First Colloquium Writeup

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Professor Shahriari presented on intersecting families of sets, permutations, and vector spaces in his colloquium talk on September 10th. He began with a brief overview of stars in the context of sets before moving on to more interesting results in the field, including one of his own. We say a collection of subsets is a star if a fixed element is contained in each subset. I found the initial definitions very tractable and appreciated the questions Professor Shahriari posed (e.g. "What is the size of the biggest star in the power set?") to motivate the rest of his talk. Starting small and working towards more complicated concepts is invaluable; rather than catering to the most enlightened audience members and diving into the most esoteric parts of the topic, Professor Shahriari gave everyone an opportunity to grasp the basics before introducing more complex concepts. As a result, I found the first half of the presentation very approachable and was able to follow most of the lemmas and theorems contained therein. Professor Shahriari's presentation style was conducive to my learning style: he talked slowly enough so the listener could absorb what was being said. Although I understood the material covered earlier in the talk better, I think the most interesting facet of the entire presentation was how we can define intersecting families on vector spaces. Ultimately, I was not able to follow along for the entire presentation and lost track of the math about three-quarters of the way through. Nevertheless, I found the topic interesting and the method of presentation worthy of emulation.