



Al Gore Challenges Graduating Class

Steinbrenner Institute Faculty Director David Dzombak Reflects on Commencement

Former Vice President and 2007 Nobel Peace Prize awardee Al Gore visited Carnegie Mellon on May 18 to present the commencement address to a large crowd in Gesling Stadium. His visit was much anticipated by the campus community, and represents a milestone in the continuing advancement of environmental education, research, and practice at Carnegie Mellon.



Lowell Steinbrenner, Al Gore, Edward Rubin, and Dave Dzombak

Mr. Gore was introduced by Provost Mark Kamlet and President Jared Cohon, who conferred on Mr. Gore an honorary degree Doctor of Humane Letters, and by Professor Ed Rubin. Dr. Rubin, Alumni Professor of Environmental Engineering and Science, and Professor of Engineering & Public Policy, and Mechanical Engineering, was a co-recipient of the 2007 Nobel Peace Prize along with about 450 other scientists and engineers who served on the Intergovernmental Panel on Climate Change and shared the Nobel award with Mr. Gore. In his introductory remarks, Dr. Rubin noted Mr. Gore's links with and contributions to the environmental efforts at Carnegie Mellon.

"By my count, today is Al Gore's third visit to the Carnegie Mellon campus. The first was in April 1992, when then Senator Al Gore gave the keynote speech at a symposium here to honor the late Senator John Heinz, and inaugurate the newly named Heinz School of Public Policy and Management. It was a truly spell-binding talk about the threat of global warming—passionate, eloquent, and powerfully well-informed.

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Solar Boating

Behind two story windows in Hamburg at Carnegie Mellon, undergraduate students from across a variety of disciplines have come together to build a boat. The effort is called Carnegie Mellon Solar Splash (CMSS) and it is part of a national competition to build a solar boat. The purpose of CMSS is to raise public awareness of alternative fuels, especially solar power.

In typical Carnegie Mellon fashion, the effort brings together a multitude of specialities. Engineers work on designing a feasible solution. Designers develop public communication and marketing materials for the team. Business students market and raise money to support the team in all its actions.
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Project: Sustainable Campus

In conjunction with the University's Green Practices committee, Professors Paul Fischbeck and Scott Matthews developed an Engineering and Public Policy project course designed to benchmark sustainability on college campuses across the country and make recommendations to increase Carnegie Mellon's sustainability. The below is excerpted from the course's draft final report...

Institutions and campuses are increasingly focusing on environmental and sustainability issues in response to climate change and related ecological concerns. Such actions are diverse and range from signing commitments for greenhouse gas emissions reductions to adding sustainability courses to the curriculum. Best practices for identifying areas of significant impact and ideal decision frameworks for effecting change are not yet clear.

This study provides a coherent framework and set of tools to allow institutions to understand their environmental impacts in relation to their peers, to determine appropriate sustainability goals and targets, and to identify and implement cost-effective programs to achieve these goals. The general methods and tools developed in this report are applicable to any institution.

An evaluation of existing carbon footprint calculators for institutions was performed and several inconsistencies were found. The three most significant calculator inputs for the Carnegie Mellon campus case study (which represent approximately 93 percent of all estimated emissions) were electricity, steam, and faculty/student air travel. Based on these key inputs, a simplified carbon footprint estimator was developed. Using this tool, the annual carbon footprint of Carnegie Mellon was estimated to be approximately 64,000 metric tons of carbon dioxide equivalent (MTCDE).

In addition to greenhouse gas emissions, there are other considerations that affect the overall sustainability of campuses. The overall ecological footprint was estimated to be 300,000 acres, with the major contributors being the built environment, goods, and transportation. This value corresponds to over 2,100 times the actual Carnegie Mellon campus area. For the life cycle analysis of campus operations, indirect carbon emission impacts of the production chain are approximately 3.5 times larger than the direct impacts from campus power generation purchases.

...[A] survey was designed and distributed to the campus population to gauge attitudes and knowledge about sustainability issues and solutions. Over 2,000 surveys were completed, and the key findings were that there is a significant correlation between taking environmental courses and student concern toward environmental issues and that there is a significant discrepancy between perceived and actual cost-effectiveness of mitigation options. This gap points to the need for more environmentally-oriented courses and programs at institutions but also to the importance of university involvement in broader community education.

....

