Rensselaer keeps PACE

Designation sets Institute among 36 universities worldwide

$514 million PACE contribution is the largest initial contribution in PACE history and largest in-kind contribution in school history

With Rensselaer President Shirley Ann Jackson following the PACE Announcement are: (l to r) Ed Arlin, executive vice president, UGS; Larry Burns, vice president, GM and leader of the PACE PARTNERS delegation; Jim Gutting, GM key executive for Rensselaer; Dean Alan Cramb, School of Engineering; Dudley Smith, GM Design Engineer; Hulas King, director, UGS and PACE Core Team Speaker; John Farnsworth '06, graduate student speaker; Dhiren Marjadi, Altair; and Jim Nielson, client delivery executive, EDS.

Only the most elite universities have received the honor. Now Rensselaer has as well—and the effects will transform its students into the innovators that tomorrow's industry needs.

PACE

Partners for the Advancement of Collaborative Engineering Education

This September, the Partners for the Advancement of Collaborative Engineering Education (PACE)—an industry group that includes GM, UGS, EDS, and Sun Microsystems—named Rensselaer a PACE Institution. Schools with the designation receive hardware and software from PACE to turn the next generation of engineers, designers, and managers into the product lifecycle management team of the future.

With the honor, Rensselaer joins such PACE Institutions as MIT, Purdue, Virginia Tech, Brigham Young, and Georgia Tech.

"We have been selected to take our place among a prestigious group of academic institutions from around the world," said Mark Steiner, Rensselaer's director of core engineering and the O. T. Swanson Multidisciplinary Design Laboratory (MDL). "Our engineering students will have some very sophisticated and technologically advanced software tools that will provide practical insight into solving challenging, complex, real-world engineering problems."

Every corner of the Rensselaer community can find use for PACE software. Mechanical engineering students, for instance, will use PACE tools for solid modeling, kinematics simulation, finite element modeling, and computational fluid dynamics. A Web-based product development environment can help students and faculty collaborate far more efficiently than with traditional communication tools. The program Alias provides sketching and rendering functions for students in engineering, architecture, and the arts.

Many of these tools have already made an impact at Rensselaer. PACE software played a prominent role in the MDL's morphing wing project, sponsored by Northrop Grumman. The Manufacturing Processes course is using the machining module of NX3, a solid modeler, in a PACE design competition.

For Rensselaer, the PACE honor had its roots in one of the best-known MDL projects, in which a group of students came up with a Gen Y feature package for GM's Saturn Ion. "We knew going into this project that it could be a stepping stone to the PACE designation," Steiner said. "Our students were very successful in proposing creative, yet practical, ideas that GM could use. This clearly impressed our partners at GM, for the project led directly to a request for proposal to become a PACE Institution."

Among all those who were critical to Rensselaer's PACE program, Steiner cited two as exceptional contributors. "Jeff Morris (the School of Engineering's CAD/CAM/CAE technical manager) is the technical lead on the program; his tireless efforts gave us the confidence to use NX4 for all incoming students. And Junichi Kanai (MDL associate director) played an invaluable role in evaluating software and implementing several projects. His proposal to use NX4 in our Introduction to Engineering Design course was awarded a $20,000 PACE grant."

The impact of the PACE designation is hard to overstate, according to Steiner. "The software tools can be used to design, analyze, and build complex systems, like automobiles and airplanes, in less time and at less cost than more conventional methods. In the MDL, that will allow us to take on even more challenging problems with our global partners. And most important, it will prepare our students to become the 'engineers of 2020.'"

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SAE Formula Car team members (back l to r) Dane Kouttron '09, Matthew Gorini '09, (front l to r) Kevin Chavin '08, 'Billy" William T. Ziomek '07 display how the use PACE software in the design and development of the formula car.

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