

Dr. Seongkyu Yoon is director of the Massachusetts BioManufacturing Center (MBMC), process system engineering and an assosiate professor in the department of Chemical Engineering of the University of Massachusetts Lowell. His research area is Life Sciences Systems Engineering. Research covers Process Analytical Technology (PAT) and Quality by Design (QbD), Application of Design of Experiment (DoE) and MultiVariate Data Analysis (MVDA), supply chain management in biologics, and chemometrics in life sciences. Research aims at developing innovative systems technology with which one can improve drug development efficiency and manufacturing productivity, and developing innovative diagnostic systems and tools for selected diseases with chemometrics framework. He is currently developing system tools using a genomics and metabolic flux analysis approach to explain variability to productivity and quality of CHO (Chinese Hamster Ovary) mammalian cell-culture product.  Integration of medical devices with multivariate statistical method is also being explored to develop practical diagnostic tools. Dr. Yoon completed his Ph. D. in Chemical Engineering from McMaster University (Hamilton, Canada). Afterwards, he worked at Umetrics (Kinnelon, NJ). He provided consulting and teaching on multivariate data analysis, experimental design, and batch analysis in various industries, pharmaceutical, biologics, semi-conductor, petrochemical, and financial. Before joining UMass Lowell, Dr. Yoon worked at Biogen Biopharmaceutical Inc. as process analytics group leader of manufacturing sciences. He implemented MSPC (Multivariate Statistical Process Control) to all unit operations of both commercial and clinical manufacturing. He also worked at Hyundai Petrochemical (now LG Chemistry) as a process engineer and implemented Advanced Process Control and Real-time Optimizer to ethylene manufacturing process in early 1990.