Bay Area Mathematical Adventures

Susan Durst

Powersets and the Littlewood-Offord Problem

San Jose State University*
Science Building, Rm. 142

7:30 pm
Friday, December 1, 2017

San José State
U N I V E R S I T Y

Suppose we need to put together a team of six people from a group of ten. It turns out that there are $\binom{10}{6} = \frac{10!}{6!4!}$, or 210 different teams we could construct. But perhaps we aren't interested in the *size* of the team we were putting together. Maybe instead, each of the ten people have a certain number of points assigned to them, and we're looking for a team that has a particular point-total. This idea leads us to more complicated questions, which require us to really explore the structure of the *powerset*, the collection of all subsets of a given set. In this talk, we will talk about powersets, partial orders, and the Littlewood-Offord Problem.
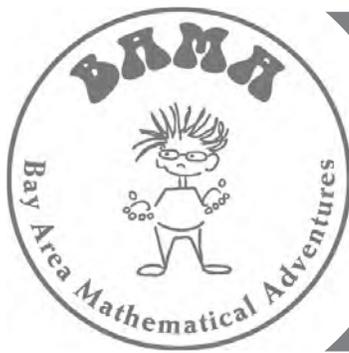
Susan Durst is a mathematics faculty member at Proof School, a school for sixth through twelfth graders who love math. During the summer she is co-director at Canada/USA Mathcamp. She is passionate about bringing exciting and interesting mathematics to young audiences. Susan's research is at the intersection of abstract algebra and combinatorics. She explores the relationship between noncommutative rings and acyclic directed graphs.

* See back for map and directions.

BAMA

Bay Area Mathematical Adventures

A series of presentations on diverse topics by remarkable mathematicians. All talks are free and open to the public.

WHY?

BAMA aims to challenge and motivate students to think mathematically. Speakers will present real mathematics, and will share with the audience modern views of mathematics. Some talks will provide students with related problems, or will enable teachers to expand later on the topics with their students.

WHO?

BAMA is aimed at bright high-school age students. However, all are welcome: younger or older students, teachers, parents, and the general public.
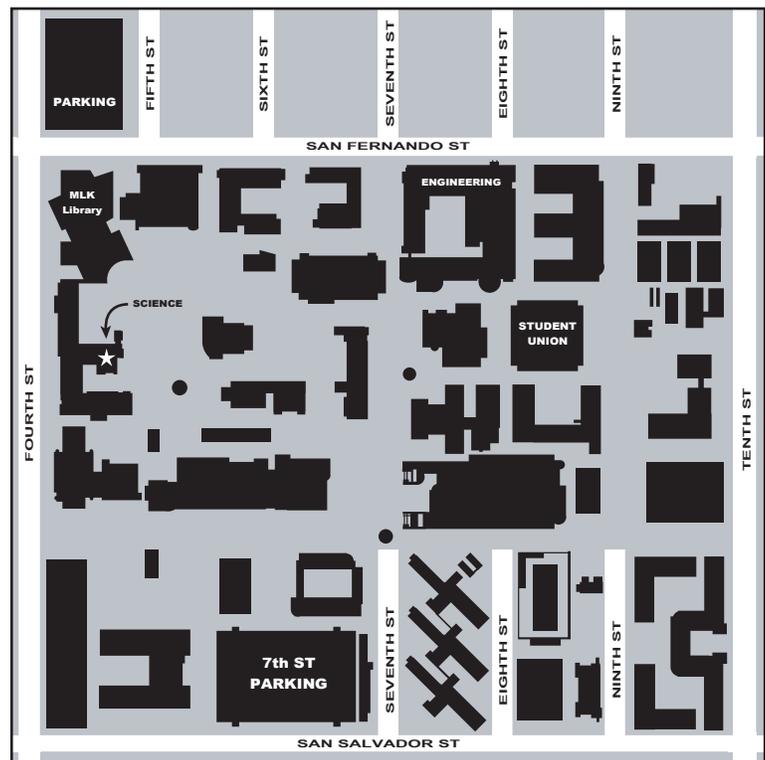
WHEN?

Evening talks will be given approximately once a month between September and April. Each talk will be self-contained (speakers will not assume their audiences have attended previous talks).

WHERE?

San Jose State University Science Building, Rm 142

■ From 101 take the First Street or Guadalupe Expressway exit and go to Fourth Street.

■ Take Fourth to San Salvador Street; turn left onto San Salvador and park in the South Garage. The automated pay stations located on level 3 and above accept coins, $1, $5 and $10 bills, Visa or Master Cards. Parking is $1.00 per ½ hour or $5.00 day pass after 5:30.

■ From 280 take the 7th Street exit and turn North on Seventh St. The garage is on the left after 5 or 6 blocks.

FOR MORE INFO:

http://www.mathematicaladventures.org

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