

## Coming Soon: Solar Powered Computing at 407 South Craig Street!

*Carnegie Mellon receives grant for solar powered computing project*



407 Craig Street

The PA Department of Environmental Protection announced its 2004 round of Energy Harvest grants, with Carnegie Mellon making the list. This State initiative leverages private funds to promote advanced energy technologies proven to generate jobs, improve air quality, preserve land, protect watersheds and enhance energy security.

The \$88k award, plus matching funds, will go toward installation of a solar photovoltaic demonstration system. This photovoltaic system will be the largest known in the City of Pittsburgh. The project is titled Solar Powered Computing: Another Community Supported Design for a Sustainable Future. The project proposed is part of an existing renovation at 407 S. Craig St. The system represents 16,833 kWh less fossil fuel-based electric generation from the local electric supplier and over 31,600 pounds of greenhouse gases (GHG) avoided annually.

The School of Computer Science and Facilities Management Services have joined forces for installation of a 12 kW-DC solar PV array. Green Practices is considered the coordinating entity of the Solar Powered Computing project.

For more information contact Bradley Hochberg at [bradh@cmu.edu](mailto:bradh@cmu.edu)

### What Are Photovoltaics?

Photovoltaics literally means "light-electricity." "Photo" comes from the Greek word "phos" meaning "light" and "volt" from Alessandro Volta, a pioneer in the study of electricity. Photovoltaics is the direct conversion of light into electricity at the atomic level. All of the energy stored in the earth's reserves of coal, oil, and natural gas is matched by the energy from just twenty days of sunshine. At the time this sunshine reaches the earth's surface, the energy in sunlight is about 342 watts/m<sup>2</sup>.

Some materials (semi-conductors) exhibit a property known as the photoelectric effect that causes them to absorb photons of light and release electrons. When these free electrons are captured, an electric current results that can be used as electricity. A basic photovoltaic cell, also called a solar cell, is made of these semiconductor materials, such as silicon. The electricity from these cells can be used to power a load, such as a light, a pump, or computer equipment.

### Henderson Certified As Silver LEED

On December 28th the University was notified that our Henderson House reconstruction project has been certified as LEED, Leadership in Energy and Environmental Design, Silver by the USGBC with 33 points!



Henderson House

## Greening Education

*Classes for the green minded*

### EAC Initiative

The Environmental Across the Curriculum (EAC) initiative is designed to enable students to develop an ethic of environmental care as they begin their careers, helping them to play leadership roles in sustainable development. Approximately 30 courses in all seven colleges are participating. For more information contact Cliff Davidson or visit the web site at [www.ce.cmu.edu/GreenDesign/gd/Research/inova.htm](http://www.ce.cmu.edu/GreenDesign/gd/Research/inova.htm)

### Greening Undergraduate Education

The Greening of Early Undergraduate Education is a project funded by the Luce foundation. Several freshman and sophomore courses are participating in this initiative. This project is also creating a space on campus for a small library. The space will be located in the Old Student Center, 277A. The space will hold environmental resources such as books, articles and videos. You can find out what resources are available at [www.cmu.edu/education/greening/](http://www.cmu.edu/education/greening/)

### Hamerschlag Hall Living Roof Update

The green roof design phase is underway with help from students on the green roof team and a class taught by Bob Bingham, Art. The instrumentation team has started the baseline rainfall monitoring as the roof will be monitored for storm water management capabilities. Completion date for the roof is summer 2005.

### Also In this Issue:

- Environmental Artist Call
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- Upcoming Events
- Recycling News

*"The Green Practices Committee will strive to develop university practices that improve environmental quality, decrease waste, and conserve natural resources and energy, thereby establishing Carnegie Mellon as a practical model for other universities and companies."  
Learn more at [www.greenpractices.org](http://www.greenpractices.org)*

## Art and Education

*SEER funds art installation, green lecture*

### Call For Environmental Artists

Through a generous gift from the 2004 Steinbrenner Institute for Environmental Education and Research (SEER), funds are available to support environmental art projects on campus. A request is open to all faculty, staff and students for art that will be installed on the interior first floor of New House.

