TWENTY-SEVENTH ANNUAL

ROBERT J. MELOSH MEDAL COMPETITION FOR THE BEST STUDENT PAPER ON FINITE ELEMENT ANALYSIS

Duke University

April 29, 2016

Sponsored by
Department of Civil and Environmental Engineering
Duke University

Elsevier

and

Endorsed by
International Association for Computational Mechanics

BACKGROUND

The Robert J. Melosh Medal Competition was inaugurated in 1989 to honor Professor Melosh, a pioneering researcher in finite element methods and former chairman of civil and environmental engineering at Duke. In a professional career that included working at Boeing, Philco Ford Laboratory, and MARC Analysis and Research Corporation, as well as teaching at Rensselaer Polytechnic Institute, the University of Washington, Virginia Tech, and Duke University, Professor Melosh made significant and varied contributions to the finite element method. The Competition was established in view of this body of work, and aims to reflect Professor Melosh's dedication to the education of young engineers and researchers by providing a forum for student researchers to present their work and interact with each other and with leading researchers in the field. The winner of the Competition, as determined on the basis of a submitted extended abstract and an oral presentation of the paper, receives the Robert J. Melosh Medal and a $500 honorarium.

PAST JUDGES AND FINALISTS

A key feature of the Competition is the interaction between student finalists and established researchers that is facilitated by the Melosh Medal Symposium. Past competitions have benefited from the participation as judges of several internationally prominent researchers. A listing of past judges and finalists is available at the competition's website:

http://www.cee.duke.edu/melosh

SCOPE

Submissions are invited in all areas of finite element analysis, including theoretical development, implementational procedure, programming aspects, novel and innovative applications, and integration of finite elements into the design process. Additionally, submissions in related areas of computational mechanics (e.g., boundary elements, meshfree methods) will also be welcomed, particularly where the technical contribution of interest may be expected to enhance our understanding of finite element procedures.

Prospective topics include, but are not limited to:

- Solid and Structural Mechanics
- Computational Fluid Mechanics
- Stochastic Problems
- Geomechanics
- Mesh Generation, Refinement and Adaptivity
- Meshfree Methods
- Nonlinear Dynamics
- Scientific Visualization
- Finite Elements in CAD, CAM and CAE
- Biomechanics
- Parallel Computing and FEM
- FEM in Environmental Science and Environmental Engineering
- Hydrology and Water Resources Engineering

See reverse for Competition Format & Submission Procedure

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COMPETITION FORMAT

The Competition is conducted in two primary phases. Initially, extended abstracts are reviewed by a panel of distinguished researchers in computational mechanics. Based on this review process, the top six papers are selected as finalists. The student authors are then invited to participate in the second phase of the competition, a symposium which this year is to be held at Duke University, on April 29, 2016. The symposium features lectures by the members of the distinguished judging panel, as well as talks by all selected finalists.

SUBMISSION PROCEDURE

All papers must have as their first named author a student or a recent student no more than one year beyond graduation. It is expected that most submissions will describe Masters or Ph.D. level work; however, truly exceptional work done by undergraduate researchers will also be welcomed. Submitted papers should be in extended abstract format, three to five pages in length (including all graphics). Although the page limit will prevent presentation of extended theoretical development, enough detail should be included to allow a reasonable assessment of technical merit. If the paper is submitted via regular mail, four copies should be submitted: one with a cover page indicating title, author and affiliation, and three copies with title but no authors or affiliations indicated. For electronic submissions (preferred), only one copy of each is required. LaTeX submissions, using the Elsevier class file elsart.cls, are preferred. A current version of this file can be obtained from the competition website.

The journal *Finite Elements in Analysis and Design* devotes a special issue annually to the Melosh Competition. All student finalists and judges will be invited to prepare a full-length article describing their work for inclusion in this issue.

Key dates pertaining to the Competition are:

January 11, 2016	Deadline for Extended Abstract Submissions
February 15, 2016	Finalists Notified of Acceptance
April 29, 2016	Melosh Symposium at Duke University

All submissions and correspondence should be directed to:

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