

## Department Colloquium

Speaker: Ioana Dumitriu, University of Washington, Seattle

Time: 2:30 p.m.

Place: Jeffery 234

Title: Spectra of random regular and quasi-regular graphs

**Abstract:** The spectra of random graphs and networks have been widely studied in the last two decades, both in theoretical contexts (relating to random matrices and universality) and practical ones (with applications to mixing, sampling, community detection). From a random matrix perspective, the "natural" random graphs have independent edges (Erdos-Renyi and Chung-Lu-Vu models, with or without block structure); however, regular graphs have also been shown to share many of the spectral properties of the independent-edge ones. Recently, some of these studies have been extended to quasi-regular random graphs. We will survey some of these results and potential applications to community detection.