Abstract for an Invited Paper
for the MAS20 Meeting of
the American Physical Society

RASE: Modeling Cumulative Disadvantage Due to Marginalized Group Status in Academia

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A substantial body of research reveals disparities in the experiences of underrepresented groups and majority groups in academia. While many individual sources of inequity are small, the cumulative effect on career status can be significant. Social science research on life-course analysis have shown the importance of cumulative (dis)advantages particularly in dynamics of "success-breeds-success" such as the Mathew effect proposed by Merton. I will present a framework called RASE with four elements (Resources, Achievement, Status, Events) to organize and discuss the many observed disparities. I will present a modeling tool that can simulate careers of members of populations that are relatively advantaged or disadvantaged. I will show an application of this tool to model empirically measured disparities in colloquium invitations. The modeling exercise may be useful as a tool for training STEM faculty to recognize potential effects of bias in academic careers. -