The Industry Scholar Lunch & Learn is designed for BU Ph.D. students and post-docs. Speakers address a research area from the industrial perspective and also take time to share their own personal journey from academia to industry.

Biased ligands at G-protein coupled receptors preferentially stimulate one intracellular signaling pathway over another. The classical mu opioid, morphine, elicited increased efficacy and duration of analgesic response with reduced side effects in beta-arrestin-2 knockout mice compared to wild-type mice, suggesting that G-protein biased mu opioid ligands would be more efficacious with reduced adverse events. The identification of a potent, selective, and G-protein biased mu opioid receptor agonist, TRV130 (oliceridine), will be described. This novel compound demonstrated an improved therapeutic index (analgesia vs adverse effects) in rodent models and in human Ph 1 and Ph 2a/2b clinical trials for the treatment of acute severe pain.

Dennis is currently the Head of the GSK Boston R&D Satellite and joined the Discovery Partnerships with Academia group in 2013. Prior to GSK, Dennis was VP and Head of Chemistry at Trevena, a start-up biotech company focused on the identification of GPCR biased ligands from 2008-2013. While at Trevena, Dennis led teams resulting in the discovery of 3 clinical stage compounds: TRV027 which is currently in Ph2b clinical trials for the treatment of acute heart failure, TRV130 (oliceridine) which is a Mu opioid receptor G-biased ligand that has completed two Ph2a/b clinical trials and is being developed for a post-surgical pain indication, and TRV734 which is a Mu opioid receptor G-biased ligand that has completed Ph 1 clinical trials and is being developed to treat severe acute and chronic pain. Prior to working at Trevena, Dennis was a director/medicinal chemist at GSK in the fields of oncology, osteoporosis, osteoarthritis, endocrinology, immunology, inflammation, and asthma. Dennis received his Ph.D. in Organic Chemistry at Yale University under the supervision of Prof. Samuel J. Danishefsky and his Bachelor of Science in Chemistry at MIT.

Pre-registration is required to corpreg@bu.edu. Lunch will be provided.