**WORKSHOP ON EDUCATION**  
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The EASE Model: Reinforcement Processes in the Dynamics of Academic Developmental Trajectories

**ABSTRACT:** Large bodies of literature in economics and psychology explore the causal relationships between effort, academic self-concept, and achievement in isolated, static models. However, students experience these mechanisms jointly and dynamically within a broader ecological system of coevolving peers. In the final chapter of a dissertation focused on the utility of systems thinking for reducing systemic disadvantage, I formulate and empirically estimate a dynamic, micro-foundational model that illustrates how the interplay between these entities can lead to phase transitions, tipping points, and other counterintuitive properties of complex systems. The model shows how the presence of reinforcement processes in human development allow for appropriately timed and targeted policy interventions to have sustained, long-term and disproportionate impacts on disadvantaged groups. The results will have important implications for the achievement gap and school engagement-key factors in school dropout and the school-to-prison pipeline.

**BIO:** David McMillon is a graduate student in the Harris School of Public Policy. David graduated from University of Michigan in 2012 with a degree in Mathematics. He also completed a MS in Mathematics at the University of Michigan in 2014. He is currently working on a dynamic discrete choice model that weighs costs and benefits of alternative types of disciplinary policies in schools. The model is designed to account for deterrence, feedback processes related to students’ attitudes towards schoolwork, peer effects, and random heterogeneity.