



# UNIVERSITY OF TENNESSEE COMPUTER SCIENCE DEPARTMENT

## SPECIAL SEMINAR

*Speaker:*

**Roldan Pozo**

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Mathematical & Computational Sciences Division  
100 Bureau Drive  
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### **High Performance Java for Scientific and Technical Computing**

Among the many features of Java as program development platform, one of the most commonly cited shortcomings is its performance, particularly for computational-intensive codes. In this presentation we take a close look at how Java works and how it can be made to execute faster for scientific simulations and modeling. We will examine optimization strategies and bytecode transformations that generate 100% Pure Java with 2-10x performance improvement, with speeds competitive with optimized C/C++ and Fortran. We will also look at ongoing research in compiler technology and distributed computing that allow Java applications to reach supercomputing status. Finally, we will discuss activities of the Java Numerics Group, an industry-wide consortium focusing on the development high performance tools, compilers, and libraries for high-end Java applications.

Friday ~ February 22, 2002  
1:00 p.m. ~ Room 205 ~ Claxton Complex