

## **abstract**

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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I will present a recent joint work with Paul Bourgade (Paris) about the extreme gaps between eigenvalues of random matrices. We give the joint limiting law of the smallest gaps for Haar-distributed unitary matrices and matrices from the Gaussian Unitary Ensemble. In particular, we show that the smallest gaps when rescaled by  $N^{-4/3}$ , are Poissonian and we give the limiting distribution of the  $k$ -th smallest gap. We also show that the largest gap, when normalized by  $\log N/N$ , converges in  $L_p$  to a constant for all  $p > 0$ . These results are compared with the extreme gaps between zeros of the Riemann zeta function.