New project focuses on students who give, serve, conserve and more

From students who are environmentally aware to students who are veterans, a new Marketing and Media project is dedicated to sharing the lives and triumphs of the Purdue family, five stories at a time.

Student success is a key goal for President France A. Córdova and a big part of Purdue’s strategic plan.

“This project,” says Nancy Hannibal, assistant vice president for strategic marketing, “helps us highlight these remarkable students and their successes, both in the classroom and in life.”

In developing the project each month, Purdue’s marketing consultants brainstorm lists into which Purdue students might fall. Always beginning with “5 Students Who,” the lists generally coincide with a recent happening related to the University, such as a movie release, event or holiday.

Once the five students are found, a photo shoot and interviews are scheduled. The pictures and a short bio are composed, and creations such as “5 Students Who are Veterans” are born.

Before its recent success, “5 Students Who …” simply had a link on Purdue’s home page. Now, the project has found a permanent URL, www.purdue.edu/fivestudents.
Woodson named NC State chancellor

The University of North Carolina Board of Governors has named Randy Woodson, Purdue’s executive vice president for academic affairs and provost, as the next chancellor of North Carolina State University. The appointment will take effect no later than May 1. Woodson will succeed Jim Woodward, who has been serving as interim chancellor for NC State since June 9, 2009. The land-grant university for North Carolina, NC State also is the largest, with 34,000 students.

“The appointment as chancellor of NC State is a great honor for Randy, and recognizes his distinguished academic leadership at Purdue. In his tenure as provost, Randy has effected many significant changes, including increased student retention, new degree programs, and the hiring and retention of outstanding faculty and deans. In all aspects of running the university, Randy has been a selfless and energetic partner, always working to make Purdue better and raise its impact and visibility,” said Purdue President France A. Córdova.

Córdova said Woodson will continue as provost while Purdue conducts a search for his successor. Vice Provost for Engagement Victor L. Lechtenberg said NC State will do well under Woodson and noted Purdue has been the launching pad for several presidents and provosts at other universities.

“It’s apparent Purdue has become a source for top academic leadership at other highly regarded institutions,” Lechtenberg said. “I think it says good things about Purdue and the caliber of the people who work here.”

CIGNA offers health assessment, other services

CIGNA’s Choose Well, Live Well Personal Health Team has new offerings available at http://mycigna.com.

The Personal Health Team will take the place of apples and incentives, as the Healthy Purdue initiative will not continue in 2010. Employees can tap into personal assistance from a team of Live Well advocates and take advantage of expanded offerings and services, in addition to those already provided by campus programs.

An online health assessment, similar to the HealthPath Questionnaire available in previous years, is available at mycigna.com. Upon completing the health assessment, employees will receive valuable information about their health.

An introduction to CIGNA’s services will be provided by an automated welcome call in January. Everyone is encouraged to take the call and begin learning about CIGNA’s programs. Participation in any of CIGNA’s programs is voluntary and confidential.

If you are interested in CIGNA offerings, call CIGNA’s Choose Well, Live Well team at (800) 767-7141 from 9 a.m. to 9 p.m. ET Monday-Friday, or 9 a.m. to 5:30 p.m. on Saturday. The team can be reached also by e-mail at PurdueLiveWell@CIGNA.com.

Enrollment numbers

Benefits-eligible faculty and staff completed enrollment for 2010 medical plans in November. The selections made by active staff by year, comparing 2009 with 2010, follow:

- Incentive PPO, 2009: 5,326
- Incentive Medical, 2010: 4,274

- UnitedHealthcare Copay, 2009: 5,279
- UnitedHealthcare Copay, 2010: 6,162

- Purdue Choice Fund, 2009: N/A
- Purdue Choice Fund, 2010: 1,020

- Purdue 500, 2009: 437
- Purdue 500, 2010: N/A

- Opt outs, 2009: 841
- Opt outs, 2010: 769

Purdue Today Web site debuts

The University has launched a new Purdue Today Web site to provide a convenient source of information relevant to University faculty and staff.

The Web site at www.purdue.edu/newsroom/purdutoday complements the Purdue Today newsletter, which arrives daily in employees’ e-mail inbox.

The Purdue Today Web site contains:

- A searchable archive of stories published in the Purdue Today newsletter.
- Items compiled from the past two weeks of the newsletter, including University news, human resource information, features, events, and other topics of general interest.
- Links to information about campus disruptions, health and safety news, and other significant University Web sites.
- Photo galleries and videos.
- Profiles on Purdue faculty and staff.
- Highlights from Purdue’s wide range of social media offerings on Facebook, Twitter and YouTube.

Purdue Today also has been redesigned to match the style of the new site. The daily newsletter continues to offer news of importance and interest to employees, including human resource updates, features about campus people and units, and stories about issues affecting faculty and staff.

Based on input from focus groups, events information has been moved from the bottom of the newsletter to the top right side for easier viewing.

The Purdue Today Web site and newsletter are published by the Office of Marketing and Media with the cooperation of Agricultural Communication Service; ITaP Communications; Physical Facilities Communications; and Human Resource Services Communications.

Purdue Today acts as a companion to Inside Purdue, the faculty and staff newspaper for Purdue University.

Comments and ideas for the Purdue Today Web site and newsletter are welcomed. You can reach us at vobrien@purdue.edu or purduetoday@purdue.edu.
Healthy Planet 2010 to offer wellness activities for campus, community

Purdue faculty and staff will have the opportunity to participate in a number of activities during Healthy Planet 2010, being held Feb. 1-5.

Healthy Planet 2010 is a new Purdue initiative that will take place annually to focus on promoting healthy and balanced lifestyles for members of the campus community as well as showcasing the important lines of health-relevant research and other scholarly activity going on at the University.

Each day will focus on one aspect of wellness. Events open to faculty and staff, students, alumni, retirees and the general public will be held to explore the various topics:

- Feb. 1: Health education and knowledge.
- Feb. 2: Exercise and physical activity promotion.
- Feb. 3: Nutrition.
- Feb. 4: Financial management.
- Feb. 5: Mental health and stress management.

