



Arthur Imperatore School of Sciences and Arts

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Department of Mathematical Sciences  
Stevens Institute of Technology

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*Multistage Stochastic Linear Programming  
on a Computational Grid*

Tuesday, April 12, 2005  
4:00 pm  
Morton 203

*Abstract:* We will describe an implementation of a nested-decomposition-based, multi-stage stochastic linear programming solver running on a computing platform known as a computational grid. The aim of the work is to create a "Monster Solver" capable of solving instances orders of magnitude larger than currently possible. We begin by reviewing the nested-decomposition algorithm, and then introduce the concept of a Computational Grid. Algorithmic mechanisms for dealing with the shortcomings of a Computational Grid are discussed. Computational results revealing the power of the approach and the platform will be given for an instance of a telecommunication capacity planning problem.  
Joint work with Jierui Shen.

Jeff Linderoth has research interests in the computational and theoretical aspects of large-scale mathematical optimization. He received a B.S. in General Engineering from University of Illinois at Urbana-Champaign, and M.S. and Ph.D. degrees from the Department of Industrial and Systems Engineering at Georgia Institute of Technology. From 1998-2000, Dr. Linderoth was employed with the Mathematics and Computer Science Division at Argonne National Laboratory. Prior to joining Lehigh, he was a Senior Consultant with the optimization-based financial products firm of Axioma Inc. In 1999, Dr. Linderoth was named the Enrico Fermi Scholar at Argonne National Lab, and in 2002, he was awarded the SIAM Activity Group on Optimization Prize.

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Refreshments will be served at 3:50 pm.

For more information contact Barbara Moh at [bmoh@stevens.edu](mailto:bmoh@stevens.edu) or call 201-216-5449.