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New center named in honor of Danforths

Facility, a green building, to open by fall 2008

Washington University will name its new university center in honor of Chancellor Emeritus William H. and the late Elizabeth (Ibby) Gray Danforth, announced Sept. 19. The building is under construction on the University's Danforth Campus at the intersection of Forsyth Boulevard and Wallace Drive. The William H. and Elizabeth Gray Danforth Center, scheduled to open for the fall 2008 semester, will be a gathering place not only for students, but for the entire community — faculty, staff, friends, parents, alumni and visitors.

Conceived entirely in the collegiate Gothic style, the three-story, 116,000-square-foot facility will feature dining areas, lounges, meeting rooms and offices for student leaders and student services professionals.

"For us, it was a matter of how and for such a long time, Bill and Ibby have embodied this institution. They have made an extraordinary impact on the past, present and future of the University, and we cherish this association," Wauthon said. "There is no better way to honor their love for the University than to name the Center for them." The approximately $41 million facility was designed by Tsoi/Kobus and Associates of Cambridge, Mass., and is being built by Clayco of St. Louis. Communications Arts Inc. of Boulder, Colo., designed three dining areas and the center's "fun room." The construction is being supported in part by a gift from the Danforth Foundation. To date, A.G. Edwards and the Harry Edison Foundation also have provided leadership gifts for the project. Additional funding efforts are ongoing to provide the resources needed for the building.

"Ibby would be very pleased by having her name attached to this wonderful Center," said Danforth. "I have countless warm memories of our years together at Washington University. She would see the new Danforth Center as a special place where students can gather with their friends and classmates for activities and talks, for learning and for growing." The building has been designed as a green structure, to be Leadership Energy and Environmental Design (LEED)-NC Gold certified. It will have improved water and energy efficiency exceeding state and federal codes. Construction has included the use of many recycled products and materials and more than half of the construction waste will not end up in a landfill.

The building will feature dining and common areas, and will house the Career Center, event centers and a large lecture hall.

Washington People: Pakrasi's work cuts across many fields

BY GLEN ERIKSON

A large turnout of admirers gathered for the unveiling in Holmes Lounge, Bigeley Hall. Early's portrait now hangs in the John M. Olin Library in the Current Journals Reading Room (main level, southwest corner).

Early's Ph.D. the Merle Kling Professor of Modern Letters and director of the Center for the Humanities in Arts & Sciences, is an essayist and American culture critic who joined the WUSTL faculty in 1982. Writing on topics as divergent as boxing, baseball, jazz, literature and the Miss America pageant, he is a widely recognized literary critic who joined the WUSTL faculty in 1982. Writing on topics as divergent as boxing, baseball, jazz, literature and the Miss America pageant, he is a widely recognized literary critic and winner of numerous prestigious literary prizes.

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Early's literary contributions honored

BY DEBORAH PARKER

Edward Macias, executive vice chancellor, dean of Arts & Sciences and the Barbara and David Thomas Distinguished Professor in Arts & Sciences, and Shirley Baker, vice chancellor for scholarly resources and dean of University Libraries, remove the cloth covering Gerald Early's portrait.

Early's literary contributions honored

BY DEBORAH PARKER

Having not yet seen the portrait of colleague Gerald Early, Wayne Fields said he approached the Sept. 5 unveiling with "a friend's anxiety, no — more an older brother's concern."

Ultimately, Fields, Ph.D., the Lynne Cooper Harvey Distinguished Chair in English and director of the American Culture Studies program in Arts & Sciences, said he was won over by the depiction.

A large turnout of admirers gathered for the unveiling in Holmes Lounge, Bigeley Hall. Early's portrait now hangs in the John M. Olin Library in the Current Journals Reading Room (main level, southwest corner).

Early, an essayist and American culture critic who joined the WUSTL faculty in 1982, writes on topics as divergent as boxing, baseball, jazz, literature and the Miss America pageant. He is the author of more than a dozen books and winner of numerous prestigious literary prizes.

