Ohio EPA approves urban setting designation for former NCR land, paving way for redevelopment

The Ohio Environmental Protection Agency last week approved the University of Dayton’s request for an “urban setting designation” for approximately 50 acres of land that run from Brown Street to the Great Miami River.

The designation will allow the University to remediate and redevelop the property safely and efficiently in the most cost-effective way possible, protecting public health while at the same time spurring redevelopment on a parcel of city land that has stood largely vacant for decades.

UD has pledged to clean up the entire 50-acre property in accordance with the requirements of the Ohio Voluntary Action Program, Ohio’s brownfield redevelopment law.

The cities of Dayton and Oakwood formally endorsed UD’s application. In addition, UD officials and environmental consultants have held more than 40 informational meetings in the past year with various constituencies, including neighborhood groups, local municipalities and the Miami Conservancy District.

“An urban setting designation recognizes that if groundwater under a property won’t be used for drinking water and will not affect other groundwater sources used for drinking water, then it’s not necessary to clean it up to drinking water standards. The city of Dayton and the city of Oakwood both have their own community water supply systems,” said Craig Kasper, CEO of Hull & Associates, an environmental firm that specializes in brownfield remediation under the state’s Voluntary Action Program. According to UD’s environmental consultants, no existing contamination from the property could impact either of those drinking water systems. By granting the USD, the Ohio EPA formally approves this analysis.

The Ohio EPA has granted 30 urban setting designations in the state, with eight applications pending.

UD officials thanked public officials and neighbors for their support of the USD. “Redevelopment of this site is an important component of Dayton’s future economic development, and we’re grateful that the Ohio EPA, regional leaders and our neighbors support the redevelopment of a long-underutilized site to benefit UD and the Dayton region,” said Ted Bucaro, director of government and regional relations for UD.

In the past five years, UD has completed $168 million in campus construction projects. A Courtyard by Marriott hotel across from UD’s new sports complex opened in February. University Place, a two-story, mixed-use development that will include retail outlets and graduate student apartments, will open on the corner of Brown and Stewart streets in fall 2007. UD is collaborating with developers on both of these projects.

Cover photo: “Beyond Exposure,” an exhibit featuring the work of six senior photography students, is on display in Roesch Library as part of the Stander Symposium. See story, Page 5.
Preliminary concepts for the University master plan taking shape

As Burt Hill’s planners develop preliminary concepts for the University of Dayton’s new master plan, they will be guided by months of interviews, focus groups and surveys.

“The background work is substantially complete,” said Jeff Funovits, project manager. “We’ve conducted a dozen focus groups and completed 60 UD interviews and 30 community interviews. We’ve analyzed parking data, conducted a food service survey, nearly finished a market research study and developed a set of guiding principles.”

You’d expect Funovits to be drowning in data, but he’s still open to more input. The campus community can review the schedule, progress and guiding principles and offer ideas through a Web site: [http://UDcampusMasterPlan.udayton.edu](http://UDcampusMasterPlan.udayton.edu).

“We’re now in the phase of taking all that we’ve learned and benchmarking it against UD’s strategic plan. From that, we’ll make recommendations,” he said.

Some of the planning assumptions that will shape the master plan include:

- Undergraduate enrollment will hold steady; graduate and continuing education enrollment will experience moderate growth.
- The integration of living and learning is central to a Marianist education.
- Visual and academic image are important.
- As Campus West develops, pedestrian links to the student neighborhoods will be developed.
- Part of the newly acquired land will be set aside for future growth. Another portion will be reserved for market-based, mixed-use development that would provide a return on the land purchase investment and assist in the economic growth of Dayton.
- Parking will continue to be located on the campus fringe.

Preliminary parking data gathered by Walker Parking Consultants is currently being analyzed for quantity and appropriate locations. The study will also review the potential need for alternate transportation and parking systems.

Preliminary results from a dining survey by Envision Strategies indicate that most on campus prefer a food court, but faculty, staff and graduate students also would like casual dining options.