Mitigation options for the Carnegie Mellon campus were determined to be using wood/coal co-firing at the Bellefield Boiler, switching to biodiesel for the campus transportation fleet, powering down cluster computers, and installing occupancy sensors. Also, the options that would provide the largest emissions reductions were window replacements throughout campus, encouraging low-carbon behavior (e.g., energy conservation and reducing beef consumption), using natural gas at the Bellefield Boiler, and powering down computers across campus. One of the key conclusions from this analysis was that, in order to achieve more than an eight percent reduction in current emission levels, Carnegie Mellon would necessarily need to buy...carbon offsets.

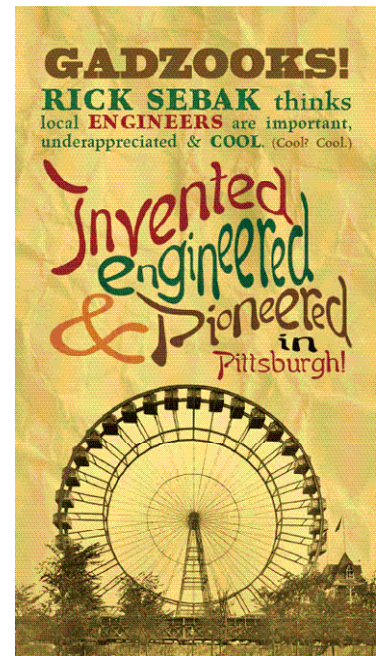
A key issue when establishing sustainability targets is benchmarking performance with other comparable institutions. However, in order to perform fair assessments, similar schools need to be evaluated. A method for identifying sustainability peer groups among institutions was defined, which allows for a unified and fair system for comparison. When comparing with these peers, Carnegie Mellon ranks fourth in the top tier of schools along with the University of Rochester and Syracuse. ... A set of recommendations for Carnegie Mellon was developed, and an overall framework to be used by other institutions was designed.

The final report from the course is available at www.cmu.edu/steinbrenner

Hometown Pride on Parade

On April 9, the Steinbrenner Institute hosted its first movie premiere. While the engineering lecture hall lacked a red carpet, excitement was equal to that of a Hollywood blockbuster. Hundreds of people filled the seats to watch the sneak preview of "Invented, Engineered and Pioneered in Pittsburgh," which aired the following day on Pittsburgh's public television station.

Produced by Rick Sebak, the film looks at how the Pittsburgh region's scientists and engineers have helped shape the modern world and how they continue to do so. Through a potpourri of brief stories, Sebak's film explores engineer John Roebling's design of the Brooklyn and Smithfield Street bridges, George Ferris's spinning contribution to the 1892 Chicago World's Fair, the world's first civilian nuclear power plant at Shippingport, and climbing snake robots at the Carnegie Mellon Robotics Institute.



Visit <http://www.wqed.org/tv/pghist/index.shtml> to learn more about Rick Sebak's films for the Pittsburgh history series.

Solar Boat Competition

continued from front page...

Last year marked the inaugural year for CMSS at Solar Splash. In the course of an academic year, CMSS designed a boat, raised funds, built a boat, and entered the competition. CMSS placed 14th overall and earned the distinction of "Notable Performance by a Rookie Team." This year, the team has decided to construct the solar panels they use, in an effort to create lighter panels.

With seed funding from The Steinbrenner Institute, for the 2007-08 academic year and 2008 competition, CMSS is committed to a redesign of the hull, a new propulsion system, a testing platform for its electrical systems, and sustainability of CMSS in the campus community.

Visit <http://www.andrew.cmu.edu/org/solar-splash/>



BIRDS VISIT ON EARTH DAY



On sunny Earth Day in April, the College of Engineering and the Steinbrenner Institute hosted an outdoor exhibit on campus of golden eagles and peregrine falcons to heighten environmental awareness. Earl Schriver, a veteran falconer and former steelworker from Baden, Pa., demonstrated how the birds feed (with a live chick) and survive in today's fragile ecosystem. His display of live birds included: Wambli, a 46-year-old bald eagle; Ani, a 15-year-old peregrine falcon; J.R., a one-year-old peregrine falcon; and Lizzy, a one-year-old hybrid falcon with an Asiatic pedigree.



Falcons in Pittsburgh

Groups of falcons live in the city of Pittsburgh and regularly visit campus, thanks to a successful high altitude nesting program. One of the nesting boxes is located at the top of the Cathedral of Learning in Oakland. For more information and a live webcam, visit www.aviary.org/cons/falconcam_cl.php

Introducing Our 2007-2008 Seed Grant Awardees...

