

**Department of Mathematical Sciences
and Bioinformatics Program
Colloquium**

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The University of Texas Health Science Center at San Antonio

*Modeling hydrodynamic properties of biological
macromolecules: A biophysical application
for distributed computing*

Our laboratory has been interested in the high resolution analysis of hydrodynamic data from analytical ultracentrifugation experiments. Data from such experiments provide insight into the dynamic interactions among macromolecules involved in the processes of the living cell, and allow their study in the solution states which most closely resemble the physiological conditions in the cell. Current studies focus on the development of parallel methods to simultaneously describe composition, molecular weight and molecular shape of heterogeneous polymer solutions. In this talk I will describe recent developments involving 2-dimensional spectrum analysis and genetic algorithms applied to this problem. Using a distributed computing approach we can solve very large problems quite efficiently and describe composition at much higher detail than was possible previously.

**Friday, October 13, 2006 at 3 pm in Bell Hall 125
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 Šolín, Bell Hall 220. Phone: (915) 747-6770, email: solin@utep.edu.