

# UNIVERSITY of HOUSTON

Department of Mathematics

Scientific Computing Seminar

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**Momentum methods and polynomial filtering: the power iteration**

Thursday, April 9, 2026  
1 PM- 2 PM  
Room 646 PGH

**Abstract:**

In this talk we will look at a momentum accelerated power iteration from multiple perspectives, and present a dynamic implementation of the method that does not depend on a priori unknown knowledge. We will compare the performance of the algorithm both theoretically and computationally with the restarted Lanczos method, and see that we get better comparative performance when the relative spectral gap is smaller. We will discuss recent extensions to classes of nonsymmetric problems.