Carnegie Mellon Solar Splash (CMSS)

CMSS designs, manufactures and tests a solar/electric boat for entry into the international Solar Splash competition in Fayetteville, Arkansas. CMSS aims to rise public awareness regarding the practical use of alternative energy sources, specifically solar power and photovoltaic panels. In 2006, CMSS was awarded “Notable Performance by a Rookie Team”, and in 2007 the team was awarded the “Most Outstanding Hull Design.” Read more on Page 6 and <http://www.andrew.cmu.edu/org/solar-splash>.

CO₂ Reduction Posters

In 2007 the Assistant Head of The School of Design, Melissa Cicozi, challenged students in her course Design and Social Change course to create posters that would instruct individuals on how to reduce carbon dioxide emissions. This Seed Grant will aid in the distribution of the posters, which were featured in *Sierra Magazine*. Visit www.sierraclub.org to see the posters.

A Deliberative Poll on Climate Change

Philosophy Professor Robert Cavalier led a deliberative poll on Climate Change in Spring 2008, supported by a Seed Grant. This event will serve as the beta test for a larger version for use as part of Pittsburgh’s Climate Initiative and the Green Government Task Force. Read more on Page 10 and visit <http://caae.phil.cmu.edu/cc/>.

US Markets...Ecology of Salmon Farming in Southern Chile

How do the decisions made by businesses such as Whole Foods Market, Wholey’s Fish Market and Costco affect the seemingly remote ecosystems of Southern Chile? History Professor John Soluri will use his Seed Grant to investigate the ecological impact and economic sustainability of large-scale fish farming.

The Green Design Apprenticeship

The Green Design Apprenticeship program brings a cohort of 15 high school students from Allegheny County to experience work of engineers. The goal of the program is to introduce students to engineering as a career and to demonstrate how environmental considerations pervade engineering problems. Deanna Matthews of Civil and Environmental Engineering leads the program. Visit <http://www.ce.cmu.edu/GreenDesign/>.

Focus the Nation 2009

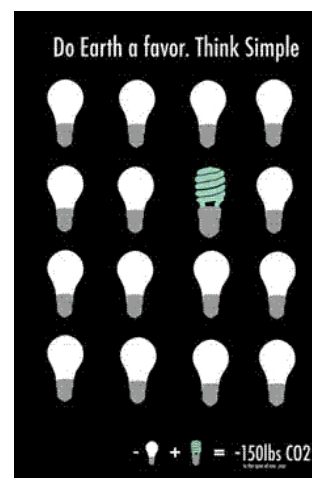
In 2008, Engineering and Public Policy PhD student Vanessa Schweizer led Carnegie Mellon in its participation in the first ever Focus the Nation event, which aimed to energize individuals around climate change. With the support of a Seed Grant, Focus the Nation 2009 will expand its events on the Carnegie Mellon campus and in the Pittsburgh community. Visit www.focusthenation.org.

International Expansion of Life Cycle Assessment Tool

The Green Design Institute (GDI) at Carnegie Mellon has developed a free and comprehensive economic input-output life-cycle assessment model EIO-LCAC. The Seed Grant will allow GDI to expand its models to an international scale. Professor Scott Matthews will direct the model expansion effort. Visit <http://www.eiolca.net>.

Biofuel Crop Production on Abandoned Mine Land

A team from Engineering and Public Policy and the Tepper School of Business will perform a techno-economic feasibility assessment of growing biomass energy crops on abandoned mine lands. The team, led by Michael Griffin of the Green Design Institute, sees the 180,000 acres of abandoned mine lands in Pennsylvania as opportunities to provide an important renewable energy resource.



Dzombak Elected to National Academy of Engineering



David A. Dzombak has been elected to the National Academy of Engineering (NAE), one of the highest professional distinctions an engineer can achieve.

“Dave has been a leader in fostering multidisciplinary research and educating tomorrow’s leaders,” said Pradeep K. Khosla, dean of Carnegie Mellon’s College of Engineering and a 2006 NAE inductee. “This outstanding recognition is a tribute to the pioneering and innovative leadership Dave brings to this college.” Dzombak, the Walter J. Blenko Sr. Professor of Environmental Engineering, received the prestigious recognition for novel development of models used in evaluating chemical behavior in water quality engineering and environmental remediation.