“Most people want to eat in the center of campus,” said Rob White, president of Envision Strategies, a food service consultant. “RU is still seen as the place to meet, greet and gather, but students also like the Emporium. It’s hip, new, convenient to the book store. A food venue doesn’t necessarily have to be big to be popular.”

Within the next five years, spending on meals away from home is projected to grow 14 percent on campus and in a 10-mile radius, according to preliminary results from a market research study by Tripp Umbach.

“The area immediately adjacent campus will not experience population growth, but in surveys and focus groups people indicated the need for a convenience store/pharmacy/grocery and a marketplace style eatery with one or two national brands,” said Ken Schott, senior project director with the research and economic impact analysis firm.

The master plan, when finished, will look at five-, 10-year and long-term land use. Burt Hill will share design principles and concepts with the board of trustees in May, followed by an additional meeting during the summer devoted to reviewing options. The Educational Leadership Council will devote a summer retreat to reviewing options. Faculty, staff and students will be invited to share their views in open forums in the fall.

Trustees are expected to approve a final plan in October.

“The community — both within the University and outside — is excited about the development of this plan,” said Richard Perales, University campus planning director. “After a summer of finalizing details, it’ll be a pleasure to roll out the preliminary report and gauge the reaction.”

Ohio Historic Preservation Office to hold public hearing on Building 26

The Ohio Historic Preservation Office will hold a public hearing about Building 26 at 6:30 p.m. Thursday, April 19, at Carillon Park, in cooperation with the University of Dayton.

Mark J. Epstein, department head of resource protection and review for the Ohio Historic Preservation Office, will chair the meeting, which is designed to solicit public input about a report by the ASC Group Inc. that finds the building ineligible for the National Register of Historic Places.

During World War II, the building served as the top-secret site for NCR engineer and University of Dayton alumnus Joseph Desch’s development of a code-breaking machine credited with helping to bring the war to a close.

The meeting will include a background briefing by UD officials; an explanation of the report by Doug Terpstra, an architectural historian with the ASC Group Inc.; an evaluation of the building by the Ohio Historic Preservation Office; and an opportunity for interested members of the public to offer their views. The ASC Group report can be found at [http://udcampusmasterplan.udayton.edu/architecture.pdf](http://udcampusmasterplan.udayton.edu/architecture.pdf).

For more news, see [http://universityofdayton.blogs.com/newsinfo/](http://universityofdayton.blogs.com/newsinfo/)
It’s a tie: Two receive Wohlleben-Hochwalt research awards

For the first time in the history of the Wohlleben-Hochwalt Outstanding Professional Research Awards competition, two University of Dayton Research Institute researchers have tied for top honor. Endel larve, a distinguished research engineer in the nonmetallic materials division, and Chakrapani Varanasi, a senior research engineer in the metals and ceramics division, will be recognized April 12 at the Research Institute’s awards banquet.

larve was recognized for his work in composites designed to improve safety and efficiency of commercial and military helicopters and other rotorcraft. In response to Air Force initiatives to make composite structures for aerospace more affordable by eliminating the need for joints and fasteners, larve developed a suite of unique tools to evaluate the design and performance of composite materials under specific states of stress. These statistical tools identify the sub-region having the greatest probability of failure in a composite structure. Some of the tools have been transitioned for use by the United Technology Corp. Research Center in Hartford, Conn., and by Sikorsky Aircraft in Stamford, Conn.

In addition, larve developed a computer-modeling method that accurately models complex cracking and delamination networks in composite materials—a process critical to understand failure analysis in countless applications, including rotorcraft structures.

“Dr. larve’s design process improvements will result in significant reduction in part manufacturing, which will have a direct and positive impact on the environment and on workers’ health,” said Allan Crasto, associate director of UDRI, who nominated larve for the award.

Varanasi was recognized for his work in high-temperature superconductors, which hold appeal in a variety of applications for their ability to deliver more electrical current with less resistance. His research yielded significant improvements to the processing of nanoparticles in films used in superconducting materials, and to the understanding of the effects of such nanoparticles in the materials’ ability to carry current.

