

PACE IN ACTION

Partners for the Advancement of CAD/CAM/CAE Education

FIRST QUARTER 2001



Unigraphics
Solutions



Welcome!

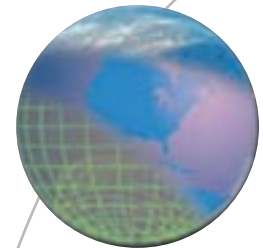
Welcome to the premier issue of *PACE In Action*, the new quarterly newsletter for all PACE Partners. This publication serves as a tool for information-sharing among all PACE Partners, both corporate and academic. We plan to publish on a quarterly basis and to post on the upcoming PACE Web site.

As Partners to PACE, your input and suggestions for this publication are appreciated and needed to make it successful. *PACE In Action* serves as a conduit for sharing information about activities taking place at our partnering institutions, as well as developments and growth in the program stemming from the corporate Partners.

With this in mind, look to this publication to be your entry into conversations and collaborations in moving toward a shared goal of furthering the advancement of CAD/CAM/CAE Education. Together, as Partners to PACE, we are committed to a program that truly raises the bar for Computer-Aided Design, Modeling and Engineering the world over. Now, we *must* communicate and collaborate to make this goal a reality. Let *PACE In Action* be a tool that works for you—an open door to a dialogue with your Partners in PACE.

Please direct all questions, comments and ideas for future articles to Sara Patel (sara.patel@gm.com), PACE Marketing Assistant and Editor, *PACE In Action*. □

Janet Wise *Robert P. King*
Claire Chapman-Moore
Laura Bernier *Sara Patel*
Tony Brune



2001 Selection Process Now Under Way

The PACE Selection Committee is currently reviewing applications from academic institutions seeking admission to the PACE Program in 2001.

To be eligible for selection as a PACE Institution Partner, certain criteria assessed within the Selection Committee must be met. Primary among the criteria is the requirement for the institution to be considered a key academic partner to a styling, engineering, or manufacturing division of General Motors.

The selection process for 2001 is now nearing completion, and the PACE Selection Committee will soon be announcing its decisions. *Watch this space* for further news about the forthcoming new PACE Institution Partners. □



Michigan State University engineering students make good use of CAD/CAM technology, hardware and training donated to the school by GM, Unigraphics Solutions, Sun Microsystems and EDS through the PACE Program.

MSU Embraces PACE Solid Modeling Technology

Since the Fall 1999 deployment of the PACE Program at Michigan State University in East Lansing, Michigan, faculty and students have been busy acclimating to the new PACE-provided software and hardware.

As a PACE participant, MSU has the opportunity to completely redesign its introductory design course, *Engineering Graphics Communications*. Once a 2-D CAD course, *Engineering Graphics Communications* now is taught using 3-D Solid Modeling, according to Bob Chalou.

"We immediately began to reap the benefits of this change with the students' ability to think 'out of the box.' They no longer need to think of a line as having an exact value of geometric and dimensional values. They now design instead of draw," Chalou said.

Michigan State has been using Unigraphics (UG) for three semesters

now, and Chalou says, "Students are excited by the possibilities." In fact, "Enrollment has increased with each semester, and this spring all sections are full," he said. "I see this as very encouraging. More and more professors are now expecting students to use UG as a tool in other courses."

Plans are in place to hold mini workshops for MSU faculty on additional fundamentals of Solid Modeling. Chalou says that these mini workshops will most likely take place during the summer break. Meanwhile, the integration of Unigraphics for the Manufacturing Engineering and especially the Product Design Programs is already in full gear.

Manufacturing has two courses devoted to Solid Modeling and Manufacturing, while Product Design has three courses—Solid Modeling, Manufacturing, and Computer-Aided Industrial Design. □

Activity Corner
Activity Corner
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The annual **UG Users Conference** is quickly approaching. This year's conference will be held May 21–24 at Disney's Coronado Springs Resort in Orlando, Florida. The conference serves as a forum for sharing experiences that build knowledge in UG use, mechanical design, engineering and manufacturing. Organizers are currently looking for representatives and presenters to discuss their experiences with Unigraphics.

For more information or to inquire about presenting at the 2001 UG Users Conference, contact Tom Quattrini at QuatT@superior-sdc.com or 716/835-8735.



Partners to PACE unveil gift of appreciation. From left to right: Dr. Gary Thomas, UMR Chancellor; Dr. Manuel Pacheco, University of Missouri-Rolla President; Dr. Robert Mitchell, Dean, UMR School of Engineering; Bob Kruse, GM Key Executive for UMR; Diane Jurgens, Develop Product Information Officer, Car, GM IS&S; Willard Richart, Director-Automotive, Sun Microsystems; Todd Taylor, Client Executive, GM Global Engineering, EDS; George Peters, Director, Aerospace Region, Unigraphics Solutions; and Jay Wetzel, VP and General Manager, GM Technical Centers.

