1135-G1-2467 **Yvonne Lai*** (yvonnexlai@unl.edu). *Understandings that Prospective Secondary Teachers bring to Geometry from a Transformation Viewpoint.* Preliminary report.

With the Common Core's demand to change approach to school geometry from traditional to transformational, there is a gap between how geometry teaching and learning has most often been considered and what is needed to prepare future geometry teachers. In this talk, I will discuss key issues in congruence and similarity proofs from a transformation viewpoint, and how these issues are "new" in the sense that they differ from the knowledge, skills, and dispositions needed for traditional congruence and similarity proofs. The analysis that I present is based on examining the understandings and challenges of 15 pre-service teachers over 13 weeks of learning geometry from a transformation approach after learning geometry from a traditional approach the prior semester. I will additionally provide an overview of mathematical and educational literature on geometry from a transformation viewpoint, tying this together with recent results on designing tasks to elicit teachers' mathematical knowledge for teaching, and how these results informed the tasks used in the course. I will share tasks that "worked" as well as tasks that did not and why, lessons learned, and implications for structuring a course for teachers on geometry from a transformation approach. (Received September 26, 2017)