.

## BIO

Dr. Zafar Kamal is the Chief Technology Officer at OFI Testing Equipment. He leads innovation to develop sensors in support of automation, manufacturing, and risk mitigation. His training and professional experiences are in the design, development, and commercialization of industrial solutions, edge devices, sensors and IIOT (industrial internet of things) - where he successfully converged tangible and nontangible disciplines of technology, digitization, value-chains, operations, business processes, and manufacturing optimization to create commercial value. Prior to OFITE, he founded his own consulting practice, which was preceded by a senior leadership role at BP looking after advanced technology as related to sensors and enterprise integration, he was a GM at GE Intelligent Platforms focused to automation and integration, Vice President for R&D/commercialization at the Process Instruments Division at ThermoFisher Scientific, Vice President / Global Business Manager for Production Optimization Systems at ABB and a managing consultant at SHL. Dr. Kamal has authored over 15 academic and more than 30 industrial publications. In the recent past, he has mentored startups through incubator programs at the Houston Technology Center, The Rice Alliance and LSU.