With this portrait, he now holds company among other legendary WUSTL writers who received this recognition — Howard Nemerov, William Gass, Jarvis Thurston, Mona Van Duyn, James Merrill, Donald Finkel, Stanley Elkin and John Morris.

"In 1991, then-Chancellor William H. Danforth unveiled a rendering of the William H. and Elizabeth Gray Danforth Center, which will be a gathering place for the entire WUSTL community."

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Portrait unveiling

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Ecolologist reports dire devastation of snake species following floods

By Tony Fitzpatrick

It's science, it's best to be good, but sometimes it's even better to be lucky.

Ecologist Owen Sexton, Ph.D., professor emeritus of biology and environmental science, has completed a census of snakes at a conservation preserve north of St. Louis when the great flood of 1993 deluged the area, putting the preserve at least 15 feet under water.

The flood provided Sexton with a rare opportunity: His collected data and the flood would combine to make "the perfect study" of how an area rebounds from natural disaster.

He went back the following year and found that many of the snakes had displaced or killed 70 percent of the pre-flood population of five snake species, and other elimination of the populations of three other species or left the populations so low that they could not be detected.

To key survival: Size. The bigger the snake, the better its chance for survival. Sexton found that arboreal species — those that hang out in trees — fared better than (surprise) aquatic ones.

Sexton's findings were published in the Natural Areas Journal, Vol. 27 (2007). The work was supported by the Missouri Department of Conservation.

His research proposes that "islands" of displaced being constructed at various locales in the conservation area to serve as sanctuaries for non-resident snakes during floods. Such a natural "lifeboat" would reflect that number. One species diversity must have had a huge impact on species diversity there," Sexton said, adding that "the island effect" also played a role. That is the situation in most natural areas, including Yellowstone Park, contain with: They are islands in a sea of development on every side, thus limiting, if not eliminating, the migration of non-resident species to new areas.

The third serendipity came about a few months after the 1993 floodwaters receded. Sexton heard of a farmer upstream of Marais Temps Clair whose house and farmyard did not suffer flooding but had been completely surrounded by floodwaters.

The farmer removed 200 garter snakes along that year in his yard, machines, sheds and implements, and released them in safe areas.

The following year Sexton and his colleagues visited the farm and removed 35 snakes, three species of which they had not originally found at Marais Temps Clair — species powerfully displaced there by the flood. The serendipity came as the idea of providing a sanctuary for snakes and other species to wait out a flood — like islands in a stream.

"I think of, to escape a flood, any kind of high ground can save lives," Sexton said. "When you see all the soil that is moved to make a road, to build homes and malls, you think this is displacing the soil. If we could get a program together with state and federal contractors to bring that exos soil to flood-prone refuges such as Marais Temps Clair and pile up several mounds of earth that we can be left on the top of the levees, we'll allow more snakes and other species to survive future major floods and help healthy populations at Marais Temps Clair.

"I think of it as a win-win situation."

Cornerstone gets NSF grant for peer-led learning

By Niki Schnorrenberg

Cornerstone: The Center for Advanced Learning has received a $100,000 grant from the National Science Foundation (NSF) to support research that will help modify the Peer Led Team Learning program (PLTL). The program helps to meet the needs of WUSTL students with disabilities enrolled in introductory chemistry, physics and calculus classes. The grant was developed by Christine Duden Street, assistant director for disability resources at the center.

"We are incredibly excited about this grant," said Robert H. Koff, Ph.D., director of the center. "We are looking forward to identifying ways to increase academic achievement for undergraduate students with learning and attention disabilities. The grant will be a great help to strengthen what is already a very successful program."

The PLTL program, started in 2001, pairs trained upperclassmen with small groups of students who work on group exercises directly connected to coursework. A study using data from the fall semesters of 2003 and 2004 found that students who participated in PLTL perform at least one-third of a grade point higher in first semester general chemistry than students who do not participate, even after controlled for pre-existing background characteristics.