Healthy Planet 2010 will kick off at the Purdue men’s basketball game on Jan. 31 with “Walk to the Moon,” which will run through Feb. 5. Purdue students, faculty, staff, alumni and retirees will be challenged to track their steps or miles as they work together to travel from the Earth to the moon.

All forms of physical activity will count toward Purdue’s total. Participants will log their steps or miles throughout the week at www.purdue.edu/walktothemoon.

Other activities planned for Healthy Planet 2010 include daily tours of the Ismail Center; daily health and wellness fairs across campus; and Campus Fit Club, a team weight-loss competition modeled after TV shows like “Celebrity Fit Club” and “The Biggest Loser.”

In addition, the Recreational Sports Center will host an open house. During the week, anyone with a Purdue ID will have access to the center at no charge and can participate in any of the morning or noon group exercise classes. The Recreational Sports Center also will host a party at the end of Healthy Planet week on Friday evening.

The keynote speaker for Healthy Planet 2010 will be Dr. Ian Smith. Smith is the creator of Healthy Purdue 2010, serves as the medical/diet expert on ABC’s “The View,” and is available at www.purdue.edu/healthyplanet.

Blackout T-shirts help men’s basketball, cancer causes

Purdue fans have an opportunity to support the Boilermakers’ men’s basketball team and two significant cancer causes with the purchase of one T-shirt.

The specially designed shirt carries a suggested retail price of $15. Of that, $1 will go to the Purdue Center for Cancer Research and $1 to Coaches vs. Cancer, which is part of the American Cancer Society.

Participating stores include Purdue Pride, Follett’s Bookstores, University Book Store, and University Spirit.

“The goal is to have everyone in Mackey Arena wearing black on Sunday, January 31, for the Purdue-Penn State game,” says Heather Hoesly, director of promotions for Intercollegiate Athletics at Purdue.

“We encourage the fans to purchase this special shirt to create the atmosphere in Mackey that we are seeking while also supporting Purdue’s Center for Cancer Research and Coaches vs. Cancer.”

The black shirt features the Purdue “Motion P” over an outline image of a basketball with the words “Mackey Blackout, Purdue vs. Penn State, Jan. 31” also prominent. The back of the shirt includes a different version of the “Motion P” and the words “Boilermakers Shooting for a Cure” along with logos representing the Center for Cancer Research, Coaches vs. Cancer and Healthy Planet 2010.

During the second half of the basketball game, Purdue will kick off Healthy Planet 2010 and the Walk to the Moon event.

Purdue seeks comments as part of accreditation process

Purdue is seeking comments from the public in preparation for a comprehensive evaluation by a team representing The Higher Learning Commission of the North Central Association of Colleges and Schools.

The evaluation team will visit Purdue’s West Lafayette campus March 22-24 and will review the University’s ongoing ability to meet the commission’s criteria for accreditation.

Purdue has been accredited continually by the commission since 1913.

The public is invited to submit comments regarding Purdue to: Public Comment on Purdue University; The Higher Learning Commission; 30 North LaSalle Street, Suite 2400; Chicago, IL 60602.

Comments must address substantive matters related to the quality of the institution or its academic programs. Comments must be in writing and signed and must be received by Feb. 19. Comments should include the name, address, and telephone number of the person providing the comments. Comments will not be treated as confidential.

Sustaining New Synergies site adds forum video

Video of the Dec. 14 open forum regarding the current economic situation in the state of Indiana and at Purdue is now posted at the Sustaining New Synergies Web site, www.purdue.edu/sustaining.

The forum presentation also is available for download.

President France A. Córdova; Al Diaz, executive vice president for business and finance, treasurer; and Randy Woodson, vice president for academic affairs and provost, spoke at the forum.

Self-study to be online

For the past two years, Purdue has been engaged in a self-study, addressing the requirements and criteria for accreditation by The Higher Learning Commission of the North Central Association of Colleges and Schools.

The final self-study document will be available starting Jan. 20 at www.purdue.edu/accreditation. The site also contains information about the accreditation process.
Science dean focusing on shaping culture, encouraging large-scale research

Jeffrey Roberts, an accomplished scientist in the fields of physical and materials chemistry, joined Purdue this past fall as the Frederick L. Hovde Dean of the College of Science.

Roberts succeeds interim dean Jon Harbor. Most recently, Roberts was chairman and Distinguished McKnight University Professor of Chemistry at the University of Minnesota, where he also held a graduate faculty appointment in the Department of Mechanical Engineering.

Roberts says among the reasons he was attracted to Purdue is that it is one of the great land-grant universities.

"Purdue's mission and goals are well-aligned with both my experience and my values," he says. "I feel strongly about the importance of publicly supported higher education and our society's obligation to create plausible, affordable and accessible higher education pathways for all its members. Purdue and its president have made it clear how seriously the University takes its responsibilities in this regard."

Roberts joined the University of Minnesota in 1990 and was named chair of the Department of Chemistry in 2005. He received his doctoral degree in chemistry from Harvard University in 1988 and performed postdoctoral research in chemical engineering at Stanford University. He received his bachelor's degree in chemistry from the University of California, Berkeley, in 1982.

His goals for the college include ensuring that all junior faculty members receive excellent mentoring; increasing support for students underrepresented in the sciences; and encouraging more large-scale group research efforts supported by multi-investigator grants.

"The recent Department of Energy grant for an Engineering Frontier Research Center on biomass conversion led by Maureen McCann in biological sciences is an excellent example of the kind of effort I'd like to see more of," Roberts says. "These kinds of centers are where much of the new funding is, and we need to pursue them."

In addition, he says he would like to see Purdue and the College of Science interface more with two-year colleges to help ease the transition for students coming into the college from those institutions. Other needs he cites in the college include improving the research infrastructure, continuing to encourage interdisciplinary research, and increasing the college's endowment.

