**The College of Science and Mathematics STEM+DEI Speaker**

# *A Theory of Change to Practice: Using Qualitative and Quantitative Data to Drive Systemic Changes to Our Chemistry Curriculum*

**Benny Chan - The College of New Jersey - The School of Science**

**Abstract:** The changing demographics of the NJ student population towards more first generation and students of color was forecasted by decades of census data. Change is hard. Change is complex. Coupling the COVID-19 pandemic, we have seen a seismic shift in student preparation that requires a paradigm shift in our teaching. Luckily, The College of New Jersey's School of Science was already engaged in doing systemic changes to our curriculum to make the courses more inclusive and student centered. We have developed a theory of change, the experimentalist teacher, to help to manage the current conditions and to anticipate the future changes to our student population. We have three pillars to the theory of change, gaining empathy and understanding of our students, a changed toolkit of acceptable pedagogy, and developing a common language, values, and understanding of our responsibility. We have gathered a tremendous amount of data about our most vulnerable student populations to help us design and assess a model for teaching general chemistry. The data informed work has driven additional work into our Inorganic, Analytical, Organic and Physical chemistry curricula and even to study issues like the sense of belonging and respect in our classrooms. The Chemistry Department has developed our vision and mission to be as inclusive as possible so that we can increase the numbers of successful and thriving students in our majors and chemical professionals.

**Monday, November 8th at 3:10 pm via Zoom**