The study was conducted by Susan Hockings, Ph.D., lecturer in chemistry in Arts and Sciences; Regina Fry, Ph.D., researcha"
Drug may improve pregnancy for insulin-resistant women

**By Diane Duke Williams**

Women who are obese, have type 2 diabetes or polycystic ovary syndrome (PCOS) are at higher risk for complications because of a School of Medicine study. This research, performed in mice, suggests that Metformin, the most commonly prescribed anti-diabetes drug, potentially could improve insulin resistance in women with insulin resistance.

"We've found that embryos of insulin-resistant mice also have some degree of insulin resistance, and if we correct the insulin resistance in the embryo with this drug, we improve the quality of the embryo," said Kdie Moley, M.D., lead author and professor of obstetrics and gynecology.

The finding, published online in Diabetes, suggests that Metformin could benefit women with type 2 diabetes or polycystic ovarian syndrome (PCOS). About 8 percent of pregnant women try to conceive but have insulin resistance, Moley said, and even more are suspected to be borderline. They have a history of type 2 diabetes or being overweight may be at risk for the complications that may be present in their offspring.

"Metformin is often given to women with PCOS, an endocrine disorder that affects insulin-sensitive tissues. These women often share the same pregnancy complications as women with type 2 diabetes and obesity. Recent studies have shown that Metformin not only aids conception in women with PCOS but also reduces the high miscarriage rates, however, how the drug does this has been unclear."

Using early-stage mouse embryos, Moley and her colleagues showed for the first time that Metformin improves insulin action in insulin-resistant embryos. That allowed the embryos to absorb glucose, an important energy source, and prevent the death of cells in the embryo. As a result, the embryos were more likely to implant successfully in the uterus and to continue growing.

"Metformin's positive effects. They found the drug triggers an important sensor of the energy state of cells, which sets off a chain of reactions that help insulin do its job. Previously it was not known that this sensor molecule was active in early embryos. Moley hypothesizes that in insulin-resistant women, high levels of insulin and related factors cause their embryos to compensate by shutting down insulin-signaling mechanisms. That impairs the early embryo's ability to take in glucose at a critical stage of development and can lead to pregnancy failure."

"We found that Metformin improves glucose uptake and improves the survival of the early embryo as a result," Moley said. "Mouse embryos in this nutrient environment that were not exposed to Metformin did not survive."

Most miscarriages are due to chromosomal abnormalities. But Moley said this study provides new scientific evidence that miscarriages related to insulin resistance possibly could be avoided through the use of Metformin.

"This will help physicians know better how to treat these women and reassure them that they're being correctly treated for their medical problems and that their babies will benefit from that treatment," she said.

Starving children restored to health with peanut-butter product

**By Beth Miller**

An enriched peanut-butter mixture given at home is successfully reversing severe malnutrition in large numbers of starving children in the sub-Saharan African country. The nutrient-rich mixture contains peanuts, powdered milk, and sugar and added vitamins and minerals. Produced in a Malawian factory, the mixture is given to the mothers of the children to feed at home.

While Manary's team had promising results in using the RUTF (ready-to-use therapeutic food) in children suffering from moderate malnutrition, children suffering from severe malnutrition had not been used to treat the illness in large-scale operations because of limited feeding program using the existing peanut-butter mix. The researchers showed that patients had a 44 percent five-year survival rate. Results appeared in the July issue of Maternal and Child Nutrition.

The research team, including Manary, students from WUSTL and Bayo College of Medicine and researchers from Malawi, rolled out the treatment at five health centers in southern Malawi. With the help of the Malawian government, the researchers showed that the concentrated RUTF in hospitals. Manary said. "The recovery rate for children given the standard treatment is less than 50 percent."

As a result of the study, Manary and the researchers found that village health aides can reliably identify which children need treatment as well as others," said lead author and professor of pediatrics Haywood B. Moley, M.D., medical student at the Jewish Hospital resident in the University's Department of Medicine.

