

New Leadership

This year, the Department of Mechanical and Aerospace Engineering (MAE) underwent a change in leadership with the resignation of longtime chairman, Don Lyons. During his 17-year tenure, Dr. Lyons served as the leader and inspiration for building the MAE Department into one of the most productive units in the college. He will remain part of the MAE family as director of the National Research Center for Alternative Fuels, Engines and Emissions.

Ever Barbero, a 13-year veteran with the Department, has been named the new department chairman. Larry Banta is assisting him as the associate chairman for undergraduate studies and outreach, and Jacky Prucz is serving as associate chairman for graduate studies. The new administration looks forward to building an even stronger and more vibrant program.

Faculty Honors

Year after year, the University community has recognized the dedication and achievements of MAE Faculty—and 2001-2002 was no exception. Ismail Celik was selected as one of only three professors throughout WVU to receive the 2002 Benedum Distinguished Scholar Award. The Benedum Award recognizes faculty for sustained excellence in research, scholarship, and creative endeavors. Dr. Celik's work in computational fluid dynamics is recognized internationally as being world-class research. Also this year, Larry Banta was named a 2002 WVU Foundation Outstanding Teacher. Each year, the WVU Foundation selects six faculty members from the university's 1300 full-time professors. The award is based on demonstrated effectiveness and creativity in teaching over a multi-year period.

Mridul Gautam was named this year's Researcher of the Year for the College of Engineering and Mineral Resources. The award is the College's most prestigious award for faculty research. In teaching, the MAE Department claimed two of the six college level awards, as both Jacky Prucz and Samir Shoukry were named Outstanding Teachers for 2002. The 2002 Academy of Distinguished Alumni Award for Excellence in Teaching went to Marcello Napolitano.

Academic Enhancements

The Department continues to develop an innovative curriculum that attracts talented and diligent students. Enrollment this year increased to 304 undergraduates and 145 graduate students. A record 155 students have selected the dual major option at this writing.

MAE has instituted some major curriculum revisions. The ME sophomore design course was updated to become an Introduction to

Mechatronics. The course teaches students to integrate sensors, microprocessors and "smart" components into mechanical designs. An advanced mechatronics course is given in the senior year, as is an entire semester of automatic controls. CAD and FEA became required topics in the ME curriculum. Thanks to a generous gift from the estate of Bernard L. Judy, major improvements in the laboratory space and in equipment for most of the undergraduate labs are being made currently.

The Aerospace Engineering curriculum has been similarly streamlined and modernized. The total number of credit hours was reduced, and courses were added in control theory and space flight/space systems. Material on composites was added to the structures course, and CAD/FEA are now integrated into the AE program as well.

MAE maintains a national reputation for its undergraduate design classes by its successes in national student competitions. As part of the International Design/Build/Fly Competition, the Department of MAE took two teams to Wichita, Kansas. WVU's "Phastball" placed third among 43 teams while the undergrads' entry "Daedalus" placed 15th. WVU's modified Ford Explorer, the Exclaim!, placed first in off-road hybrid performance and sixth overall during the 2002 Future Truck competition, a nation wide contest that helps redefine how industry, government and students can work together to develop more energy-efficient technologies for SUVs and light-duty trucks.

Nearly 500 college students from the eastern United States, Canada, and Mexico converged on WVU's campus for the Mini Baja East competition. Forty-seven teams from the United States, Mexico, and Canada enjoyed three days of all-terrain vehicle competition with WVU having two entries. WVU's cars placed 15th and 24th out of 49 cars in that competition. The team then traveled to the Midwest competition, where they placed 39th out of 129 entries. The 2002 SAE Mini Formula team had a disappointing year, finishing near the middle of the field of 137 teams in acceleration, skid pad and autocross. A bright spot was the cost report, which judges said was among the best. The endurance race was rained out, and the overall team place was 106th.

Over the past several summers, Victor Mucino has helped to extend MAE's reputation to Mexico by taking teams of

students south of the border. This year he took the largest student group ever as part of MAE's Industrial Outreach Program. The six-week program teams WVU students and Mexico students together for a professional engineering and cultural experience. Several students in the group were past attendees who wanted to repeat the experience.

Another Record Year for Research

Research expenditures for fiscal year 2001-2002 were \$6.95 million: an increase of nearly \$600,000 over last year's figures. Average expenditures per full-time faculty member were about \$278,000 this year, placing the Department in the top 25 ME departments nationally. MAE's traditionally strong program in automotive research was complemented by growing programs in a broad range of topics including computational fluid dynamics, aircraft control, bioengineering, materials science and energy management.

Dr. Robert Snyder inducted into ADA Mechanical Engineering alumnus Robert Snyder, who led a long and distinguished academic career, was inducted into the Department's Mechanical Engineering Academy. Dr. Snyder earned a Ph.D. in Theoretical and Applied Mechanics from WVU in 1965. He taught at WVU from 1965 to 1975, and served as dean of the College of Engineering at University of North Carolina at Charlotte from 1977-1999.



Ever Barbero
Chairman