University of Missouri-Rolla (UMR) Presents Sculpture to PACE Program

Industry and Academic Partners to the PACE Program unveiled a gift of appreciation presented to PACE at the University of Missouri-Rolla on October 13, 2000. Titled the *Millennium Arch*, it is a replica of a well-known work of art which resides on the UMR campus. The *Millennium Arch* was created by artist Edwina Sandys, the granddaughter of Winston Churchill.

The craftsmanship, representing a fascinating marriage between art and engineering, utilized high-pressure waterjet technology pioneered at UMR.

Twenty thousand pounds of water were focused to 1/38,000th of an inch to free the cutout shapes of a man and woman without destroying the outline.

"In *Millennium Arch*, the granite, only recently quarried from its billion-year-old Missouri birthplace, symbolizes for me the past; the cutouts provide space for the future; and the standing figures represent humanity," Sandys said.

"All of the PACE Partners received a replica of the *Millennium Arch*," said Bob Kruse, Executive Director-Powertrain and Vehicle Integration. "It not only

PACE INSTITUTIONS



ITESM
Campus Toluca

MICHIGAN STATE
UNIVERSITY

MichiganTech

University of Missouri-Rolla
UMR

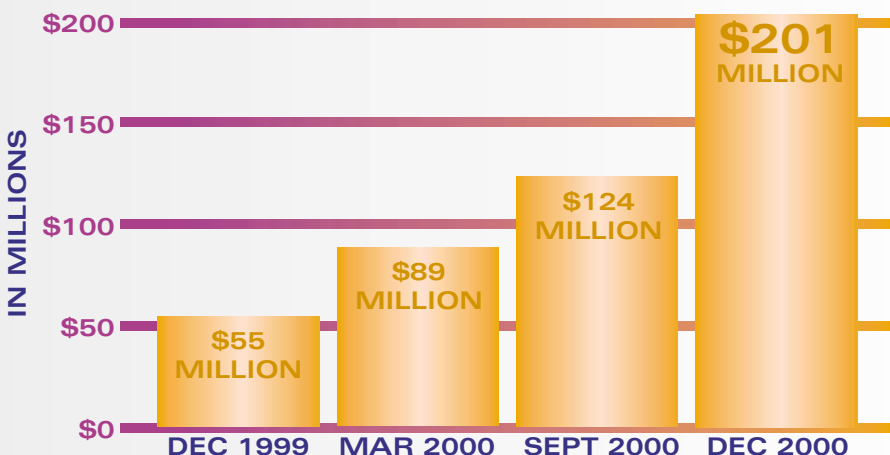
January 2001

represents the original on campus, but also just how important this initiative is between the PACE Partners and the University of Missouri-Rolla."

Kruse, the GM Key Executive for UMR, says he believes that many additional related activities between the partners and the university will now be enabled by providing the technology.

"It is also my hope that our relationship will have the same type of longevity the Red Granite represents," he said. □

PACE DONATIONS TO DATE



Since its inception in 1999, the PACE Program has donated \$201 million worth of computer-aided design, manufacturing, and engineering software, hardware and training to academic institution in North America to integrate 3-D Solid Modeling into their curricula.

Recipient institutions thus far include Michigan Technological University, Michigan State University, Instituto Politecnico Nacional (Ticomán, Mexico), Instituto de Estudios Superiores de Monterrey (Toluca, Mexico), and the University of Missouri-Rolla. Additionally, 14 institutions in the U.S. were provided with an introductory program to give their faculty an opportunity to preview the software. □

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PACE-Affiliated Faculty Learn Ropes of UG



Adelaido Matias, a professor from Instituto Politecnico Nacional (IPN, located in Ticoman, Mexico), receives assistance from General Motors University Unigraphics Instructor Rob Donohoe. Matias and four other faculty members from IPN came to the GM Knowledge Center in Warren, Michigan, for PACE-sponsored Unigraphics training in November 2000.

Coming up in *PACE in Action*...

■ ADAMS/Solver, NASTRAN Coming to PACE Institutions

The PACE Industrial Partners serve to meet the solid modeling needs of the PACE Institutions. Two institutions requested the addition of ADAMS/Solver and NASTRAN to better meet curriculum needs. As a result, PACE will provide those software packages to all current and future PACE institutions. Look for details in the next issue of *PACE In Action*.

■ 2001 Academic Partner Deployments Announced!

PACE In Action will announce the new PACE institutions as they are deployed.

■ Global Expansion of PACE

■ PACE Institution Faculty Member Designs New Courseware

Michigan State University Professor Bob Chalou will share his experience of creating a textbook designed for use with Unigraphics software.

Look for the next issue of *PACE in Action* in April 2001!

PACE

Partners for the Advancement of CAD/CAM/CAE Education

We welcome your comments. Please send questions, comments, and article suggestions to Sara Patel, PACE Marketing Assistant and Editor, *PACE In Action*, GM Knowledge Center, MC 480-303-110, 6442 E. 12 Mile Road, Warren, MI 48090-9000; e-mail: sara.patel@gm.com; phone: (810) 947-2386; fax: (810) 947-2715.