"Our study suggests that PET can reliably identify patients who have a poorer prognosis," said Kdie Moley.

Kdie and her colleagues, including research assistant Zachary Linneman, even more are suspected to be borderline. They have a history of type 2 diabetes or being overweight may be at risk for the complications that may be present in their offspring.

"We've seen that among patients with the same stage of cervical cancer, there will be many with different outcomes to treatment as well as others," said lead author and professor of pediatrics Haywood B. Moley, M.D., medical student at the Jewish Hospital resident in the University's Department of Medicine.

"Our study suggests that PET can reliably identify patients who have a poorer prognosis," said Kdie Moley.

Kdie and her colleagues, including research assistant Zachary Linneman, said. The researchers showed that patients with high SUV tumors may need more aggressive treatments, further clinical studies are necessary to determine the best therapy in such cases.

In the current study, 287 patients with cervical cancer were treated with surgery, chemotherapy or radiation therapy following standard treatment protocols. At the time of diagnosis, the SUV of their primary tumor was obtained. Their cancers were also staged under standard guidelines, which rely largely on tumor size and invasion with surrounding tissue.

"The patients were found to fall into three distinct risk groups. Those with the lowest SUV had a survival rate of 95 percent at five years, those in the middle SUV range had a 70 percent five-year survival rate, and those in the highest SUV range had a 44 percent five-year survival rate."

"Because high SUV indicates that tumors take up glucose rapidly, the measurement may point to an important biological difference between more aggressive cancers."

"We're interested in finding out what causes that difference," said Kdie Moley. "That could eventually lead to new methods for treating patients whose tumors have a high SUV."

The findings suggest that SUV is a more sensitive indicator of tumor aggressiveness than standard staging protocols. The study also demonstrated that SUV was better at predicting overall survival than the type of tumor or lymph node involvement, factors suspected to affect prognosis.

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Sculptor Erick Swenson to launch fall Visiting Artist Lecture Series

A young deer cast in polyurethane resinvelvet fabric crosses a large, orange carpet. A full-grown back, covered in icicles, collapses in a blizzard.

Sculptor Erick Swenson creates elaborate, allegorical dioramas that recall the frozen terraces of the Austrian Alps. His award-winning organization depicts elaborate, allegorical dioramas of the natural history of the natural world. Swenson installed his first major work in the New York University student union and has since been recognized for creating large-scale installations that combine painting, sculpture, and plywood into dynamic, complex forms from found materials and elements of her own making.

Illustrator and art director Brian Rea, whose work has appeared in Spin, Newsweek, The New York Times, Sports Illustrated, and The Nation, is one of the major publications that will speak next year, an organization.

The series continues Nov. 14 with Rod Simmons, director of the Museum of Contemporary Photography at Columbia College Chicago. Simmons will discuss how African American art has been served as national chair of the Society of Photographic Educators, for National Endowment for the Arts, and as site evaluator for the National Endowment for the Humanities.

For more information, call 935-9350 or visit cldys.xwst.edu.

Clydesdales • Linguistic Profiling • Career in Science

University Events

Assembly Series continues: Cultural identity, spirituality, a secular world

By Barbara Rea

The fall 2007 Assembly schedule continues through Nov. 15. Please note the time changes for some talks. All programs are free and open to the public.

* Toro Newas

The Pakistani/Canadian Muslim filmmaker will deliver the 11th Olin Lecture at 11 a.m. Oct. 8 in Graham Chapel. Best known for her Canadian situation comedies, Olin's film work tries to break down Muslim stereotypes. Her address on "Crossing Cultures" will continue with a panel discussion, "Can a Muslim be free and open to the public?"

Rahul Reddy and the Rev. Gary Braun

Two members of the campus ministry leaders will hold a forum at 4 p.m. Oct. 15 that will explore the hindrances and challenges they encounter as spiritual leaders at a secular institution. "This I Believe: The State of Spirituality at Washington University" will be held in Graham Chapel and will allow Olin and Braun to share their beliefs and encourage others to share theirs.

