

# Department of Mathematical Sciences Colloquium

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## *Chemical Applications of the Matching Polynomial*

The Matching Polynomial (MP) is a substructure of the Characteristic Polynomial or Secular Determinant of an Adjacency Matrix. MP can be calculated by matching walks on an adjacency matrix, by a retrosynthesis of a graph or by using partial-differential edge operators on a product of vertex variables. MP has been proposed as a Reference or Acyclic Polynomial for calculating a topological resonance energy for cyclic Pi systems including fullerenes. MP has been used to correlate structure to physical properties, and to sort and identify chemical structures. The mathematics of MP has been used for ring perception.

**Friday, November 30, 2007 at 3 pm in Bell Hall 143  
The University of Texas at El Paso**

Refreshments will be served in front of the colloquium room, 15 minutes before the start of the colloquium.

For further information, please contact Dr. Pavel Solin, Bell Hall 220. Phone: (915) 747-6770, email: [solin@utep.edu](mailto:solin@utep.edu).