



[www.mrs.org/meetings/fall2005/](http://www.mrs.org/meetings/fall2005/)

# CALL FOR PAPERS

**ABSTRACT DEADLINE: JUNE 21, 2005**

**REMINDER:** *In fairness to all potential authors, late abstracts will not be accepted.*

## MRS Symposium G: Life-Cycle Analysis Tools for "Green" Materials and Process Selection

Analytical tools based on Life Cycle Assessments (LCA) have become widely used for the evaluation of the environmental impacts associated with the extraction of raw materials, manufacturing, use, and end of life of materials and processes. The main goal of such an analysis is to identify the sources that contribute the most to adverse environmental pollution and to provide design and manufacturing engineers the necessary information that will allow them to choose among alternative materials and/or processes.

Design for the environment combines the impact of the product on the ecology with manufacturability, environmental resistance, quality, and economic considerations. A longer product life span assists the consumer and assists in the conservation of resources. It results in a reduction of waste and a more economical approach to energy conservation and environment impact.

This symposium intends to focus on LCA methodologies and studies that address materials and processes associated with conventional technologies as well as advanced product and manufacturing systems. Life Cycle Cost analysis will also provide a broader perspective of the business value of LCA assessments. Discussions of analytical tools and software packages with emphasis on transparency and validation will be included.

The proposed topics include, but are not limited to:

- Automotive materials and processes including fuel cells
- Solar cells and photovoltaic systems
- Other energy technologies including hydrogen production
- Comparisons of energy technologies
- Electronics and nanomaterials
- Aviation and space technology
- Reviews/comparisons of analytical LCA tools and databases
- Challenges of LCA studies
- Issues related to LCA of emerging technologies
- Issues related to implementation of LCA results to business
- Streamlined LCA methods for engineering and R&D decisions
- Impact assessment based on LCA inventory results
- Use of LCA in external cost quantification
- Use of LCA in material selection and education
- Design for the environment concepts

**Invited speakers** include: **Norm Brinkman** (General Motors), **Roberto Dones** (Paul Scherrer Institute, Switzerland), **Paolo Frankl** (Ecobilancio, Italy; INSEAD, France), **Amit Kapur** (Univ. of Michigan), **Elisa Kendall** (Univ. of Michigan), **Greg Keoleian** (Univ. of Michigan), **Lester Lave** (Carnegie Mellon Univ.), **Heather MacLean** (Univ. of Toronto, Canada), **John Sullivan** (Ford Motor Co.), and **Candace Wheeler** (General Motors).

## Symposium Organizers

### Vasilis Fthenakis

US DOE EH&S Research Center  
Brookhaven National Laboratory, Environmental Sciences Dept.  
P.O. Box 5000, Upton, NY 11973-5000  
Tel 631-344-2830, Fax 631-344-4486, vmf@bnl.gov

### Trevor Harding

Kettering University, 1700 West Third Ave., Flint, MI 48504-4898  
Tel 810-762-9811, Fax 810-762-9924, tharding@kettering.edu

### Walter W. Olson

University of Toledo, Manufacturing Process Innovations Laboratory  
Life Cycle Engineering Laboratory, MS 312  
Dept. of Mechanical, Industrial and Manufacturing Engineering, Toledo, OH 43606  
Tel 419-530-8227, Fax 419-530-8206, wolson@eng.utoledo.edu

### Stella Papasavva

GM R&D Center, MC 480-106-269, 30500 Mound Rd., Warren, MI 48090  
Tel 586-986-1620, Fax 586-986-1910, stella.papasavva@gm.com

### Steven J. Skerlos

University of Michigan-Ann Arbor, Environmental and Sustainable Technologies (EAST) Laboratory, Dept. of Mechanical Engineering, Ann Arbor, MI 48109  
Tel 734-615-5253, Fax 734-647-3170, skerlos@umich.edu

For additional meeting information, visit the MRS Web site at [www.mrs.org/meetings/](http://www.mrs.org/meetings/) or contact:



Member Services

**Materials Research Society**

506 Keystone Drive, Warrendale, PA 15086-7573 • Tel 724-779-3003 • Fax 724-779-8313 • [info@mrs.org](mailto:info@mrs.org)