Sculptor Erick Swenson to launch fall Visiting Artist Lecture Series

(Oct. 13) and Judy Pfaff (Oct. 11). Gaskell is a photographer who has been strongly influenced by film and painting, notably in her careful use of lighting and use of exaggerated camera angles and cropping. Pfaff, a 1971 WUSTL alumna, is nationally known for creating large-scale installations that combine painting, sculpture, and plywood into dynamic, complex forms from found materials and elements of her own making.

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Jazz at Holmes presents free concerts during fall

BY LIA MOTTEN

Pianist Carol Beth True and trumpeter Randy Holmes will perform for the Jazz at Holmes Series from 8-10 p.m. tonight.

The series, launched more than a decade ago, features professional jazz musicians from around St. Louis and abroad performing in Holmes Lounge, Duncker Hall — a relaxed coffeehouse-style setting — most Thursday evenings throughout the fall and spring semesters. Local groups return again and again to play in our beautiful room with its wonderful, warm acoustics,” said series coordinator William Lenihan, director of jazz performance and instructor in guitar and jazz theory in the Department of Music as Arts Sciences.

“Tliey remain impressed with the intense interest in jazz among Washington University students and the popularity of Jazz at Holmes has grown over the years,” Lenihan said.

True, leader of the Carol Beth Trio, is a mainstay of the St. Louis jazz scene and has been featured on numerous CDs, including “Carol Beth’s (2004) “First Time” and her most recent effort, “New Harmonia Jazz” (with Sandy Weltman and Tim “All Star” Turner) (with Debby Lennon). In 2002, the book was selected for special purchase by the Arts & Education Council of Greater St. Louis. This year’s lineup includes two audience members as well as classical works and world premieres; directed world premieres; directed world premieres and a tribute to the late Francis Duffield; directed world premieres, a show that was performed by the late Francis Duffield; directed world premieres, a show that was performed by the late Francis Duffield.

Ridgley Hall, Holmes Lounge.

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Center
New building will enhance campus life — from Page 1

The Danforth Center is a building that will promote the activities important for the University as a community, a place where faculty, students, staff, alumni, parents and friends can come together. It will enhance campus life with a special focus on our students. We have a wonderful design and I think it's being beautifully executed.

JAMES R. McLEOD

Grant
ICTS will promote research teams — from Page 1

and regulatory requirements, Polonsky said.

The ICTS will promote the development of research teams combining scientists with related interests. Faculty from each collaborating institution will have access to the resources of the ICTS, and students and trainees from each collaborating institution will be able to participate in ICTS funding programs to enhance the quality of clinical research in the St. Louis region.

The ICTS also will foster collaborative research partnerships between academic institutions, government and private institutions, private companies, other community organizations and the community at large, thereby leading to improvements in the health of our community.

The consortium will set up mechanisms to commercialize scientific discoveries and create partnerships with private and public health-care organizations, including pharmaceutical companies and business incubators to turn basic scientific advances into products as rapidly as possible.

The ICTS complements Washington University's Holme 21 initiative, a strategic program begun in 2003 by the Office of the Vice President for Medical Affairs. The program is multi-disciplinary, collaborative research and rapidly apply breakthroughs to patient care.

Clayco Corp., project superintendant Craig Buschelt (left) and assistant project superintendant Erick Todd review plans as work continues on the Danforth Center at the intersection of Forsyth Boulevard and Wallace Drive.

"The Danforth Center is a building that will promote the activities important for the University as a community, a place where faculty, students, staff, alumni, parents and friends can come together. It will enhance campus life with a special focus on our students. We have a wonderful design and I think it's being beautifully executed."