Roberts says that although his duties as dean will keep him busy, he plans to pursue his research interest in the surface chemical properties of aerosol nanoparticles.

His research is concerned specifically with the fate and properties of anthropogenic (human-derived) nanoparticles when they are emitted into the atmosphere, and the deliberate synthesis of nanoparticles for materials and catalysis applications.

A proposal for a study on the catalytic activity of gold that he recently submitted to the National Science Foundation has been recommended for funding, and the work would be conducted at Purdue. The project would include student exchanges at the graduate and undergraduate levels with the University of Karlsruhe in Germany.

Roberts says he has been "extremely gratified" by all the support he has received from College of Science faculty and staff.

As a leader, he says, he likes to begin working with people to come up with a broad set of goals the group can agree on, then give them latitude to do what needs to be done.

"I spend a lot of time thinking about and working on 'culture,'" he says. "The key is to strive for an environment of high collegiality, high transparency, and high expectations. Once you have those, everything else falls into place."

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HistoryCorner

Winter (?) memory

In this undated photo, a student at the former outdoor ice rink at the Recreational Sports Center indicates how bizarre Indiana weather can be — 63 degrees in skating season. The second photo shows the position of the rink near the outdoor pool looking west from RSC. According to RSC staff, the rink opened with the building in 1957.

A staff member goes on: "It had four large mechanisms to keep the ice frozen. With time, the motors started to fail on these systems and before long we were only down to one motor, which was running continually to keep the ice frozen. Due to declining usage rates and the combined cost of fixing the rink systems, it was shut down on February 14, 1983. The year after it was closed, the system was removed and replaced with three regulation tennis courts" — about its size.

Our thanks to RSC for the photo, story and reminder that warmer weather will return.
Todd Wetzel, director at Purdue Convocations, took time during winter break to talk with Inside Purdue. Here is a summary.

**Q:** Different people have different interests in what Convocations offers, but what do you want people to think about Convos?

**A:** First of all, we are a presenter in a university context. The important difference is that we’re not-for-profit. Instead of profit, we’re picking things for our context and the connections we can make. For me, I’m interested in connecting with several kinds of discourse. First is the Purdue curriculum and academic inquiry in some dynamic way, whether historical or perhaps a current political climate or philosophical dilemma — ethics of science, for example.

Another part is that we are of this community and we want to serve it. For the preschool to grade 12 audience, we take time to create opportunities for school kids to come into contact with the arts.

The third part is that we have a really diverse slate of performances, more than we could do with a profit motive. What a university does, I say, is to provide opportunities to open your mind to more of the world. So I’m looking for artists who represent the global village. Not every person is going to like everything I select. I’m looking for artists who represent the global village. Not every person is going to like everything I select.

**Q:** How do these forms of discourse relate to Convocations’ goals?

**A:** Our goals for outreach connect with this discourse, which goes beyond scheduling shows. We connect topics, issues and artists with people here. Our outreach to the university curriculum and to the area P-12 are two parts, and the third outreach is to general audience. The third part is that we have a really diverse slate of performances, more than we could do with a profit motive. What a university does, I say, is to provide opportunities to open your mind to more of the world. So I’m looking for artists who represent the global village. Not every person is going to like everything I select.

**Q:** Another side of Convocations in the community is a grant to work in school education. Would you describe that?

**A:** We and the Lafayette School Corp. partnered to be in the Kennedy Center Partners in Education Program. Our application was accepted, and we’re honored to be included. Primarily, we do professional training for teachers using a special technique called arts integration, using teaching artists approved by the Kennedy Center. They come in and help teachers learn how to use arts techniques to convey ideas in all subjects.

**Q:** Another side of Convocations is the Student Concert Committee. What is its role?

**A:** For a student, a great Purdue experience includes social dimensions, doing things with friends and creating memories. For music, the Student Concert Committee is our connection to the interests of the students. We work with promoters and directly with agents to recruit shows, and it’s a challenging piece of business.

**Q:** What is the significance of the support from Friends of Convocations?

**A:** We’re very excited that next season will be the 25th anniversary of Friends of Convocations. I can’t overstate the importance of the Friends. Ticket sales cover only about 60 percent of what it takes to do our work. Friends play a huge part in making up that balance. We have people from every walk of campus life, people from the region, people who have moved away and continue to give.

**Q:** You’ve indicated a number of roles you play. What education and background got you ready for this job, if one can be ready for it?

**A:** I have an interdisciplinary undergraduate degree in music and business from Valparaiso University; I was a piano major. A couple of years later, I went back there to work. They remembered me as the kid who was involved in everything. I was the recording engineer for all the concerts. I was the box office manager for the university theater. I was the business manager at the campus radio station. They were at the beginning of a process to build a new performing arts center, and I was on the team to build it and open it, and then I ran it for two years. So I was there seven years.

I was recruited to come to Purdue when Purdue was looking to build a performing arts center, the project that became Pao Hall. I came to Convocations in 1997 to be director of development. Two years later, I became director upon Lorna Myers’ retirement after 20 years in that job. After that, I earned an MBA at Krannert.

**Q:** What would you like to tell people about your staff?

**A:** First, they’re an amazing collection of individuals. We’re a very small organization, so virtually every person has a discrete set of responsibilities. There’s little overlap and the work is demanding. We don’t work normal hours. We have stressful circumstances getting performances together.

In getting the stage ready and the curtain raised on time, we have great partners in the Hall of Music crew. They are our technical side, and we are attached at the hip.

**Q:** Is Convocations self-supporting?

**A:** We technically receive a dedicated portion of the student activity fees, but we receive no state dollars.

**Q:** In this decade, the number of Broadway-style shows has increased. Is that a response to audience interest and economics as well as aesthetics?

**A:** For Broadway shows, some years have more choices than others depending on what’s touring. They have proven to be popular and satisfy audience hunger, and those are the kinds of performances that help us make ends meet, so two goals are met. They help ensure that other types of performances can be on our schedule.

