

The Eastern Michigan University Department of Mathematics Presents:  
**Mathematics Across the Disciplines**

A 2003-2004 lecture series exploring the value of power mathematics

*Lecture #4:*  
*Finding the Collaboration in Collaborative  
Filtering*

By Dr. Ben Keller  
Computer Science

Monday, November 17, 2003  
4:00 – 5:00 PM  
419 Pray-Harrold

**Abstract:** Recommender systems are an important underlying technology in many web-based systems (e.g., amazon.com). Collaborative filtering systems, in particular, allow users to rate items and then receive predicted ratings of other items in return. Typically, a user receives predictions from a group of people whose ratings sufficiently correlate with those of the user. This relationship can be modeled by a network (a la graph theory) with edges weighted by the correlation. We will explore the construction of these networks, experimental results on their structure, and maybe a little geometry to explain what we've found.

Coffee & Cookies in the Math Den (Pray-Harrold 501) at 3:30 PM