JAMES R. McLEOD
celebrating two decades of diversity Ervin Scholar Paul Wright (Class of 1991) reflects on 20 years of the Ervin Scholars Program at Washington University School of Law. The program was established in 1987 to help create a more diverse community on campus. Ervin Scholars are selected on the basis of academic achievement, leadership, high school or community, commitment to community service and commitment to bringing diverse perspectives to the law school community. Ervin is an adjunct professor at Washington University in St. Louis and a practicing lawyer in St. Louis. The program is named after John B. Ervin, a nationally renowned black educator, dean of University Libraries, and the vice provost's office.

perfil

Native American writer and educator Anna Lee Friedman who died in 1992. Ervin was dean of the School of Continuing Education, New School University in St. Louis in the 1980s and 1990s. The program is named after John B. Ervin, a nationally renowned black educator, dean of University Libraries, and the vice provost's office.

informal writing

obituaries

Daniel P. Schuster, professor of medicine and of radiology, 57

Schuster served as the associate dean for clinical research from 1996 until 2005. He joined Washington University School of Medicine in 2005.

Obituaries

Daniel P. Schuster, M.D., the Virginia E. and Sam J. Galman Chair in Respiratory Intensive Care Medicine, died July 14. Schuster was passionate about translating basic science research to the bedside and spent years building bridges between basic science and clinical departments at the medical school.

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Schuster was an accomplished physician and researcher devoted to advancing the understanding of chronic lung diseases. He was a wonderful colleague and a very loyal member of the Department of Medicine, said Kenneth N. Polansky, M.D., the Adolphus Busch Professor and chair of the Department of Medicine. "He always provided well-reasoned and thoughtful advice and input. His passing will leave a significant hole in our department and he will be sorely missed." Schuster's family is survived by his wife, Debra; sons Jamie and Evan; his mother, Alice; and a brother, David. Funeral services were held Sept. 12 at the Beth Sholom Knesseth Israel Congregation in Richmond Heights, Mo. Memorial contributions are suggested to the American Heart Association or the American Lung Association.

Olin Library has produced a guide to the artwork, provided by the St. Louis Art Museum, of the library itself or any of its artworks for each print. A price list of the guide is available in the library. The guide is available online at library.wustl.edu/art.
Pakrasi's passion is bringing together unlikely university partnerships—then seeing what good can come of it.

**Himadri B. Pakrasi, Ph.D.,**

has an impressive title, one that speaks volumes about who he is, what he has done and what he is doing. Pakrasi, the George R. and Irene K. Koechig Freiberg Professor of Biology at Washington University in St. Louis, and professor of energy in the School of Engineering, has a title that transcends what have been boundaries at Washington University.

His titles bridge two schools that have had minimal interaction, but in recent years have found, thanks to Pakrasi, common themes: energy, the environment and sustainability. These are the themes Pakrasi, a native of Calcutta, India, has pushed in his own research since he came to the United States in the late 1970s to pursue a doctoral degree. An example: In recent years Pakrasi, using humor, photosynthetic bacteria, has assembled multidisciplinary teams of researchers to understand the mechanisms of how organisms harness available energy. He has received funds from two federal agencies in the quest, and has changed the way biology is done by harnessing the skills and insights of researchers from across the University.

### Energy and Synergy

Pakrasi's research is to enter a program in biology, first at the University of Rochester, where he earned a bachelor's degree in bio-physics in 1980, then the University of Missouri-Columbia.

At Missouri, Pakrasi met his wife, Maitrayee Bhattacharyya, who at the time was a doctoral candidate in biochemistry. She was also a research assistant at Washington University, having obtained a bachelor's degree in biology. They married in 1981, and have a daughter, Annapurna, 10. Now Maitrayee, who has a doctorate from the University of Notre Dame, works with him as a research associate in his lab.

Following the completion of his doctorate in biology at Missouri in 1984, Pakrasi went to Michigan State on a postdoctoral fellowship to continue studying photosynthesis. He was a visiting scientist at Delft University in the mid-80s when he began research on Synechocystis 6803, a cyanobacterium, microscopic blue-green unicellular algae that captures sunlight and then carries out a variety of integrating biochemical processes. Cyanobacteria have come about because they were the first to be the backbone of Pakrasi's research.

