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**BROCK WILLIAMS**, Texas Tech University  
*Biological Applications of Conformal Invariants*

We will describe our work connecting conformal invariants as estimated by circle packings with properties of disease simulations. Using our new LAZARUS lab's GPU cluster, we can conduct large-scale simulations of disease outbreaks in a network and study the effect of the structure of the network as measured by discrete extremal length on the survival rate of the outbreak.