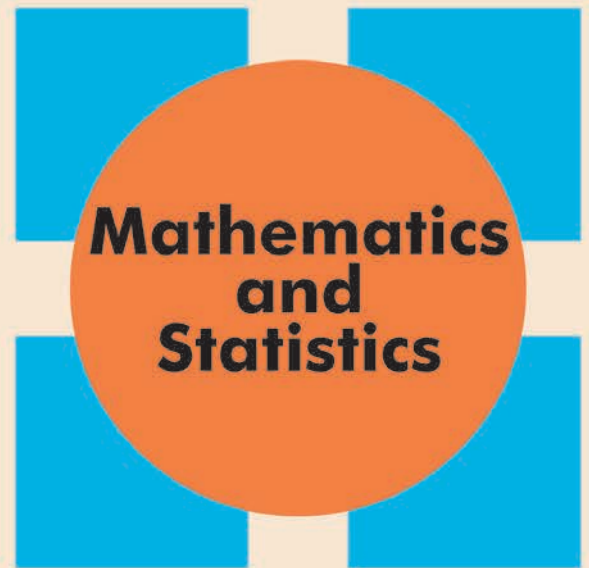


# COLLOQUIUM

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## Continuous Powers of Certain Positive Matrices



Friday, April 13, 2018; 3:30 - 4:30 PM; RI 208

**Abstract:** A matrix is called totally positive if all of its minors are positive. It is known that such matrices are closed under conventional multiplication, but not necessarily closed under entry-wise or Hadamard multiplication. On the other hand, a real matrix is called positive definite if it is symmetric and has positive principal minors. In this case, such matrices need not be closed under matrix multiplication, but are closed under Hadamard multiplication.

In this talk, I will survey existing work and discuss some current advances on continuous Hadamard and conventional powers of both totally positive and entry-wise nonnegative positive definite matrices (along with their closures), in the spirit of identifying a critical exponent in either situation, should one exist.