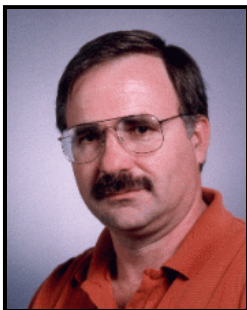


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Frontiers of Scientific Computing Lecture Series

Some Algorithmic Aspects of hp-Adaptive Finite Elements**Randolph E. Bank**

University of California at San Diego, Department of Mathematics

LSU Digital Media Center Theatre
March 25, 2014 - 03:30 pm**Abstract:**

We will discuss our on-going investigation of hp-adaptive finite elements. We will focus on a posteriori error estimates based on superconvergent derivative recovery. Besides providing both global error estimates and local error indicators, this family of error estimates also provides information that forms the basis of our hp-adaptive refinement and coarsening strategies. In particular, these posteriori error estimates address in a cost efficient and natural way the critical issue of deciding between h or p refinement/coarsening. Some numerical examples will be provided.

Speaker's Bio:

Randolph E. Bank is a Professor of Mathematics at UCSD. He studies the numerical solution of partial differential equations by adaptive finite element methods. He is also interested in multilevel and domain decomposition iterative solvers for large linear systems. Dr. Bank received his PhD in Applied Mathematics in 1975 from Harvard University. He is a recent recipient of a Humboldt Research Award, has been named a SIAM Fellow, and is author of the finite element software package PLTMG.

This lecture has a reception @ 03:00 pm