

NINTH ANNUAL UNIVERSITY OF PITTSBURGH FRESHMAN ENGINEERING CONFERENCE

April 4, 2009

CALL FOR PAPERS

Abstracts/proposals for the Ninth Annual Freshman Engineering Conference, to be held in April, 2009, will be accepted on line in January. The deadline for the submission of abstracts will posted soon.

The Conference Paper must report on an innovation, process, product, structure, or application that the authors evaluate as being important to engineering and to society. The paper will describe, explain, and analyze relevant research and development, technologies, and problem-solving. Through their research and writing, the paper's authors will provide useful information about their topic to an audience of engineering, math, and science faculty, engineering students, practicing engineers, and other professionals.

Papers must be written in teams of two. Team members do not have to be in the same 0012 section. Although many teams may be made up of two student engineers in the same major, both members of a team do not have to be from the same major. For example, a bioengineering major and a mechanical engineering major may well share an interest in a particular topic area, and may make a very productive Conference Paper team.

Conference papers must be primarily "technical" papers, not "position" papers. Authors will describe the science and technologies applicable to their chosen innovation, process, product, structure, or application. Science and technology do not exist in a vacuum, however. Ongoing communication of the importance of the innovation, process, product, or application—to engineers, to engineering, and society—is an essential element of a complete Conference Paper.

POSSIBLE PAPER TOPICS:

- Description, explanation, analyses of a historic, current, or futuristic industrial engineering innovation, process, product, application. Possible topic areas: human factors engineering; value engineering; reverse engineering; systems simulation; motion economy; optimization; lean; six sigma.
- Description, explanation and analyses of a historical, current, or futuristic electrical engineering innovation, product, process, application. Possible topic areas: power engineering; control engineering; control systems; electronics; microelectronics; instrumentation; electromagnetism; signal processing; GPS; telecommunications.
- Description, explanation, and analyses of a historical, current, or futuristic chemical engineering innovation, product, process, application. Possible topic areas: ceramics; fuels; agriculture; agrochemicals; nutritional supplementation; industrial chemicals; coatings; inks; elastomers; fibers; food processing; pharmaceuticals; explosives; environmental technologies.
- Description, explanation, and analyses of a historical, current, or futuristic mechanical engineering innovation, product, process, application. Possible topic areas: thermodynamics; kinematics; energy conservation; cryogenics; mechatronics; robotics; mechanosynthesis; CAD; CAM; solid modeling; nanotechnology; nuclear fusion.
- Description, explanation, and analyses of a historical, current, or futuristic civil engineering innovation, product, process, application. Possible topic areas: bridges; roads; canals; dams; buildings; surveying; geotechnics; hydraulics; drainage; waste disposal; transportation.

- Description, explanation, and analyses of a historical, current, or futuristic bioengineering innovation, product, process, application. Possible topic areas: bioprocesses; biocatalysis, bioseparation bioinformatics; biomechanics; biomaterials; biomimetics; biomedical therapies; genetic engineering.

ASSIGNMENTS, EVALUATION, AND ADVISING :

Writing Instructors will provide assignments for all required steps in the paper-writing process and will evaluate all writing. Each student team will be matched with an engineering/business leader from the community and with an undergraduate engineering mentor. These business leaders and undergraduate mentors will provide Conference Paper and Conference presentation advice and support and will serve as Conference Session chairs.

Please direct all initial questions/correspondence to Dr. Dan Budny, Conference Coordinator, University of Pittsburgh School of Engineering, Pittsburgh, PA 15261, 412-624-6474, budny@pitt.edu, or to Beth Bateman Newborg, Director, English/Freshman Engineering Writing Program, bateman@pitt.edu .

ESSENTIAL CONFERENCE SUPPORT PROVIDED BY:

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