“I am truly honored and deeply humbled to be included with such an accomplished group of engineers,” said Dzombak, who is faculty director of the Steinbrenner Institute. “I will do my best to use my participation in the NAE to serve the nation and to advance engineering.” Membership in the NAE honors individuals who have made important contributions to engineering theory and practice and who have demonstrated unusual accomplishments in pioneering new and developing fields of technology.

This year, Dzombak joins 2,227 NAE members and 194 foreign associates in an award process that began in 1964. The NAE shares responsibility with the National Academy of Sciences to advise the federal government on questions of policy in science and technology. Carnegie Mellon’s Dzombak is scheduled to be inducted into the NAE Oct. 5, 2008, at The National Academies building at 2101 Constitution Ave. in Washington, D.C.

Visit www.cmu.edu/steinbrenner/news to read the full press release.

NAE Grand Challenges for Engineering

In February 2008 the NAE released a report prepared by a committee of distinguished engineers and scientists on Grand Challenges for Engineering in the 21st century. Of the 14 grand challenges identified, six relate directly to environmental protection. To learn more about the grand challenges visit www.engineeringchallenges.org

Growing Green Leaders

On beautiful Friday, April 25, a dozen dedicated undergraduate students arrived at one day leadership training seminar, Green Connections, developed by Shernell Smith, of the University’s Student Development office. The event was intended to cultivate more effective leaders for environmental organizations and identify areas for improvement in relationship between organizations and the campus as a collective. Past environmental student leaders Diane Loviglio and Ryan England spoke to the current

Eco-Rep Program

The Eco-Rep Program was initiated in 2005 by Fifth Year Scholar Diane Loviglio. Student Eco-Reps are assigned to different campus housing areas and work to educate their peers on how to live in a more environmentally friendly way. For more information visit www.cmu.edu/eco-reps

crop of change agents about their experiences with green roofs and cooperative living while on campus. Current PhD student Vanessa Schweizer spoke about transformative leadership, Green Practices Co-chair Barb Kviz offered connections with the University’s green initiatives and the Steinbrenner Institute’s Meredith Meyer Grelli spoke about environmental program planning and messaging.

ES&T Honors Carnegie Mellon Papers

Carnegie Mellon recently received top honors from the internationally renowned journal *Environmental Science & Technology*. Two of the top three ES&T environmental policy papers of 2007 were from Carnegie Mellon.



Christopher Weber and several collaborators from European universities studied the chief causes of China's growing energy consumption. Using data compiled by the Chinese government, the authors analyzed 95 different economic sectors, such as manufacturing, electricity, and transportation.

Although the researchers found that production related to consumption increases contributed most to the country's growing energy needs, Weber and colleagues did discover a silver lining. "We see that the Chinese have increased their energy efficiency over the last 15 to 20 years, and they are trying to reduce their CO₂ emissions," Weber says.

The researchers also noted that China, which is in the midst of an industrial revolution, has a unique chance to cultivate a "less-carbon-intensive" economy. China has the opportunity to skip over infrastructures already present in the United States and other countries such as fixed telephone infrastructure, and instead invest in "leapfrogging straight to mobile technologies," says Weber. Additionally China has an array of fuel source options on which to build its burgeoning economy. Rather than investing in limited efficiency improvements in gasoline, it may look to natural-gas resources for transportation,



Since coming to Carnegie Mellon in 2001 to study engineering and policy, Rob Pinder has worked on a project that many thought impossible—estimating the relative ease of reducing fine particulate matter (PM_{2.5}) pollution by cutting ammonia (NH₃) emissions on farms. Pinder has found that reducing barnyard ammonia emissions could serve as a cost-effective strategy to cut wintertime particulate matter. In the process, Pinder has established farms as a sector to

regulate as a significant source of air pollution. According to Pinder's study, cutting NH₃ by 50% can diminish wintertime inorganic PM_{2.5} by up to 50%, and it is cheaper than putting controls on smokestacks.

For more information on both of these papers visit

http://pubs.acs.org/journals/esthag/promo/top_papers/top2007/index.html

The Architecture of Sustainability

The Carnegie Mellon University School of Architecture's undergraduate architecture program has been ranked first in the nation in sustainable design practices by DesignIntelligence Magazine. The rankings are based on surveys from architecture firms that have interviewed and hired recent graduates. The firms evaluated schools based on their professional impact and skill sets of their graduates. "The School of Architecture is proud that its graduates have made such an impact in the professional arena and that our emphasis on sustainability has been recognized," said Laura Lee, head of the School of Architecture. "We will continue innovating and adapting our programs so that our students are well prepared for the future in the fields of architecture and design." More information is online at www.arc.cmu.edu.