Superconducting wire has the potential to greatly impact society in countless ways, said Jeffrey Fox, leader of his division’s power components group, who nominated Varanasi for the award. Among those potential applications, superconductors can reduce the transmission losses incurred and improve the effective use of natural resources that are used in the generation of electricity, hence reducing environmental pollution; facilitate high-speed levitated trains, improving transportation; enable lighter generators and motors for use in more efficient airplanes and ships; and spawn better MRI magnets for improved diagnostic capability.

“Dr. Varanasi’s accomplishments have re-established the international reputation of UDRI’s scientific excellence in high-temperature superconducting materials,” Fox said.

Since 1981, 33 UDRI researchers have won the Wohlleben-Hochwalt award, which commemorates the late Brother William Hochwalt, S.M., founder of the University of Dayton’s chemistry and chemical engineering departments, and late UD alumnus Ted Hochwalt, who was a successful researcher for General Motors and the Monsanto Chemical Co.

UD Scouts recognized for service

Several University of Dayton employees and students were recently recognized for their volunteer service to the Boy Scouts of America Wright Brothers District.

Dwight Matlock (technology support services) was recognized for his service as a district unit commissioner for Cub Scouts packs, and for his leadership with the district Pinewood Derby and the Webelos summer camp.

Don Klosterman (UDRI and chemical and materials engineering), Cubmaster of Pack 813 in Kettering, received the unit leader award for his service to the pack and for his leadership as the district Pinewood Derby co-chair.

Scott Segalewitz (engineering technology), Cubmaster of Pack 148 in Centerville, and Caryl Segalewitz, leader of Girl Scout Troop 441 in Centerville, received the district couples award. They were cited for their leadership and service to their respective units.

The District’s Silver Cyclist Award was presented to the University of Dayton’s chapter of Epsilon Tau Pi, a fraternity dedicated to upholding the ideals of Scouting and the rank of Eagle Scout. The award was given for the fraternity’s work on organizing the Merit Badge College, an annual event that assists Boy Scouts in earning merit badges required for the rank of Eagle.

The Wright Brothers District serves more than 2,500 youth in about 81 Cub Scout, Boy Scout and Venture units in Belmont, Centerville, Dayton, Kettering, Miamisburg, Miami Township, Moraine, Oakwood, Riverside and West Carrollton.

Miryam Award honors Sister Mary Louise Foley

Sister Mary Louise Foley, F.M.I., will be honored for her efforts to enhance the climate for women and their work on campus when she receives the 2007 Miryam Award today.

The Miryam Award celebration will begin with a prayer service at 4 p.m. in the Marianist Hall Chapel and will be followed by the award ceremony and a reception celebration on the second-floor commons area.

A member of the campus ministry staff, Foley directs UD’s Hand-in-Hand support group devoted to helping expectant student mothers on campus. Hand-in-Hand helps mothers during and after pregnancy by pairing them with mentors, assisting them in locating appropriate housing and providing any other necessary support.

Foley, a native Daytonian and UD graduate, also serves as a campus minister for UD faculty and staff and directs organizations for law school students.

Well-known for her popular “Unplug the Christmas Machine” workshops on campus, Foley offers suggestions for taking the materialism and stress out of Christmas. “All the advertisements to ‘have the best Christmas ever...’ encourage families to celebrate in a way that really does not bring much in the way of true joy,” Foley has said. “It might be more helpful if they would define for themselves the ‘perfect’ celebration, the one they really want.”

—Anna Gebrosky
Stander Symposium showcases student achievement

Doctors Without Borders co-founder to keynote

Bernard Kouchner, co-founder and former president of Medecins sans Frontieres (Doctors Without Borders), will give the Stander Symposium keynote address at 9 a.m. Wednesday, April 18, in Frericks Convocation Center.

Kouchner, a medical doctor, has traveled extensively in troubled areas throughout the world with Doctors Without Borders, a Paris-based non-profit humanitarian organization of voluntary medical personnel who assist in situations of emergency or inadequate medical care in the developing world.

