

# CMI Mathematics Colloquium

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## Game theory, Cones and Positive Operators

T. E. S. Raghavan

While the minimax theorem of von Neumann can be used to derive Perron Frobenius Theorem for irreducible nonnegative matrices, general minimax theorem of Ky Fan leads to Krein-Rutman theorem on the spectral properties of Positive Operators in reflexive real Banach spaces. The nature of cones play an important role in these theorems. The initial motivation for such connections came from Wald's statistical decision functions and by the works of Shiffman on war duels.