

Spring 2020 Undergraduate Seminar

Department of Mathematics



Linear algebra and juggling patterns

Dr. Allen Knutson

Math Professor, Cornell University

Date: Friday, January 17

Time: 1:00 - 1:50 pm

Location: Room 427, Thackeray Hall

Dr. Allen Knutson is the colloquium speaker for this week.

The colloquium is held on **Friday, January 17** in **Room**

704 in **Thackeray Hall** from **3:30 - 4:20 pm**.

In the 1980s three groups of jugglers came up with the same notation for juggling patterns. I'll explain this mathematical theory, demonstrating many examples, and show how it helps one understand the interplay of Gaussian elimination with column-rotation of matrices.

From his Wikipedia: Allen Ivar Knutson is a mathematician and professor of mathematics at Cornell University. Knutson did his undergraduate studies at the California Institute of Technology, and received his Ph.D. in 1996 from the MIT under the joint advisership of Victor Guillemin and Lisa Jeffrey. He was on the faculty at the University of California, Berkeley before moving to the University of California, San Diego in 2005 - 2008 and then to Cornell University in 2009. In 2005, he and Terence Tao won the Levi L. Conant Prize of the American Mathematical Society for their paper "Honeycombs and Sums of Hermitian Matrices".

Knutson is also known for his studies of the mathematics of juggling, and for five years beginning in 1990 he and fellow Caltech student David Morton held a world record for passing 12 balls.



Organized by: Derek Orr, Tom Everest, Jeremiah Morgan, and Jeff Wheeler