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**NON-EQUILIBRIUM CRITICALITY AND MANY-BODY
DELOCALIZATION TRANSITIONS**

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Abstract:

In this talk, I will discuss the physics of many-body “hot” quantum glasses: specifically, many-body localized systems and their critical variants. I will argue that the latter category includes disordered spin chains whose excited-state properties and dynamics can be accessed via real-space renormalization group methods. As disorder is weakened below a critical value, these non-thermal quantum glasses melt via a continuous dynamical phase transition into a high temperature, ergodic liquid. I will describe an effective model for such quantum-to-classical many-body delocalization transitions and use it to compute their universal critical properties.