Department of Mathematical Sciences

Colloquium

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Pittsburgh Supercomputing Center

Mathematical Methods used to Identify the Sequence Features that Determine Biochemical Specificity of Proteins and Nucleic Acids.

Bioinformatics involves creating a mathematical model of a biological process in a computer program that compares the mathematical model to biological data to discover which of the data best fits the model. I illustrate this process with different mathematical and statistical models that have been used to model of discrimination among enzyme and nucleic acid subfamilies that carry out the same basic biochemistry with different partners or substrates. The talk will discuss these different mathematical techniques in terms of a physical model of biochemical specificity that distinguishes two different kinds of specificity determining interactions: those that facilitate the correct interactions and those that inhibit incorrect interactions. The talk describes the results obtained from each of the different mathematical and how they contribute to our understanding of biochemical specificity.

Friday, October 28, 2005 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 Šolín, Bell Hall 220. Phone: (915) 747-6770, email: `solin@utep.edu`.