

# Department Colloquium

Friday, October 11th, 2019

11:00 am in Hume 321

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## **Jensen–Pólya Program for the Riemann Hypothesis and Related Problems**

### **ABSTRACT**

In 1927 Pólya proved that the Riemann Hypothesis is equivalent to the hyperbolicity of Jensen polynomials for Riemann’s Xi-function. This hyperbolicity had only been proved for degrees  $d = 1, 2, 3$ . We prove the hyperbolicity of all (but possibly finitely many) the Jensen polynomials of every degree  $d$ . Moreover, we establish the outright hyperbolicity for all degrees  $d < 10^{26}$ . These results follow from an unconditional proof of the “derivative aspect” GUE distribution for zeros. This is joint work with Michael Griffin, Larry Rolen, and Don Zagier.