**Q:** How do you get ideas for acts?

**A:** There are many pathways for doing this research. The most amazing thing is the technological transformation with the arrival of the Internet and even more importantly streaming video. It’s changed the speed at which we can find out about artists, and it has liberated us from the control channels that the agents used to control. It’s been a democratization of information.

We have a continuous stream of input from people in the community: e-mail, programs from shows people saw on a trip, our own surveys, travel, and the professional network.
Thirteen Purdue faculty members have won the National Science Foundation’s most prestigious honor for outstanding young researchers in 2009.

The Faculty Early Career Development awards range from $300,000 to $525,000 in research funding over four or five years. About 400 researchers win the awards annually.

Purdue’s recipients this year are Yong Chen, Demetra Evangelou, Kevin Gurney, Matthew Jones, Krista Nichols, Dev Niyogi, Zheng Ouyang, Jeffrey Rhoads, Ann E. Rundell, Chih-Chun Wang, Chen Yang, Dabao Zhang and Xiangyu Zhang. Details about the Purdue awardees and their research follow.

Tabletop quarks

Yong Chen, the Miller Family Assistant Professor of Nanoscience and Physics, will work to develop a low-cost, tabletop alternative to high-energy particle accelerators used to study the fundamentals of matter and energy.

The technology will use a material called graphene, made of a single layer of carbon atoms. As a certain type of electrons, called chiral Dirac electrons, speed through the graphene, they can mimic the behavior of exotic subatomic particles, including quarks, which are studied by physicists using high-energy particle accelerators.

Like quarks, Dirac electrons have no mass to start with and come in two forms, referred to as left- and right-handed versions, but can acquire mass through the way they interact with each other. Because of this likeness, researchers hope to use the tabletop method to test theories about quarks and other subatomic particles by studying the behavior of the Dirac electrons.

Graduate and undergraduate students will participate in this research in a multidisciplinary environment of physics, material sciences and nanotechnology, and strategic collaborations will be formed with national laboratories.

The educational component also features specially designed outreach activities on nanoscience.

Early engineering education

Demetra Evangelou, assistant professor of engineering education, will study how engineering affects human development.

She will use her grant to study how classroom environments influence children from 3 to 5 years old as they begin thinking about engineering. The research is aimed at better understanding fundamental issues related to developmental engineering and how young children start thinking and learning engineering concepts.

Because choices that determine education and career paths begin to accumulate from an early age, research findings may advance efforts to increase the number and diversity of students who pursue engineering careers.

The research has three phases: investigate how young children perceive and learn about the engineered world around them; use the results to find appropriate ways to integrate engineering concepts into early childhood education; and focus on transformation of teacher education to include “developmental engineering” pedagogy in classroom practice.

Evangelou and her team of graduate and undergraduate students will study two environments — a Head Start classroom in Lafayette and a university child-development laboratory for the children of Purdue faculty and staff — to ensure participation from a diverse student population.

High-speed trigger

Matthew Jones, associate professor of physics, will develop critical hardware needed to trigger a high-speed detector for tracking the trajectories of subatomic particles created in the Large Hadron Collider, which will be the world’s most powerful particle accelerator when it comes online next year at CERN in Switzerland and France. Specifically, the triggering device will be used in a part of the collider called the 12,500-ton Compact Muon Solenoid. Bunches of protons will collide every 25 nanoseconds, producing numerous subatomic particles.

Studying the trajectories of certain particles is expected to yield vital information about the fundamental nature of matter. However, only a small portion of the collisions produce the right particles to study, meaning scientists must develop a system that automatically determines every 25 nanoseconds which events to record and which to ignore.

The project involves physics and electrical engineering students, who also will develop hardware for high school teachers to use in teaching about particle physics.

Climate change

Kevin Gurney, associate professor of earth and atmospheric sciences and agronomy, will extend his Vulcan Project to build a global fossil fuel carbon dioxide emissions inventory that allocates emissions in space and time. He also will generate new estimates of the non-fossil fuel net carbon exchange. In addition, he will create a virtual learning environment where students can discover, verify and apply emissions information for countries and states using a Google Earth-like interactive environment.

Gurney aims to form a Web 2.0-style network in which students, instructors, researchers and the public interact, collaborate and share knowledge about fossil fuel emissions and climate change.

Genetics of migration

Krista Nichols, assistant professor of biological sciences, will use her grant to study the genetics and evolution of migration, using rainbow and steelhead trout.

The research will examine the genetic basis of ecological diversity between migrating and non-migrating animals to gain a better understanding of how ecological diversity has evolved within and among species. The work also will provide an important baseline for future studies on the effects of climate change, which has been shown to affect the migration patterns of some fish species.

During the project, Nichols will work with a native Alaskan village to document migration patterns of fish and to collect genetic information for use in future studies on the role of genetics, evolution and environment on ecological diversity in migrating animals.

Indian monsoons

Dev Niyogi, assistant professor of earth and atmospheric sciences and agronomy, will extend his Vulcan Project to build a global fossil fuel carbon dioxide emissions inventory that allocates emissions in space and time. He also will generate new estimates of the non-fossil fuel net carbon exchange. In addition, he will create a virtual learning environment where students can discover, verify and apply emissions information for countries and states using a Google Earth-like interactive environment.
of agronomy and earth and atmospheric sciences, as well as Indiana state climatologist, will collaborate with researchers across the country and in India to understand patterns and causes of changes in Indian monsoons.

The project will look at changes in monsoon patterns, and, in particular, the role of land-use changes due to urbanization and agriculture on heavy rainfall events during Indian monsoons. Niyogi also will work to develop an educational and media portal that will be used to disseminate the latest science related to monsoons. A curriculum will be developed to teach young students about how different regions of the country and world affect each other’s weather patterns.

