

Project Team Activities in the Sibley School: Benefits and Costs

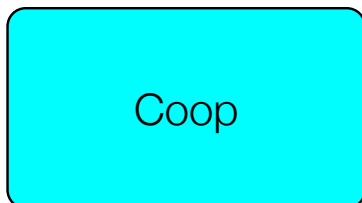
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Experiential learning within the Sibley School



MAE	127
ECE	62
CBE	39
CS	34
ORIE	21



	FY09	FY10
MAE	28	16
ECE	18	7
CBE	19	11
CS	10	3
ORIE	18	14

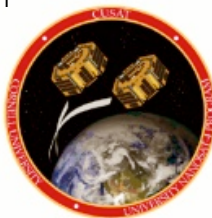


Design	16
Research	25

Benefits for students

- Apply “classroom” knowledge to design, build, and test a system, often to enter a national or international competition
- Startup company atmosphere: students run all aspects (management, design, fabrication, budget, fund raising/promotion)
- Interdisciplinary
- Unstructured (minimal faculty oversight -- good or bad?)

Benefits for school, college and university



2007 Champs!



- Prestige (AUV 2009 champs)
- Visibility (Solar Decathlon)
- Research platform
- Undergrad and MEng recruiting
- Alumni Engagement



CBE Team
ChE Car
2008 Champs!

Good press...

ONES TO WATCH

Every other month, *Unmanned Systems* takes a look at especially promising students or student teams entering the world of unmanned systems. Many will have taken part in one of AUO's student competitions, where they proved their aptitude with cutting-edge technology. All of them are worth getting to know.

Cornell University took first place in the 2009 Autonomous Underwater Vehicle Competition in San Diego, Calif. Team leader Erin Fischell helped guide the 30-person team to the top spot, which it last held in 2003.

Erin Fischell

Born: Red Bank, N.J., 1987

Academic Status: Senior, Mechanical and Aerospace Engineering, Cornell University

How She Got Interested in Unmanned Systems: My junior year in high school, the robotics club switched from doing FIRST robotics to doing the MATE ROV [remotely operated vehicle] competition. One of my friends was going to be team captain and asked me to join the project to help out. We built our first ROV that year and won the national MATE ROV high



Cornell Auto X-Prize Team: From Mule to Frankenstein-Style Aerodynamic Hybrid

The Progressive Automotive X-Prize has thrown down the gauntlet—offering \$7.5 million for a fast, affordable 100-mpg automobile—and Cornell University students are facing the challenge. We have been following the group, one of only two University-led teams, from the beginning, and have seen some major changes and advances along the way. Since our last posting on the team, the now 90-person-strong crew of undergraduate and graduate students has shed its mule, and the engine has moved into a new home.

By Lauren Cahoon
Published on: April 17, 2009



Cornell University Silo House at Solar Decathlon 2009

To see how the newest innovations in solar power and energy efficiency can be incorporated into homes, we headed down to the Solar Decathlon on the National Mall in Washington, D.C. The competition, run by the Department of Energy (and sponsored in part by *Popular Mechanics*), pits 20 college teams against one another in a showdown of architecture and engineering.
Published on: October 14, 2009



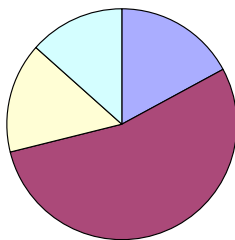
Cornell University's Silo House involved a team of landscape architecture students as well as engineers. After the Decathlon ends, the house will be on sale for \$170,000 (prairie grass not included).

Cornell's Solar Decathlon entry looks less like a cutting-edge, high-tech home than like a cluster of rusted grain silos. In reality, it's both—an unusual combination that somehow comes across as a compelling and indulgent place to live. "One of our main goals was to take a new look at what a Solar Decathlon house could be," says student leader Chris Werner, a graduate student in architecture. "We're a land grant school, and there are grain silos all across upstate New York." The result of their reimagining: What Werner calls an agricultural-industrial aesthetic.

Popular Mechanics Articles

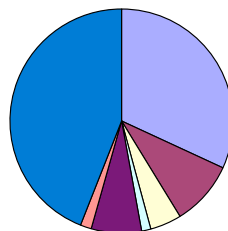
Funding Breakdowns

Project Team Funding by Source 09-10 - Total \$186,939



- Corporate
- Alumni Gifts
- Endowment Inc
- Dept Operating

Project Team Funding by Dept 09-10 - Total \$186,939



- MAE
- ECE
- CS
- ORE
- CEE
- CBE
- College

Infrastructure

- Experiential Learning Lab (ELL) in basement of Upson and equipment
- High Volt Lab (HVL)
- Leadership training (Cornell business practices; safety; travel; risk management)
- Student training on equipment (monitoring of certification; developed database for this purpose)
- Computing facilities (Taylor Design Studio; Swanson Lab; Emerson)
- Emerson Manufacturing Teaching Lab (machine shop, metrology, welding...)
- Personnel to monitor and assist students (leadership: Matt Ulinski; 1/3 of an Administrative Assistant; 1/3 of Accounting person)

Faculty time and energy



development of systems engineering

Al George



Raff D'Andrea
4 Robocup championships
Kiva Systems



Mason Peck
Satellite researcher; has clean room infrastructure

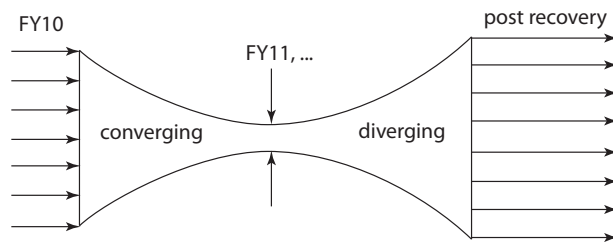


Ashutosh Saxena
Computer Science
Vision systems research



Matt Ulinski and Zellman Warhaft
Passionate about sustainability

Moving forward in a tough economy....



- Retain top performing teams at all cost
- Focus on teams with active advisors
- Portfolio management
- Use teams to help recruit women and URM

Discussion

- How important is the type of learning that takes place on Project Teams to our curriculum and to work in the corporate world?
 - * Is project team experience considered a plus in hiring?
 - * What aspects of the experience do you consider important?
 - * How could we teach those aspects in our normal curriculum?
- How do we sustain funding for these teams?
- What criteria would you use to be more selective about the number of teams?