

# Philadelphia Area Number Theory Seminar

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## Jensen-Polya Criterion for the Riemann Hypothesis and Related Problems

Abstract: In this talk, I will summarize forthcoming work with Griffin, Ono, and Zagier. In 1927, Polya proved that the Riemann Hypothesis is equivalent to the hyperbolicity of Jensen polynomials for Riemann's  $\xi$ -function. This hyperbolicity has been proved for degrees  $\leq 3$ . We obtain an arbitrary precision asymptotic formula for the derivatives  $\xi^{(2n)}(0)$ , which allows us to prove the hyperbolicity of 100% of the Jensen polynomials of each degree. We obtain a general theorem which models such polynomials by Hermite polynomials. This general condition also confirms a conjecture of Chen, Jia, and Wang.

FRIDAY, November 3, 2017

(note the special day)

2:40 – 4:00 PM

Bryn Mawr College  
Department of Mathematics  
Park Science Center 328

Tea and refreshments at 2:20 PM in Park 339