Artists' materials must be made of found, natural or environmental materials or the art must portray some inspiring message about the environment in which we live. Projects may be done individually or in groups.

Submission guidelines:

- Cover page with/ name(s) and contacts
- Resume
- Maximum one-page statement describing the project (size, rationale, etc.).
- A detailed, itemized budget for the project expenses (\$1000 maximum).
- Image(s) of the proposed work.

To apply for this funding, please submit hard copies of the above by February 27 to Barbara Kviz, Co-chair, Green Practices Committee, Facilities Management Building. Email: [bk11@andrew.cmu.edu](mailto:bk11@andrew.cmu.edu)  
If you have questions about the proposal process, please email Bob Bingham at [bbigwitz@andrew.cmu.edu](mailto:bbigwitz@andrew.cmu.edu)  
For more information about New House, contact House Fellow M. Shernell Smith, at [mssmith@andrew.cmu.edu](mailto:mssmith@andrew.cmu.edu)

### March 21st Distinguished Lecture Series

Environmental Science, Technology, and Policy presents "Transportation for Sustainable Campus Communities"  
Will Toor, Director

U. of Colorado Environmental Center  
Former Mayor of Boulder, Colorado  
Monday, March 21, 2005 @ 4:30pm  
Adamson Wing, Baker Hall 136A  
Carnegie Mellon University  
Reception to follow lecture.

## Examining Your Trash

*The results of two initiatives to reduce waste*

### Trash Sort '05

For the second year, Green Practices held a trash sort on the Cut. Students, FMS workers and a representative from Pittsburgh Recycling Services worked together to examine what our campus is throwing away. Bags of trash were collected from buildings all over campus and brought to the cut. Campus Environmental Coordinator, Barb Kviz and Connie Thomas, from Pittsburgh Recycling Services, sorted through the mess, pulling out recyclables and discarding the trash. Students weighed the bags of trash and recyclables, recording data for analysis. In the end, over 36% of the sorted trash was recyclable. Recycling interns will target the weakest areas in the coming months in an effort to improve our numbers for next year.



*Trash Sort 2005 volunteers in action*

### HWW Collection '04-'05

The SW PA Household Hazardous Waste Collection Task Force would like to thank its 2004 sponsors and partners for a great year, as 272,000 pounds of household hazardous waste was collected from five events in the Pittsburgh Region. Carnegie Mellon is a partner in the project and the Steinbrenner Institute for Environmental Education and Research (SEER) was a sponsor for 2004. For a complete recap of last year's activity and a schedule of 2005 events please visit the web site at [www.swpahww.org](http://www.swpahww.org)

## Recycling and Green News

*Recycling news, CNG vehicles update*

### Recycle Pizza Boxes, Magazines and Ink!

- Pizza Boxes can now be recycled in our cardboard mix
- Magazines can now be recycled in our office paper mix
- Toner, Ink jet and Laser cartridges can be sent in campus mail to FMS Recycling or dropped off at the following on-campus locations: UC Recycling Center  
Hunt Library  
CEE, Porter Hall 107  
EPP, Baker Hall  
Mellon, 3rd floor Store Room  
Cyert, Computer Store hallway  
Tepper School, rear entrance  
Pittsburgh Technology Center

### Recycle Mania 2005

Recycle Mania is a recycling contest sponsored by the National Recycling Coalition and College and University Recycling Council. This event provides students with a fun, proactive activity in waste reduction while increasing awareness of campus recycling. The university that recycles the most wins.

In 2004, Carnegie Mellon finished 6th out of 17 participating universities. Carnegie Mellon will be one of approximately 50 participating schools in Recycle Mania 2005, which begins on January 30, 2005, and runs through April 9, 2005. The EPA Waste Wise program will host the web site this year and post up to date results and information about each participating school. Learn more at [www.recyclemaniacs.org](http://www.recyclemaniacs.org)

### Green Vehicles Update!

After a study by the Green Design Institute, the University has decided that CNG vehicles will be phased out of our fleet of vehicles and electric, bi-fueled, ethanol, bio-diesel and hybrid powered vehicles will be purchased.