**Mass spectrometry**

Zheng Ouyang, assistant professor of biomedical engineering and electrical and computer engineering, will use his grant to develop a new configuration for the design of instruments called mass spectrometers. The instruments, which are commonly used to analyze samples in a wide range of applications from medicine to national security, work by first turning molecules into ions, or electrically charged versions of themselves, so their masses can be analyzed in a vacuum chamber.

The researcher will work to improve the efficiency with which ions are transferred from the sample in air into the vacuum chamber. Previous findings have indicated that the sensitivity of mass spectrometers might be improved 100 times. Handheld portable instruments could be developed with the same sensitivity as larger stationary versions.

The work also includes an educational component. About 20 students will take part in an instrument prototyping program. The work will extend to undergraduate teaching, where students in a senior design course will build their own portable spectrometers.

**Future networks**

Chih-Chun Wang, assistant professor of electrical and computer engineering, will work to develop “coded feedback” programs critical to the creation of next-generation networks designed to be more efficient and secure than today’s networks.

The research focuses on enabling the seamless network operation of a diverse range of many different types of “heterogeneous services,” including video streaming, file downloading and peer-to-peer connections of many participants at a time. The research, which will also provide valuable interdisciplinary training for students, is part of efforts to develop future networks that are self-adapting, or able to route traffic around portions of the Internet that are temporarily out of service.

**Pinpointing disease**

Dabao Zhang, assistant professor of statistics, will develop a computer algorithm designed to help pinpoint a person’s susceptibility to specific diseases and conditions.

Data from mass spectrometers and instruments called micro arrays reveal the abundance of proteins and genes most critical to the onset of diseases such as cancer. The algorithm is designed to detect the “sparse signals” of key genes in data from laboratory instruments and determine which groups of genes work together to cause specific diseases. Such knowledge would make it possible to create “personalized medicine” for the early detection of disease, predict which diseases and conditions are most likely for a particular person, and determine the correct drugs and dosages for patients.

The project will involve and train interdisciplinary graduate students, and research results will be disseminated through cceHUB, the Web server of the Cancer Care Engineering project.

**Good vibrations**

Jeffrey Rhoads, assistant professor of mechanical engineering, will use nanotechnology and microtechnology to develop tiny mechanical devices called “resonators” for possible applications ranging from cell phones to advanced sensors and a new type of computer memory.

These resonators will contain many tiny beams connected to each other that vibrate in specific patterns. The resonators could be used to amplify signals for new biosensors in medicine and research, as a new type of filter for cell phones, and for a mechanical computer memory system that harnesses vibration patterns.

The research includes educational components using Purdue’s nanoHUB as well as Purdue’s Summer Undergraduate Research Fellowship, or SURF, program. Rhoads will develop and deploy on the nanoHUB a software tool to simulate the behavior of the resonators, a new K-12 education curriculum on emerging micro electromechanical and nano electromechanical systems, and college-level course materials and lectures associated with a new course on the systems.

**Growing new organs**

Ann E. Rundell, assistant professor of biomedical engineering and electrical and computer engineering, will use the grant to design experimental conditions that will promote cell differentiation in desired manners.

She applies “control theory to dynamical mathematical models” that predict how cells differentiate into other types of cells when exposed to specific conditions. Findings may help researchers learn how to control cell differentiation to produce biological substitutes for organs.

The research integrates experiments and theory and also has educational components: the topics will be introduced in an undergraduate “feedback controls” course; taught in a graduate-level course on controlling cellular processes; and in outreach to middle school students to highlight the beneficial contributions of engineering to society through Web-based modules, electronic fieldtrips to the Discovery Learning Research Center at the University’s Discovery Park, and in summer camp activities.

**Nanowire research**

Chen Yang, assistant professor of physical chemistry, will study how to synthesize, or grow, a new type of nanostructure called a nanowire. These wire-shaped structures are believed to possess unique electrical properties that could allow for their use as semiconductors in devices, such as high-performance electronics.

Two additional components of the research will focus on characterizing the structure’s electrical properties and using them in electrical devices. The project also includes a nanoscience educational and outreach component for elementary, high school and college students.

**Debugging software**

Xiangyu Zhang, assistant professor of computer science, will work to create scalable dynamic program reasoning to debug computer software. The research focuses on faster and more efficient analysis of computer program executions and automatic patching of faulty code.

Zhang proposes a checkpoint mechanism that finds the root cause of the failure in a program without having to check every step. The proposed method would save time, money and computer resources such as memory. He also will apply a “slicing” technique, which identifies the small relevant point in the code that needs to be analyzed, similar to finding the one cell in an Excel spreadsheet responsible for skewing the final calculation.
Students – Showing the ‘heart of Purdue’

Continued from page 1

“It’s definitely been an evolution,” marketing consultant Tammy Weaver-Stoike says. “We started out with the first one, and we didn’t even know if anything was going to happen beyond that.

“After the third one came out, we were like, ‘This is working. Let’s keep doing this. What do we need to change or add to make it even better?’”

In the future, the consultants hope to make the project more interactive, like a blog. Readers could visit the site, see all of the current and past lists, and nominate students or submit their own list ideas.

“We’re also trying to see what we can do with these really interesting stories besides putting them on this blog,” marketing consultant Tanya Brown says. “Do we link some of these to video, some to audio? Are there other kinds of interactive ways that we can tell these interesting stories about Purdue?

“The ideas are there. It’s just a matter of having the resources and time to get it.”

The consultants have used social networking sites, Facebook and Twitter, to help promote the project. Students, faculty members and alumni have all found the site this way.

“We’re still working on getting more traffic to the Web site,” Weaver-Stoike says.

The project continues to grow each month. “5 Students Who are Green” registered 7,327 page views during the month of September. The October list, “5 Students Who are Modern-day Amelias,” saw a 238 percent increase to that, registering 24,731 page views. And “5 Students Who are Veterans” continued the upward trend in November, attracting 29,438.

Many of the visitors are looking at all five students. They’re not just looking at the one person they know. They’re actually going through and seeing the whole story. That’s great to see.”