Missy Unkovic MS '69 on Helping to Build the Greenest Greenhouse

High energy prices, global warming, greenhouse gases, water shortages, extreme weather conditions. We hear and read every day about these issues and the dire consequences they may hold for mankind. Many of us are searching for ways to combat them. Carnegie Mellon's neighbor Phipps Conservatory and Botanical Gardens has taken some very tangible steps in this direction. We have built the most energy efficient conservatory in a public garden in the world; We have performed a thorough review of everything we do to determine where and how we might operate in a more environmentally friendly manner; we are planning an education and research building that will be 100% energy self sufficient and will treat all of its water on-site.

Historically, greenhouses' requirements for maximum light resulted in buildings with huge heating and cooling needs. Large amounts of pesticide, water and fertilizer were required to grow the exotic plants chosen for display. In the late nineties, as Phipps began to design several additions to our campus, we realized that we had both an opportunity and a responsibility to change the way that gardens have been built. As stewards of a public garden, we needed to construct environmentally responsible buildings.

We have completed three new buildings: a front entrance known as the Welcome Center, production greenhouses where we grow our plants, and the Tropical Forest conservatory which currently hosts an exhibit on Thailand. All were designed to minimize construction waste, to limit toxic chemicals contained in building materials and to use local materials as much as possible in order to cut down on energy used in transportation. Additionally, each building has specific design features that allow it to be environmentally sound.

Because much of the Welcome Center is underground, it is far more energy efficient than a traditional building. Its green roof also leads to energy and water conservation. The production houses contain an open roof system that has eliminated the need for mechanical ventilation. Several layers of energy blankets reduce heat loss during cold winter nights. Our Tropical Forest, the most energy efficient conservatory in a public garden in the world, was built with no mechanical ventilation or cooling. Instead it uses a 100% passive cooling system. Electricity is provided by a Solid Oxide Fuel Cell built by Siemens Power Generation. During the design of this building, Phipps collaborated with Carnegie Mellon to explore additional eco-friendly technologies. Out of this collaboration came our use of earth tubes for cooling.

We are in the initial stages of designing our newest building, the Center for Sustainable Landscapes, which will house our education and research functions. It is being designed in accordance with the Living Building Challenge, a new program for ranking the very greenest buildings. A Living Building must produce all of its energy on-site from renewable resources and must treat all of its water on-site. We are grateful to Carnegie Mellon's Center for Building Performance and Diagnostics for the help that they have given us with this project. When completed this building will be one of the first Living Buildings in the world. It will contain classrooms and laboratories, but it will also be an educational tool itself. Our visitors will learn from it what they can do to lessen their environmental impact.

Missy Unkovic received a Master of Science degree in mathematics from Carnegie Mellon in 1969. She has been a member of the Phipps board throughout the planning and building of the additions to Phipps's campus, serving as its President from October 2005 through October 2007. During her tenure as President, the Production Houses and the Tropical Forest were both completed and plans were begun for one of the world's first Living Buildings.

Visit <http://www.phipps.conservatory.org/> for more information.

Soft Spot: Identifying Areas Vulnerable to Climate Change



An international study warns that ecosystems and societies are at risk from the ongoing warming of our planet. The study, published in the Feb. 4-8 Proceedings of the National Academy of Sciences, Online Early Edition, outlines the most vulnerable areas of earth at risk for abrupt climate change, according to Elmar Kriegler, a visiting research scholar in the Department of Engineering and Public Policy at Carnegie Mellon University.

Kriegler, a researcher from the Potsdam Institute for Climate Impact Research in Germany, was one of seven scientists who helped to compile the study, drawing on the insights from a climate change workshop sponsored by the British Embassy in Berlin in October 2005, and an opinion survey of 52 experts in the field.

“We found that while most global change is perceived to be a slow, gradual process, there are areas of the planet where this change can be abrupt and potentially irreversible,” said Kriegler. The researchers call the most vulnerable regions in the climate change equation “tipping elements,” referring to the fact that those areas may be pushed over a threshold to a radically different climate state.

The study reports that two “tipping elements” of greatest concern are the Arctic sea ice and the Greenland ice sheet. If the Greenland ice sheet were to melt, it would displace enough water to raise sea levels 23 feet, swallowing up large parts of coastal Florida, most of Bangladesh and many other regions worldwide.

