



Department of  
Mathematical Sciences

# Colloquium

Dr. Carolyn Abbott

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Brandeis University

Friday,  
October 15th, 2021  
@ 2:00pm

Online via Microsoft  
Teams



**Dr. Carolyn  
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## Actions of Baumslag-Solitar groups on hyperbolic spaces

A useful tool in understanding a group is to study its actions on hyperbolic metric spaces, that is, metric spaces which are negatively curved in some sense, such as the hyperbolic plane. Many groups admit lots of distinct, interesting actions on different hyperbolic spaces. In this talk, I will discuss how one can try to classify all actions of a given group on hyperbolic spaces, and why it is difficult to do so in general. I will then describe certain classes of groups for which this is possible, focusing on solvable Baumslag-Solitar groups. Surprisingly, this classification uses techniques from algebraic number theory. If time permits, I will describe some work-in-progress which generalizes these methods to larger classes of groups. Parts of this talk are joint work with Alex Rasmussen, and parts are joint work with Sahana Balasubramanya and Alex Rasumussen.

Link to online event: <https://bit.ly/3m65sBt>



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