# Department of Mathematical Sciences Colloquium

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### *From Interval Computations to Constraint-Related Set Computations: Towards Faster Estimation of Statistics and ODEs under Interval and p-Box Uncertainty*

In interval computations, at each intermediate stage of the computation, we have intervals of possible values of the corresponding quantities. In our previous research, we proposed an extension of this technique to set computations, where on each stage, in addition to intervals of possible values of the quantities, we also keep sets of possible values of pairs (triples, etc.). In this talk, we show that in several practical problems, such as estimating statistics (variance, correlation, etc.) and solutions to ordinary differential equations (ODEs) with given accuracy, this new formalism enables us to find estimates in feasible (polynomial) time.

**Friday, March 30, 2006 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`.