

Department of Mathematics

University of Houston

## Scientific Computing Seminar

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### Rate optimality of adaptive algorithms

Thursday, Sep. 18, 2014

1:30 PM- 2:30 PM

Room 646 PGH

**Abstract:** Four axioms (A1)–(A4) link estimators and distance functions on a set of admissible refinements together and imply optimality of a standard finite element routine on an abstract level with a loop: solve, estimate, mark, and refine. The presentation provides proofs and examples of the recent review due to C. Carstensen, M. Feischl, M. Page, and D. Praetorius: The axioms of adaptivity, *Comput. Math. Appl.* **67** (2014) 11951253 and so discusses the current literature on the mathematics of adaptive finite element methods. The presentation concludes with an overview over several applications of the set of axioms. If time permits, some recent developments are discussed on ongoing joint work with Hella Rabus on separate marking.

This seminar is easily accessible to persons with disabilities. For more information or for assistance, please contact the Mathematics Department at 743-3500.