And the consultants are hopeful the site can even help to play a part in recruiting prospective students on a national level.

“You can see yourself as part of the Purdue family, whether it’s an alum that helps some of these kids with the projects they are in or one of the students who is doing the actual work,” Brown says. “It’s just a way for people to see themselves with Purdue.”

Alice Tam, one of the modern-day Amelias, agrees.

“If I would have seen a site like that, it would have made me want to come here more,” Tam says. “I think it’s cool, the idea behind it.”

And finding students to fit the lists has been a bit of a surprise. The consultants agreed that they knew before the project launched that Purdue had special people, but they still have been surprised with what they are finding.

“I’m really jazzed about how Purdue’s students are really interested in a set of things that are really above and beyond themselves,” Brown says. “They have a passion that I don’t remember seeing when I was in school …. That’s something that I wish we could push farther out than just Purdue.”

Kim Delker, a marketing consultant who has worked on two of the installments, agrees.

“It’s interesting because they’re just so young, yet they’re passionate about what they’re doing. It’s interesting to know the back-story to that,” Delker says.

The feedback from the students has been nothing but positive as well. Joshua Nelson, one of the students who is green, says the lists are a good way to keep up with a group of people with different interests.

“There are a lot of really bright minds here,” Nelson says. “It’s good to see this. I’m very much about sustainable energy. It was encouraging to see the other people who are interested in that as well.”

And Tam says the feedback the students are getting from their friends and family is almost overwhelming.

“My family attacked my inbox with e-mails and made PowerPoint slides and put my picture on random things,” she says. “My friends posted the link on my (Facebook) wall, posted the pictures on my wall. I think it just keeps getting bigger.”

Brown hopes the series, besides fulfilling a marketing initiative, acquires bigger credibility among students in another way: “I want it to be something that they put on their resume.”

“5 Students Who …” has grown considerably from its inception at a single brainstorming session. The Purdue students have always been special, May says. This new project is simply showing them from a different perspective.

“I think we always knew they were there, but we’re actually highlighting them in a way that they hadn’t been highlighted before,” May says. “We always focus on their great research and their great academics, and that’s great, but we also hope to show the heart of Purdue.”

TOP: Dylan Meadows, a junior in premedicine/medical technology from Martinsville, was featured in “5 Students Who are Veterans.”

RIGHT: Alvin Chen, a senior in mechanical engineering from Longmont, Colo., appeared in “5 Students Who are Green.”
The Clerical and Service Staff Advisory Committee (CSSAC) is accepting applications for employee and dependent grants.

The grants help recipients attend classes at Purdue. Guidelines and requirements for applying for the grants are available at the CSSAC Web site: www.purdue.edu/cssac.

**CSSAC Employee Grant Application**

- NAME ___________________________ PUID ___________________________
- E-MAIL ___________________________ DEPT. ___________________________ BLDG. ___________________________
- HOME ADDRESS ___________________________
- HOME PHONE ___________________________ CAMPUS PHONE __________
- CAMPUS ADDRESS ___________________________
- SIGNATURE ___________________________ DATE ___________________________

Did you remember? ____ Letter of recommendation ____ Goal statement

**Incomplete applications will not be considered.**

Return application by March 1 to Lisa McCloud, HRS/FREH.

**CSSAC Dependent Grant Application**

- NAME ___________________________
- APPLICANT SIGNATURE ___________________________
- DATE ___________________________
- PUID ___________________________ E-MAIL ___________________________
- HOME ADDRESS ___________________________
- NAME OF PARENT/LEGAL GUARDIAN EMPLOYED AT PURDUE ___________________________

- Mother/stepmother
- Father/stepfather
- Legal guardian
- Retiree

**Incomplete applications will not be considered.**

Return application by March 1 to Lisa McCloud, HRS/FREH.

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**PEAP sets shopping trip**

The Purdue Employees Activity Program, a subcommittee of the Clerical and Service Staff Advisory Committee, has planned a bus trip April 10 for a shopping excursion to Schaumburg, Ill. The trip is open to all Purdue staff, faculty, students and friends.

The bus is scheduled to leave Freehafer Hall at 8 a.m. April 10. It will drop off travelers at IKEA to browse their home furnishings products, and then take passengers to Woodfield Mall, a Chicago suburban shopping attraction. The bus will leave Chicago at 5 p.m. Chicago time for the return trip. Cost is $25 per person.

To register for the trip, fill out the form at www.purdue.edu/cssac/Employee_Trips/.

Deadline for registration is March 24.

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**APSAC seeking new members**

The Administrative and Professional Staff Advisory Committee will begin the process in January to fill six seats that will become vacant in May.

APSAC is encouraging A/P staff within the following units to apply:

- College of Agriculture, including Cooperative Extension Service.
- School of Veterinary Medicine.
- Vice President for Business Services, Internal Audit, and Executive Vice President and Treasurer.
- Vice President for Information Technology.
- Vice President for Housing and Food Services.
- Vice President for Physical Facilities.

The membership application and instructions may be downloaded from www.purdue.edu/apsac. The application deadline is Feb. 15.

Questions may be directed to Michelle Davis at 49-45776 or davisma@purdue.edu.
Green cleaning now a campus habit through Building Services’ effort

What started in July 2008 as a pilot program to test green cleaning methods in Discovery Park has now become a campus-wide endeavor.

Through the efforts of Purdue’s Building Services, the West Lafayette campus has adopted a comprehensive green cleaning program that replaces cleaning chemicals with bio-based, biodegradable products derived from renewable resources.

“Previously we used products and technology that had been in use within our industry for more than 30 years,” says Bob Mormon, day general manager at Building Services. “These traditional cleaning products were blunt-force instruments. Today, we use finesse tools and products designed from an entirely different chemistry. Our green products are all third party certified, and they meet tough environmental standards that meet or exceed federal guidelines.”

The green cleaning program aims to improve air quality, eliminate volatile organic compounds, reduce water pollution created by cleaning processes, and reduce the amount of solid waste generated.