Pakrasi favors working in academia, being in the industry for incubating some of his most pivotal ideas. He has always had the notion that in industry that you have to do specific product-related research, Pakrasi says. "But this was the case for me. Scientists there were not encourage learning to learn about cyanobacteria, and I was on the ground floor of some discoveries about key genes and proteins. They wanted a model organism that could provide lots of insights into what goes on in plants.

Cyanobacteria are progenitors of plants that shed light on the functions of plant chloroplasts. "DuPont gave me the opportunity to get into a completely new area of science where not much was known. They very kindly allowed me to bring in the basic knowledge that I learned there to Washington University when I started my lab in 1987."

This beautiful friendship between Pakrasi and cyanobacteria culminated in 2006 when the U.S. Department of Energy (DOE) de- 

Pakrasi and his collaborators designed a photosynthetic bacteriophage to watch Cyanobacteria convert available sunlight into thick mass of green biomass, from which biofuel can be extracted. Pakrasi also led the sequencing of the entire genome of the photosynthetic bacterium, Cyanothece 51142 at the Washington University Genome Sequencing Center as the focus of a DOE "grand challenge project."

"This information will be important for how environmental conditions influence key carbon fixation processes at the gene and protein level," Pakrasi says.

The sequencing is an integral part of one of the most critical environmental and energy science challenges of the 21st century—addressing issues related to grand challenge projects at the W.R. Wiley Environmental Molecular Sciences Laboratory, a national facility managed by the Pacific Northwest National Laboratory for the DOE. This program features an elaborate international collaboration involving 30 national laboratory and university laboratories, including Washington University.

And who was selected to be leader of the grand challenge project? Pakrasi. It marked the first time that the DOE had chosen a university scientist to lead such an endeavor in a national laboratory. Pakrasi points to a sabbatical he spent in 2002 at the University of Florida in the School of Medicine—now Pfizer—as being crucial in landing the DOE grant and other national Science Foundation (NSF) grant. He found himself at a point in his career where all of the quantitative training he had received in physics, math and statistics was becoming more relevant in biology.

"At Pfizer, scientists were using a novel method of gathering and analyzing data that is now called systems biology. Systems biology is the study of complex networks of interactions occurring between and within living organisms. A primary focus of systems biology research at the cellular and molecular level is to examine how a change in conditions of environment, introduction of a mutation or exposure to a drug — affects the expression of every gene in a particular cell and to understand the metabolic and regulatory interactions stimulate these changes."

Because of the large data sets, advanced computational methods, sophisticated technology and complex biological questions in the management of large gene networks that are being explored, Pakrasi says, the potential that integration holds for each discipline is vast.

"Himadri is such a person, having received his Ph.D. in physics and having made significant contributions to our understanding of the basic process that combines photosynthesis with biology, that is, photosynthesis," Quatrano said. "He is unique in that he has the recognition by the scientific community for his research contributions; a strong background in the physical sciences and a vision for how these disciplines can be harnessed to approach the complex questions facing our planet — energy and sustainability is the prime one. Himadri is the ideal person to lead this initiative."

Harnessing all the knowledge he has gained from past experiences, Pakrasi is ready to direct the I-CARES. "I think of the C in I-CARES as catalytic," Pakrasi says. "I believe that bringing together someone from law and architecture to the same table as people from medicine and Arts and Sciences, then we have the forum to come up with new ways of making energy and making the environment sustainable.

"I will consider I-CARES a success if we can bring in seamlessly disparate people together where we talk, learn and collaborate with each other."

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**Himadri Pakrasi and graduate student Johnna Roose discuss energy, the environment and cyanobacteria in his I-CARES office on the third floor of the newly refurbished Wilson Hall.**

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**Washington University in St. Louis**

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