1151-60-182 **Shankar Bhamidi** and **Souvik Dhara***, 77 Massachusetts Avenue, Room 2-232B, Cambridge, MA 02139-4307, and **Remco van der Hofstad** and **Johan S.H van Leeuwaarden**. *Critical percolation on scale-free random graphs.*

The talk concerns critical behavior of percolation on finite random networks with heavy-tailed degree distribution. In a seminal paper, Aldous (1997) identified the scaling limit for the component sizes in the critical window of phase transition for the Erdos-Renyi random graph. Subsequently, there has been a surge in the literature identifying two universality classes for the critical behavior depending on whether the asymptotic degree distribution has a finite or infinite third moment.

In this talk, we will present a completely new universality class that arises in the context of degrees having infinite second moment. Specifically, the scaling limit of the rescaled component sizes is different from the general description of multiplicative coalescent given by Aldous and Limic (1998). Moreover, the study of critical behavior in this regime exhibits several surprising features that have never been observed in any other universality classes so far.

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