

## **abstract**

ARITHMETIC COMBINATORICS

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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Let  $Q(n,p)$  denote the adjacency matrix of the Erdos-Renyi graph  $G(n,p)$ , that is to say a symmetric matrix whose entries above the main diagonal are independently set to 1 with probability  $p$  and 0 with probability  $1-p$ . We will examine the behavior of the rank of  $Q(n,p)$  with an eye on the following questions (whose answer will of course depend on  $p$ )

1. What is the probability that  $Q(n,p)$  is singular?
2. If  $Q(n,p)$  is likely to be singular, can we describe the dependent sets of rows?

Joint work with Prof. Van Vu (IAS/Rutgers) and some with Prof. Terence Tao (UCLA)