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\* **UCLA Combinatorics Seminar** \*  
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Date: Thursday, March 31, 1.50-2.50 in Room 7608

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## **Regular polytopes and Coxeter combinatorics**

### **Abstract**

Everyone, even the average non-mathematician, is familiar with the regular polygons and the 5 regular Platonic solids, but the number familiar with their higher-dimensional generalizations drops off sharply. In this talk I will define what it means to be a regular polytope and then state and completely prove a classification theorem. As time allows I will connect these polytopes to Coxeter groups and to classical combinatorial objects such as the lattice of noncrossing partitions.