

Kempner Colloquium

REASONING ABOUT COMPLEX VARIABLES CONCEPTS – THE ROLE OF GESTURE

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One area of research in undergraduate mathematics education, which has not received much attention, is the teaching and learning of complex variables. In this presentation, I will share results from two projects related to research participants use of gesture as they conveyed their geometric reasoning about tasks related to complex variables. In the first study, we compared the gestures of six experts and four pairs of novices as they described their geometric reasoning of the complex number arithmetic operations $z+w$, zw , and $1/z$. In the second project, we explored the interplay between gesture and diagrams as undergraduates reasoned about complex-valued equations. I will discuss the importance of gesture awareness in the classroom and directions for further research.

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4:00 p.m.

MATH 350