“What this study shows is that the stakes are enormous, bringing into focus the fragility of the climate conditions on earth,” said Kriegler, who is using a European Union Marie Curie Fellowship to spend two years doing research at Carnegie Mellon. From changing ocean currents to melting glaciers, from eroding permafrost to vanishing rainforests - no part of nature is an island, and the rumble of symptoms may occur in places thousands of miles apart, and grow louder as the planet heats up, the researchers said.

After the Mill, A Shopping Mall

With the support of the Small Business Administration, the Western Pennsylvania Brownfields Center (WPBC), the primary outreach activity of the Steinbrenner Institute, developed a site specific redevelopment workshop for the town of Homestead, Pennsylvania. The town was home to the Homestead Works, the largest producer of steel in the world at its height and which played host to the historic Homestead strike. The mill has been replaced by a large retail destination center, complete with movie theater, apartments and big box shopping.

The WPBC was attracted, however, not to the large scale brownfield redevelopment represented by the mall, but rather to the communities that sit just across the railroad tracks from it. Despite the large scale investment in the former mill site, the neighboring communities struggle with blight and safety. The WPBC, pulled together a committee of local stakeholders who together planned a 3.5 day workshop in May focused on redevelopment. Six national redevelopment experts, with specialties ranging from environmental justice to railroads to historic preservation, from across the country convened in Homestead and over the course of the workshop, interviewed approximately 200 local, state and federal stakeholders and ultimately drew up a list of concrete recommendations for redevelopment. For more information visit www.cmu.edu/steinbrenner/brownfields.



2008-2009

Steinbrenner Research Fellows

The Steinbrenner Institute Graduate Fellowship Program was established to provide support to eligible graduate students across all seven colleges at Carnegie Mellon who are involved in environmentally-focused, interdisciplinary research projects on topics aligned with the strategic focus areas of the Steinbrenner Institute. Three Steinbrenner Institute Graduate fellows are named each year. The Fellows each present a seminar on their respective research to the Carnegie Mellon community during the Spring semester. The three 2008-2009 Steinbrenner Research Fellows are:

Melissa Chan

Assessing Future Supply Curves for Coal in Light of Technological & Environmental Uncertainties.

Varun Dutt

Human Problems of Forecasting in Dynamic Systems.

Sharon Wagner

The Feasibility of Using Parabolic Trough Solar Technology to Increase Renewable Energy Production.

For information on past Fellows, visit www.cmu.edu/steinbrenner/Initiatives/nav3a.html

Deliberate Climate

Professor Robert Cavalier of the Department of Philosophy is certain that the issue of Climate Change is one of the most important and at the same time contentious issues facing us today. Its complexity, he believes, is partly due to the fact that it involves both science and public policy and each area can be challenging. To help clarify the matter, Cavalier developed an event “Campus Conversations: Climate Change” for the campus community on April 23, 2008. Participants were surveyed about their understanding and opinions around climate change and then provided with background materials that offered an overview of the science of climate change (its nature and causes) and policy questions relating to national, local and campus level responses to climate change.

During the deliberative poll participants gathered to discuss climate change with a panel of experts, including Professor Cliff Davidson, Professor Peter Madsen, climate researcher Elmar Kriegler, and the Steinbrenner Institute’s Deborah Lange. The community members then split off into small discussion groups. After the deliberations, participants were given an exit poll, which asked them about climate change given their dialogue. For more information visit <http://caae.phil.cmu.edu/cc/polls/index.html>.

Campus Conversations:

**CLIMATE CHANGE
AND THE CAMPUS**

Corporate Responsibility

What is the role of corporations in global warming and climate change, species decimation, natural resources depletion, over-consumption, air and water pollution, and sustainability? “Corporations and Environmental Responsibility,” a weekend immersion class developed by ethics Professor Peter Madsen raised provocative questions about the problems that corporations face in the task of producing necessary goods and services while sustaining the earth as well. The March 28-30 course included presentations by Rob Bear, Director of Environmental Affairs at Alcoa; Mary Beth Buchanana, US Attorney for Western Pennsylvania; Court Gould, Director of Sustainable Pittsburgh; Professor Dale Hershey from Tepper School of Business; Professor John Hooker from the Tepper School of Business; and alum Terry Yosie, President and CEO of The World Environment Center. The topics covered included:

- * Environmental protection and the obligations of corporations
- * Best practices in environmental management
- * Business Transparency: Measuring, reporting and auditing environmental impact
- * The greening of business vs. “greenwashing”
- * Environmental responsibility and the corporate bottom line

For more information visit <http://www.andrew.cmu.edu/course/99-522/index.html>.