He organized humanitarian operations to Somalia, El Salvador, Lebanon and Vietnam. He also led field operations in Cambodia, Thailand, Uruguay, Peru, Guatemala and Honduras.

The first person to challenge the Red Cross’s stance of neutrality and silence in wars and massacres, Kouchner has played a role in international humanitarian efforts for more than 20 years. As France’s Minister of Health and Humanitarian affairs, he convinced the United Nations to accept “the right to interfere” resolution, and after devastating civil wars in the Balkans, served as Special Representative to then U.N. Secretary General Kofi Annan in Kosovo.

Today, Kouchner continues to promote universal access to medical care and takes part in international efforts in the fight against AIDS.

He brings to the podium his experience with public health, human rights and international political involvement to discuss global issues.

Kouchner, who was born in 1939 in Avignon, has played a role in the French political scene for the past 20 years, holding a number of ministerial positions. Most recently he served as France’s Minister of Health, and before that as Minister of State for Humanitarian Action and Minister of State for Social Integration. He is currently the professor of public health at the Health and Development Department of the Conservatoire National des Arts Et Mé.

Kouchner is the author of several books and co-founder of the news magazines L’Evenement and Actuel. He is the recipient of several human rights awards, including the Dag Hammarskjold Prize and the Prix Europa.

Seeing the unseen inspires photography majors

The eye blinks more than 20,000 times a day. Between these shutters, images can go unseen. Six senior photography majors will present works focusing on what may have been caught in the blink of an eye for the Stander Symposium in an exhibit titled “Beyond Exposure.”

“It’s really about the fleetingness of light,” Katy Koran said. “My work is very layered; it deals with movement and light.” Her latest series focuses on illuminations appearing in her room, which she finds easiest to express with images. “I can’t say this to you,” she said, holding up one of her light-seeped photos, “but I can show this to you.”

The work is called “pillow” and shows a trail of light sashaying down a linen cover. Her titles are simple, leaving much more to the viewer’s choice. “Not too suggestive because I don’t want to be suggesting something that it’s not,” she said.

A family move inspired several of Koran’s works. “Nostalgia for me is a desire for the familiar, I’m keeping it with me.” With the transitional period of beginning adulthood, a place of one’s own can be difficult to find. “I want to get to know this place [the new home] because I miss the other one so much.”

Seeking out crevices, cracks and spaces in between, Koran has familiarized herself with her homes; her place with her parents and at school. “It was my way of getting to know these houses better. I like to set up my home. Nesting, that’s what my parents call it.”

The artist expressed a bittersweet feeling about the ending of her undergraduate education. “We all feel a need to be photographing,” she said of herself and peers.

Koran hopes to work in Pittsburgh as a public arts program manager. “Being an artist you want art to be around you. You want it to be a bigger part of public life and it’s usually not,” she said. She also thinks about graduate school and teaching at the university level. “Professors have had a big impact on me, and I want to do a similar thing.”

The “Beyond Exposure” exhibition runs through May 2 in the Roesch Library Gallery and second floor mezzanine. A gallery discussion with the artists will be held 2 to 4 p.m. Wednesday, April 18, also in Roesch Library Gallery.

—Johnnie Kling

Symposium highlights

**Tuesday, April 17**

**Red Mass**

4 p.m., Immaculate Conception Chapel

The Red Mass opens the Stander Symposium by calling down the spirit of wisdom, learning and creativity as gifts of the Holy Spirit and as the animating force for research and creative performance.

**Evening at the Stander: A Celebration of the Arts**

8 p.m., Victoria Theatre

This celebration showcases work by students in music, visual arts, theater and dance. Performances by the Symphonic Wind Ensemble, the Noble Carneys, Dance Ensemble, Ebony Heritage Singers and other groups will be included, and UD poet-in-residence, Herbert Woodward Martin, will host.

Admission is free, but tickets are required. Call the Kennedy Union box office at 229-2545.