Purdue’s program was recently recognized by American School & University magazine, the Green Cleaning Network and the Healthy Schools Campaign as the Best New Green Cleaning Program in the country for 2009.

The idea to introduce environmentally friendly cleaning processes grew out of a Big Ten and Friends Building Service Administrators Conference hosted at Purdue in September 2007. That led to a well-received six-month pilot program at Discovery Park in 2008. Building Services took the program campus-wide in February 2009.

During the pilot and now as part of the campus-wide program, Building Services has used bio-based products formulated from naturally renewable, sustainable resources such as soy, corn, and sugars.

“Biorenewable products eliminate the need for petroleum-based raw materials and support American agriculture and forestry industries,” Mormon says.

The program also involves the use of dispensing systems that systematically dilute chemicals with cold water as well as special training for custodial staff on how to use the new products.

“Our floor mops are made entirely from remanufactured 2-liter soda bottles, and our mop handles are made from rapid-growing bamboo,” he says. “Everything we order comes in recycled packaging and in concentrated form whenever possible.”

Consumable products such as paper towels and plastic can liners are also an important part of the overall program. They now meet EPA requirements for high post-consumer recycled content.

“Our staff feels empowered by their stewardship role,” Mormon says. “Our customers feel engaged with a process that delivers the clean, safe, healthy environment they expect and reduces Purdue’s ecological footprint.”

“Our Big Ten peers are expressing tremendous interest in what we’re doing. Many of them plan to emulate key parts of our sustainability programs on their campuses. Going forward we plan to continue supporting our friends and peers with their efforts to go green, and in the process, multiply the impact of our efforts across the country.”

Keeping indoor environment healthful figures into building’s rating

Indoor Environmental Quality is one of six Leadership in Energy and Environmental Design (LEED) categories for rating the Roger B. Gateway Wing addition to the Mechanical Engineering Building.

The U.S. Environmental Protection Agency says many Americans spend nearly 90 percent of their day indoors in air usually two to five times worse than outdoors.

Studies have shown that having healthy and happy building occupants produces many benefits including fewer sick days/ lower absenteeism, lower turnover rates, and higher productivity.

The Gateway building has LEED features in the category of Indoor Environmental Quality:

- Outdoor Air Delivery Monitoring and Increased Ventilation: In a proactive approach, the outdoor air level will be monitored continually and controlled to provide optimum levels for varying occupancy. Outdoor air ventilation will be provided at 30 percent above the minimum rates required by ventilation standards.

- Construction Indoor Air Quality Management Plan — During Construction and Before Occupancy: A plan was developed to minimize contamination in the building during construction and to verify the indoor air quality before occupancy. Some examples of minimizing contamination include the protection of absorptive building materials from moisture, more frequent cleaning in the construction area, use of high-efficiency particulate filters in vacuum cleaners, and careful attention to air handling components before occupancy.

- Low-Emitting Materials: Indoor contamination is reduced by lowering the quantity of irritating, volatile organic compounds (VOCs) including adhesives, sealants, paints, carpets, composite wood and laminates, verified and documented by reference standards and manufacturer’s submittals.

- Controllability of Systems — Lighting and Thermal Comfort: “Studies have found that building occupants are happier and more productive when they are given a high level of control of their working and learning environment,” says Lila Albin, senior industrial hygienist in Radiological and Environmental Management.

The ME addition is designed so that all offices and a majority of individual workstations will have a desk-mounted, adjustable task light. Though several lab spaces and instruction rooms throughout the building require consistent, level lighting, areas of intricate task work, such as fume hoods, will include task lights or multi-level lighting. Dimmer or multiple switches at the entry doors will allow occupants to control the lighting levels and zoning within the room.

For thermal comfort, all spaces will have individual room-level temperature controls so that adjustments may be made to suit individual or group tasks and preferences.

- Thermal Comfort — Design and Verification: The design of the building systems and enclosure complies with the latest thermal environmental standards for occupant comfort. Within six to 18 months after occupancy, a Web-based thermal comfort survey will be administered to building occupants — professors, administrative staff, and students. The anonymous survey will assess overall satisfaction with thermal performance and identify any comfort-related problems including indoor air quality, acoustics, lighting, and cleanliness.
Young CEO alumna grateful for encouragement by mentors, Purdue

The early years of Erin Slater, a Purdue alum and CEO of College Mentors for Kids, were not the stuff of fairy tales.

Slater’s adoptive parents died when she was young: her mother when she was 5 years old and her father when she was 16. She then went to live with another family. A teenage rebellious phase followed.

“I was skipping classes and making poor choices,” says Slater, who failed her senior year in high school, and had to return for an extra semester to graduate.

She was working in an Outback Steakhouse in Lafayette when some family and friends asked Slater what she was going to do with her life. She enjoyed working in a restaurant and even thought of opening one of her own some day. She heard that Purdue had a good hospitality and tourism management program, and after a little encouragement, decided to go to college.

Her first application to Purdue in 1996 was not accepted, but after a few classes at Ivy Tech Community College to improve her grades, she was admitted in 1998.

Slater had learned about College Mentors from Kelly Frank, a waitress at Outback who also was president of the program’s Indiana University chapter. Founded in 1995 by two IU undergraduates, the nonprofit pairs at-risk first- through eighth-graders with college students not only to expose them to higher education, but also help them understand the opportunities it can provide.

Slater was inspired by that idea. She knew what a difference her own mentors — Frank; her sister, Jennifer; and supervisors at Outback — had made in her life. So before her first classes had begun, she decided to start the fourth chapter of College Mentors at Purdue.

Soon afterward, Slater walked into President Steven Beering’s office in Hovde Hall. She thought he should know about the group she was forming.

“After meeting Jonathan, I knew I was in the right major,” says Slater, who switched to child development and family studies.

College student mentors spend two hours each week on campus with the children, 20 times per year. Slater worked with Jonathan for two years before he left the program; he returned after a year, and she continued to mentor him. Then he and his family moved out west.

