

Gifts from Alumni, Corporations Play Important Role in Improving AAE Department

—letter from Diane Jeffers, AAE's coordinator for external relations

Consider this:

- More than 125 freshmen and transfer students will enter the AAE Department this fall (a fourth year of increases).
- This year, five faculty members have been recognized by the College of Engineering and AAE students for their excellent teaching.
- Research funding is now at \$3.3 million per year.
- The department is ranked in the top ten for aerospace engineering education.

In all these successes, individual and corporate gifts have played an important role. They are used to provide opportunities and facilities that contribute toward the high-quality education of future aerospace engineers.

Undergraduate research. In fall 2000, AAE is establishing a program of undergraduate research. This program will provide grants of \$1,000 per year to undergraduate students conducting research projects. The goal is to provide students with opportunities and resources for research, which in turn better prepares them for the workforce. AAE will begin with five awards, with an eventual goal of ten awards per year, so that they become a part of the "culture" for upper-level students.

Undergraduate projects. AAE students are involved in three annual projects for which they completely rely on the support of alumni, friends, and corporate sponsors: the Design/Build/Fly (D/B/F) Competition, the Cetan Hydrofoil, and the Float'n Illini.

- AAE students have entered a Design/Build/Fly competition for the past six years. The first two years were SAE (Society of Automotive Engineers) competitions, during which they won a first place. For the past four years, AAE student teams have entered the AIAA Student Design/Build/Fly Competition. The AAE team took first place in the first year of the competition and third place this year (see *D/B/F story this issue*). From early fall semester through the competition in late April, students devote many hours of their own time toward the D/B/F project. The team participates in all three phases of the competition—report, construction, and flights. And each year, student interest has increased. Student participation has nearly doubled since the first team was formed.
- Cetan II is a monocoque with a design speed of 20 knots (see *update in this issue*). One of the team's goals is to beat the current human-powered watercraft speed-record of 18.5 knots. Since its inception in 1997, more than 30 students from aeronautical and astronautical engineering, materials science and engineering, mechanical and industrial engineering, and theoretical and applied mechanics have worked on the Cetan project.
- The Float'n Illini was 1 of 45 teams selected to participate in NASA's Reduced Gravity Student Flight Opportunities program in March 1999. In that competition, the Illinois team tested a project exploring the effects of microgravity on the flow characteristics of immiscible fluids in NASA's KC-135.

Illinois fielded two teams this year, and both were selected to fly; one team conducted further immiscible fluid experiments and the other focused on sonochemistry at zero-G (see *update in this issue*).

Graduate student recruitment. A key focus for our department is recruiting and retaining domestic students for graduate study. With our robust economy, the competition for graduate students is intense. Moreover, some of our government-funded research programs require domestic graduate students. As a result, we rely increasingly on fellowships to recruit graduate students. In order to attract the best and the brightest, these awards are typically \$5,000-\$10,000 per year per student.

Faculty and facilities. Faculty member retirements and research expansion are leading to changes and an increase in the number of AAE faculty members. Individual and corporate gifts have assisted the department in providing needed equipment for teaching and research laboratories. As gifts become available, aging equipment will be replaced.

There is fierce competition for outstanding faculty members among engineering institutions. Endowed chairs and professorships are key to retaining excellent professors and to attracting new members. A yet unrealized goal is to have a chair or professorship based in the department.

Gifts from alumni, friends, and industry have made a difference. Thank you for your past and continuing support.

HERE'S HOW TO SUPPORT YOUR ALMA MATER

In support of high-quality education in the Department of Aeronautical and Astronautical Engineering, enclosed is my gift of:

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I have enclosed a check in the above amount made payable to:

UIF/AAE unrestricted fund (lab improvements, student activities)

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AAE MEDICAL SCHOLAR RETURNS FROM JAPAN SOJOURN

Chet Hammill, '96, returned to Japan for the second time in 1999, seven years after he spent a summer there as a University of Illinois exchange student. He was a participant in the National Science Foundation's (NSF) 1999 Summer Institute, returning to Urbana after a two-month stay in Japan. After spending a fortnight in Tsukuba to learn Japanese, he was attached to the National Aerospace Laboratory of Japan's Science and Technology Agency in Tokyo.

The NSF has been offering this program since 1990, working with governmental agencies in the respective host countries to implement three summer institutes, two to Japan and one to Korea. The program, which supports about 60 students a year, is designed to give U.S. graduate students in science and engineering a taste of how research is done in these countries and to foster working relationships with future colleagues.

"I spent most of my time working on an experimental set-up for CO₂ reduction," Hammill explained of his time in Tokyo. In his application for the Summer Institute, Hammill had proposed research that had a bearing on his future specialty,

advanced life support systems. "Unfortunately, because of a few technical difficulties (mainly a bad temperature sensor that had to be reordered), I wasn't there quite long enough to see it run 100% successfully." However, he said he did get the opportunity to tour many Japanese facilities and was introduced to a lot of the ongoing research, a main focus of the Summer Institute. "I even got a tour of the new Japanese astronaut training facilities," he said.

Hammill said his trip was a success as far as "learning about all the research going on in the field of closed life-support systems. The actual research part of the program was interesting but there wasn't really enough time to accomplish anything substantial." On the personal level, Hammill said his adjustment to Japan after a seven-year absence was good. He arrived in the country a little early and was able to reconnect with his host family from the 1992 trip. Currently, Hammill is enrolled as AAE's first entrant to the university's Medical Scholars Program, working toward a combined doctorate in AAE and medicine. He has just completed his second year of medical school.

UPCOMING EVENTS

- September 15–17, 2000. Alumni Reunion Weekend 2000. Class years relevant to AAE are 1950, 1960, 1975.
- October 14, 2000. Homecoming; Illinois vs. Iowa. The theme is “Got Illinois?”
- January 8, 2001. AAE reception at the 39th AIAA Aerospace Sciences Meeting in Reno, Nevada. Look for further details in our alumni newsletter later this year (Vol. 2, #2) or contact Diane Jeffers, dejeffer@uiuc.edu, 217-244-8048.

ATTACK PLANE PIECES INCLUDED IN MUSEUM EXHIBITION

Several composite pieces of a U.S. Navy A-12 were included recently in an exhibition at the Krannert Art Museum at the university campus at Urbana-Champaign. The pieces from the attack plane, also known as the “Avenger II,” were collected from faculty member Scott White’s lab for *Wunderkammer*, subtitled “a chamber of curiosities celebrating the richness of several campus collections.” The exhibition ran from September 18, 1999 to February 20, 2000.



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