**Stander Cup**

9 p.m., Stuart Field and RecPlex

The Stander Cup offers cooperative competition in physical and intellectual events that challenge participants to overcome obstacles. The sport management club and recreational sports department organize the Stander Cup.

**Wednesday, April 18**

**Keynote address: Bernard Kouchner**

9 a.m., Frericks Convocation Center

Admission is free, but tickets are required. Call the Kennedy Union box office at 229-2545.

**Morning and Afternoon at the Stander**

10:30 a.m and 1 p.m., various campus venues

Showcase of students’ scholarly efforts, including hands-on learning opportunities, panel discussions, presentations and poster sessions.

**Celebration reception**

5 p.m., Kennedy Union ballroom

Honors student participants, research advisors and mentors involved in Stander Symposium activities.
Morning and afternoon at the Stander Symposium Wednesday, April 18, will be filled with more than 60 student presentations — including panel discussions, performance pieces, visual arts displays and other activities — and more than 160 student posters.

Stop by and see how much you’ll learn.

Andrea Smith-Rippeon
Thesis: “Myth and Reality: China’s Policy toward Minorities”
Majors: International Studies and Political Science
Adviser: Margaret Karns

What’s the gap between a law and its implementation? Senior Andrea Smith-Rippeon looked at China’s Regional Ethnic Autonomy Law and focused on how it is implemented among Uighurs and Yi, respectively China’s fifth and sixth most populous minority groups.

Smith-Rippeon, who traveled in China last fall for field research for her thesis, looked at the degree of autonomy minority groups have been promised and permitted since their incorporation into the People’s Republic of China in the 1950s. Until recently, the relative isolation of the Uighur and Yi minorities placed them among China’s least assimilated people.

A separatist movement exists among the Uighurs, a Muslim minority in northwest China that has been targeted under China’s War on Terror, and peaceful and non-peaceful demonstrators have been detained, Smith-Rippeon said.

She found that while laws exist to preserve their culture, Uighurs still lack autonomy and face religious, social and political discrimination.

The Yi, the majority of whom live in southwest China in Yunnan province, are a nationality group that was created by the Chinese government. “In the 1950s the Chinese government took Stalinist principles, such as a common language, culture, geographic area or religion, and told people, ‘you are a part of this group,’” she said.

Smith-Rippeon, who spent a month interviewing Yi people, found that while the law allows people to control their educational systems, development programs and uses of land and resources, “there’s not a mechanism in place to make it happen. It’s up to local officials to use other legal mechanisms to implement the law. The Communist Party often has great influence over local government leaders,” she said.

“All the minorities in China want the freedom to be who they are; the Chinese government wants to be able to govern effectively and meet the needs of its people,” she said. “We all want the same thing, but in trying to get that, we run into all sorts of failures of government.”

Smith-Rippeon is a finalist for a Carnegie Endowment Fellowship and is considering graduate programs in Chinese studies.

Christopher Cabanski
Thesis: “Forbidden Pebbling Numbers”
Major: Mathematics; Minor: Entrepreneurship
Adviser: Aparna Higgins

“Pebbling” in graphs has many applications, including troop deployment.

“The general question,” Aparna Higgins said, “is this: If troops are subject to movement under certain rules, how many troops need to be stationed at various points in a given area so that there is a guarantee that one unit can be deployed to any specified target point?”

The pebbling number of a vertex is the minimum number of pebbles (think of troops) such that, starting with any initial configuration of that many pebbles, we can move one pebble to the target vertex after a sequence of pebbling moves.

It is known that for a connected graph on n vertices, the pebbling number can be no smaller than n and no larger than 2^(n-1). “Forbidden pebbling numbers” are those numbers in this range that are not pebbling numbers for any graph on n vertices. “Previously, pebbling research involved looking at a graph and finding its pebbling number,” Cabanski said. “We took a different approach. We began by looking at one of the possible pebbling numbers and wondering if we could find a graph with this pebbling number.”

