

# Manufacturing Research Seminar

## *Winter 2007*

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University of Michigan, Ann Arbor

College of Engineering

Refreshments Provided

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### **Paul E. Krajewski**

**Laboratory Group Manager and GM Technical Fellow for the Materials and Processes Laboratory  
General Motors Research and Development Center  
Warren, Michigan**

## *Innovations in Aluminum Forming*

The use of sheet aluminum for automotive closures and structures is limited, in part, by the lower formability of aluminum compared to conventional sheet steels. Conventional stamping of aluminum necessitates compromises in styling and shape, or requires a multiple piece assembly to achieve the same shape or functionality. As a result, novel forming technologies such as superplastic forming, warm forming, thermal hydroforming, and roller hemming are gaining interest in the industry as methods for improving formability and enabling the production of complex shapes. The present talk will review key innovations at General Motors in aluminum forming by describing technologies such as Quick Plastic Forming, Retrogression Heat Treatment, Roller Hemming, and Preform Annealing. The discussion will include current applications of these technologies as well as opportunities for additional research in these areas.

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Thursday, January 25, 2007

4:00—5:00 PM

1017 H. H. Dow Building

For More information, please call Kathy Bishar at (734) 764-3312 or email at [kbishar@umich.edu](mailto:kbishar@umich.edu)  
[http://interpro.engin.umich.edu/mfgeng\\_prog/mfg\\_w07.htm](http://interpro.engin.umich.edu/mfgeng_prog/mfg_w07.htm)

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