Meanwhile, Slater was juggling a full course load, two or three jobs, College Mentors, and other involvements on campus.

She founded SAVE, Student Assisting Volunteer Efforts, to support community involvement activities and volunteerism, and worked with a team of faculty and staff members to start Purdue’s Boiler Volunteer Network.

After the Sept. 11 attacks, she was asked to speak at Purdue’s National Day of Prayer and Remembrance memorial service three days later.

At the end of her senior year in 2002, the girl who couldn’t graduate with her class in high school was chosen as Purdue’s Outstanding Graduating Woman.

Jonathan is now a junior in high school who wants to go to college and become a journalist. He is one of more than 6,000 children that have been mentored through College Mentors, including more than 1,200 during the 2009-10 school year. Studies show that they have increased school attendance, get better grades and ISTEP scores, and have higher self-esteem.

There are now 23 chapters of College Mentors in Indiana, Illinois and Ohio. About 1,400 college students, including more than 200 at Purdue, are volunteers. Its main focus today is to build its sustainability and infrastructure while preparing to grow both regionally and nationally.

Erin Slater, now 32, became the CEO of College Mentors in 2007. She appeared on “The Martha Stewart Show” in September 2009 after being named Stewart’s 2009 Dreamers into Doers philanthropic winner.

Sometimes even Slater is amazed how far she’s come in only 11 years.

“There have been two major turning points in my life,” she says. “Working at Outback was the first. I was embraced and encouraged by so many people. I met my husband there.

“But Purdue has also been such an important part of my life. It’s an environment where everyone wants you to succeed. It’s where I gained my self-confidence and grew.

“It led me to where I am today.”
PMU Dining Services adds role as meal preparer for Greek house

Purdue Memorial Union operates 18 restaurants across campus. Now, Dining Services has expanded into the Greek sector.

Though most Greek houses turn to cooks or caterers or do the cooking themselves, Gary Goldberg, the Union’s director of dining services, suggested Alpha Epsilon Pi organize a program with the Union.

This is the first year Alpha Epsilon Pi, Purdue’s Jewish fraternity, has occupied a house on campus. One of the brothers had previously worked with Dining Services on his industrial engineering senior design project and discussions on how the house served its food began.

Alpha Epsilon Pi accepted the business offer, and the result has proven to be a healthy partnership.

“The process is fairly simple,” says Zach Bright, member and lieutenant master of AEP. “They make all of the food at the Union and deliver it to us twice a day. We get a hot lunch, along with box lunches upon request, and a hot dinner. They bring the breakfast at dinner-time and leave it in our kitchenette.”

The collaboration is beneficial to both parties, Goldberg says. Dining Services receives a business partner, and the fraternity receives a convenient and reliable source of food.

“To me it was a smart business decision,” Goldberg says. “It is incremental revenue for us. We gave them a very fair arrangement, and we’re very flexible. They probably wouldn’t get another caterer to be as flexible as us. The security with us is we’re on campus. We’re a logical extension.”

Food is based on a rotational menu, but special requests can be made with 24 hours’ notice. Dining Services even features and serves dishes from one of its Union restaurants, such as Lemongrass or Pappy’s, twice a week.

“It’s not really adding any labor, simply because we are mirroring items that we are already producing for some of the other outlets,” executive chef Bruce Haumesser says.

“So that’s really made it smart for us and really cost-effective for them.”

And being a Jewish fraternity, some brothers have kosher-style diets based on their religion.

“They have a few vegetarians, so in addition to the cycle menu we also send over about five offerings of vegetarian dishes every day,” Haumesser says.

Dining Services prepares three meals per day, Monday through Friday for Alpha Epsilon Pi. Meals are prepared based on the academic calendar, and Goldberg says he hopes to expand the project to more Greek organizations next fall.

“We’re appreciative of the opportunity, and I hope others inquire of us,” Goldberg says. “I think it’s good for everybody.”

Nominations sought for Violet Haas, Martin C. Jischke awards

The Council on the Status of Women at Purdue is seeking nominees for the 2010 Violet Haas Award.

Established in 1990, the award recognizes individuals, programs or departments at Purdue that have facilitated the advancement of women in hiring, promotion, education and salary, or have enhanced positive professional climate for women at the University.

The award is named for Haas, an electrical engineering professor from 1962 to 1986, who was instrumental in the early development of the Purdue chapter of the Society of Women Engineers.

Nominations are due Feb. 19. Information about nominee criteria and the procedures for preparing and submitting a nomination are posted at www.purdue.edu/newsroom/purduday/faculty_staff_news/2010/100111_HaasAward.html.

The award recipient will receive a plaque at a spring reception and have her or his name added to the Violet Haas Legacy Plaque outside Room 108, Purdue Memorial Union.

Jischke award

Faculty and staff are invited to nominate a graduating senior for the Martin C. Jischke Outstanding International Student of the Year award.

Nominations are due Feb. 5 for the award, established by President Emeritus Martin C. Jischke to recognize a Purdue international student who has helped the University welcome and connect people of all cultures, says Michael Brzezinski, interim vice provost for global affairs and dean of international programs and director of the Office of International Students and Scholars.

The award is to be presented at the University Honors Convocation in April.

For eligibility criteria and nomination forms and procedures, go to www.iss.purdue.edu and click “Current Students,” then see the list of links under that. Information about submitting nominations is at the Web site.

Deaths

James W. Johnson, 86, died Nov. 29. Housing and Food Services.

Russel J. McCormick, 86, died Dec. 2. College of Agriculture.

Dorothy J. Jackson, 81, died Dec. 10. Payroll.

John Robert Osborn, 85, died Dec. 18. Professor emeritus of aeronautics and astronautics.

Janet A. Sweet, 80, died Dec. 19. Purdue University Center for Cancer Research.

James T.P. Yao, 77, died Dec. 23. Professor of civil engineering.