Matrix Computations & Scientific Computing Seminar

Organizer(s): James Demmel & Ming Gu

Wednesday, 11:00am–12:00pm, 380 Soda

April 7   **Prof. Gilbert Strang**, MIT

The Algebra of Fast Transforms: Banded Matrices with Banded Inverses

The success of wavelets depends on the property that the inverse wavelet transform also involves finite length filters. So the transform and its inverse are both represented by *banded matrices*. We provide a new factorization for all matrices (many of them far from wavelets!) with this exceptional property.

An unsolved combinatorial question about permutation matrices (banded of course) will also arise.