$\mathbf{T}_{\text{EMPLE}} \; \mathbf{U}_{\text{NIVERSITY}} \; \mathbf{M}_{\text{ATHEMATICS}} \; \mathbf{C}_{\text{OLLOQUIUM}}$ 

## Tom Lenagan

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will speak on

## Totally positive matrices

ABSTRACT: A real matrix is totally positive if all of its minors are positive. More generally, a matrix is totally non-negative if all of its minors are non-negative. Totally positive/non-negative matrices arise in many areas; for example, oscillations in mechanical systems, stochastic processes and approximation theory, planar resistor networks, etc.

This talk will be an elementary introduction to the theory of totally nonnegative matrices and the associated study of the non-negative real grassmannian.

> Monday, 4 May 2009 Lecture at 4:00 pm Coffee, tea, and refreshments from 3-5 pm Room 617, Wachman Building Department of Mathematics