Al Gore At Commencement

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Eight years later, as Vice President, Al Gore returned to Carnegie Mellon during his campaign for the presidency. That October afternoon he stood at the steps of Hammerschlag Hall and spoke to a sea of students, faculty and staff assembled on the lawn. And while he spoke of many things that day, the growing threat of climate change was again a prominent concern. And he had the courage to level with us—that meeting that challenge would not be easy or fast. But he also inspired us that day. He inspired us to see that a response to this problem would unleash a massive wave of talent and ingenuity that would create new jobs and new industries that not only would transform our environmental legacy, but foster economic growth as well. That vision, and that message, was a true act of political leadership.”

Mr. Gore delivered an inspiring message to the graduates and all present. In his commencement address Mr. Gore called upon the graduates to “be part of the third hero generation in American history” by countering the threat of global warming, following two other “special generations” of Americans: the one that founded the country and the one that defeated fascism during World War II. “We face a planetary emergency,” Gore said. “The concentrations of global warming pollution have been rising at an unprecedented pace and have now given the planet a fever.” However, he then emphasized that we can step forward to meet the challenge. “Solar energy, wind energy and distributed power and geothermal energy and a series of other innovations have reached the stage where we can replace every electron and every BTU from fossil fuel sources without missing a beat,” Mr. Gore said. “But we need one ingredient that you represent. We need your political will, your dedication, and we need your hearts.” He noted that Carnegie Mellon had provided “great leadership in confronting what I regard as the most serious crisis our civilization has ever confronted,” including environmental research supported by the Steinbrenner Institute that is “leading the world’s effort” to understand how to grapple with climate change. Mr. Gore made particular note of the University’s environmental engineering program—“consistently ranked among the very top in the entire country” and the “environment across the curriculum initiative [which] allows all students to integrate an understanding of the environment in their respective areas of study.”

“And you have been walking the walk,” Mr. Gore continued, “prompting other universities in Pennsylvania and across the country to make similar commitments” in green practices by “becoming the nation’s largest retail purchaser of wind power, creating a robust campus recycling program, installing solar array systems and green roofs, and constructing LEED buildings, thereby contributing to Pittsburgh’s title as home to the largest concentration of green buildings in the country.”

Carnegie Mellon is indeed committed to helping to address the challenge of global warming through our education, practice, and research efforts, the latter of which involves work being conducted in research centers that include the Climate Decision Making Center, the Electricity Industry Center, the Institute for Advanced Energy Solutions, the Center for Building Performance and Diagnostics, and other units on campus. Our graduates are more environmentally aware than ever, and the specialists that we train in environmental architecture, engineering, science, and policy are leading the way to solutions for climate protection. Mr. Gore’s visit to campus and his inspirational charge to the Class of 2008 will help ensure continued expansion of the environmental literacy and professional impact of Carnegie Mellon graduates. The introductory remarks by Provost Kamlet, President Cohon, and Professor Rubin, as well as video of the commencement address by Mr. Gore are available at the Steinbrenner Institute web site: www.cmu.edu/steinbrenner



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Steinbrenner Institute Corporate Partnership First Annual Meeting

The Steinbrenner Institute will hold its first annual meeting for corporate partners July 9-10, 2008. The meeting will focus on exploring research interest areas for corporations around the environment. The SICP conducts cooperative world-class research in environmental science, technology, management and policy to provide innovative solutions to environmental challenges in the metals, chemicals, energy, construction/buildings, and other industrial sectors. Founding members of the SICP include Alcoa, Bayer Corporation, ENSR/AECOM, IBM, PPG and US Steel. Some of the topical areas for research within the SICP include:

- Carbon-footprinting and life cycle analysis
- Carbon management strategies
- Brownfield redevelopment
- Contaminated soil and sediment remediation
- Sensors for water and infrastructure management
- Nanotechnology and environmental risk
- Product environmental performance standards
- Materials for sustainable products
- Legacy asset management
- Green buildings and energy efficiency
- Carbon sequestration

For more information on the Steinbrenner Institute Corporate Partnership, please contact Dr. Deborah Lange at dlange@cmu.edu.

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