

Chipping away at characterizing students' engagement with empirical data

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**In Person at Pearson Chemistry Building
62 Talbot Ave – Room P-106**



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Data represent a critical component of science as practice. While chemists agree that data analysis and interpretation is a critical competency for chemistry students, there is relatively little known about how chemistry students engage with and make sense of empirical data. We have begun investigating how students across levels engage with a variety of empirical data sets to carry out a variety of tasks including making decisions, evaluating models, and optimizing processes. Three qualitative studies will be presented. In concert, these studies reveal how learners activate prior knowledge to interpret a set of data, how they choose what data to attend to, how they incorporate data into their thinking, and how they grapple with the conflict and uncertainty inherent in using empirical data to support claims. Implications for developing students' competencies will be discussed. engage the audience in thinking about how college STEM education community can collectively re-envision our teaching practices in response to these students' voices.