

THE ENGINEERING DESIGN GRAPHICS  
**Journal**

[ From the Editor ]

Winter 2005

v o l u m e 6 9 n u m b e r 1

**EDGD Officers**

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The Engineering Design Graphics Journal is the official publication of the Engineering Design Graphics Division of ASEE. The scope of the Journal is devoted to the advancement of engineering design graphics, computer graphics, and subjects related to engineering design graphics in an effort to 1) encourage research, development, and refinement of theory and applications of engineering design graphics for understanding and practice, 2) encourage teachers of engineering design graphics to experiment with and test appropriate teaching techniques and topics to further improve the quality and modernization of instruction and courses, and 3) stimulate the preparation of articles and papers on topics of interest to the membership. Acceptance of submitted papers will depend upon the results of a review process and upon the judgement of the editors as to the importance of the papers to the membership. Papers must be written in a style appropriate for archival purposes.

**Cover graphics from Nathan Hartman's article on page 6.**

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Dear Members:

The four articles in this issue approach issues in engineering graphics education from two different directions: from inside the classroom and from industry practice. By reading the articles, you will see both approaches of something to offer educators and educational practice.

The first article by Hartman attempts to understand the process of modeling better by looking at the mental model of the experienced operator and the virtual model created on the computer; each influenced by the eventual physical model the company will produce. The results of this study provides a fascinating insight into techniques used by professionals, but also what are the critical thinking skills our students need.

The fourth article by Ault and Giolas also looks at industry practices. As with Hartman, the differences found in modeling practices are a combination of external forces of software and company practice and internal decisions of strategy and habit. This article also provides a renewed look at industry standards, but for 3D models rather than 2D drawings.

The second article by Smith, et al. is the second in this Journal on an ongoing project looking at the integration of virtual reality (VR) into the engineering graphics classroom. Again, a central motivation is exploring ways to improve the visualization abilities of students so they can more effectively create and use models and drawings created with engineering graphics software. Not surprisingly, Smith is finding no easy answers when it comes to addressing the needs students with diverse abilities and interests.

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## [ Calendar of Events ]

Division: <http://www.east.asu.edu/edgj/edgd>

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### **2005 Annual ASEE Conference**

Portland, Oregon  
June 12-15, 2005  
Program Chair: Ron Pare

### **60th Annual EDGD MidYear Conference**

Fort Lauderdale, FL  
December 3-6, 2005

### **2006 Annual ASEE Conference**

Chicago, Illinois  
June 18-21, 2006  
Program Chair: Frank Croft

### **2007 Annual ASEE Conference**

Honolulu, Hawaii  
June 24-27, 2007  
Program Chair: Michael Stewart

The final article by Connolly and Maicher notes that multiview drawings and orthographic projection is still a primary tool engineering graphics educators use to help develop visualization ability. To this effort, the authors have been developing an interactive tutor to help students develop their abilities. The papers by these two authors and the one by Smith demonstrate that successful, effective technological implementation in the classroom is all in the details!

By the time you receive this issue, the Annual ASEE conference will probably have just taken place. I hope that you attended and, if you did, you were able to attend the EDGD sessions and support your fellow Division members. I plan on using the conference to find some new and exciting scholarship to publish in the upcoming issues of the Journal. See you all in Orlando for the Mid-year meeting.



## Oppenheimer Endowment Fund

Individual EDG member donations are being solicited until a target corpus is met. Several donations and pledges in the range of \$50-\$250 have already been received. If you would like to donate, write your check made out to "ASEE EDG Division," write a note for "Oppenheimer Endowment," and send it to:

**Ronald E. Barr**  
**Chair, Oppenheimer Endowment Fund Committee**  
**Mechanical Engineering Department**  
**Mail Code C2200**  
**University of Texas at Austin**  
**Austin, Texas 78712**