Cabanski presented a poster on this topic at last year’s Stander Symposium but the thesis is considerably more advanced now.

A member of UD’s water polo team, Cabanski presented a poster on this topic at last year’s Stander Symposium but the thesis is considerably more advanced now. A member of UD’s water polo team, Cabanski has held a number of positions with Flyer Enterprises. On track to graduate in three years, he is applying to graduate schools in operations research. “I really enjoyed performing this...
the Sepoy Mutiny of 1857, when Indian soldiers intervened. “Changes like these contributed to and expressed extreme dissatisfaction” at British rule on India’s caste system and how it adapted to economic, political and social change.

Her research offers insight into the policies the British East India Company implemented and the dominant role it played in Indian government. Underlying those policies were works by philosophers from the Scottish School of Moral Philosophy, who addressed aspects of Indian society, including the caste system.

“The moral philosophers assumed the Indian people could not be happy because they had systems that were unlike those in Britain. The British tried to implement policies similar to those existing in Britain,” Latta said.

Historian James Mill, for example, who wrote six volumes on the history of British India without visiting the country, thought the caste system was barbarous. “He, along with others, tried to make the caste system into a rigid, static system when in fact it was dynamic and had been changing since ancient times,” Latta said. “This attempt at oversimplification caused misunderstandings and conflict.”

In an attempt to change land policy to increase profits, the British eliminated tax collectors, believing the change would help the lower-caste land cultivators. “These lower-caste Indians, however, were satisfied with their existing system and expressed extreme dissatisfaction” at British intervention. “Changes like these contributed to the Sepoy Mutiny of 1857, when Indian soldiers serving the Company revolted.”

In addition to studying British attitudes toward India, Latta examined documents written by natives about the British and studied treaties between Company officials and Indian rulers.

The caste system remained a central component of the daily lives of the natives, Latta said. “The British did not affect the traditional structure of the caste system but greatly impacted the functional roles each caste played within Indian society.”

Latta will visit India this May to study rural and urban medicine before enrolling in medical school at Ohio University this fall.

**Tiffany Latta**

**Thesis:** “Caste, Imperialism, and Moral Philosophy: The British Conquest of India 1700-1857”

**Majors:** Premed and Spanish; **Minor:** History

**Adviser:** Brad Hume

Tiffany Latta spent last May “drowning in information” in the British Library’s massive East India Company archive. She was seeking answers to her questions about the impact of British rule on India’s caste system and how it adapted to economic, reproducible protocol to analyze vessel properties and identify the variables that have a significant influence.

“We’re proud of the various methodologies we have learned to apply,” said Thompson, who will enroll in medical school at Wright State University in the fall.

They worked as members of an interdisciplinary team under the guidance of Carissa Krane and Margaret Pinnell. “We’re their sidekicks, in a way, and we’ve learned a lot from watching them interact,” Thompson said. “They’ve been amazing role models. They know their stuff.”

Trey Coleman of the UD Research Institute was part of the collaboration, helping the students with test set-up.

For Gardner, a junior, “the greatest benefit is being able to communicate across disciplines. I learned you could be talking about the same thing, but in a different language.”

Those communication skills have helped her as she interviews for summer internships. And “getting actual research experience under the guidance of very prestigious people is something I can take with me.”

**Mercedes Thompson**

**Major:** Premedicine; **Minors:** Women’s Studies and Psychology

**Courtney Gardner**

**Major:** Chemical Engineering; **Minor:** Bio-engineering Project: “Analysis of Mammalian Vessel Structure and Properties via Invasive Methodology”

**Advisers:** Carissa Krane, biology, and Margaret Pinnell, mechanical and aerospace mechanics

Mercedes Thompson and Courtney Gardner have examined the carotid and uterine arteries of pigs in just about anyway you can imagine. They’ve used a high-resolution scanning electron microscope and an environmental scanning electron microscope to magnify the surface structures of the vessel and locate points of interest. With light microscopy, they determined properties such as cell death, collagen and elastin. To assess the strength of blood vessels, they administered mechanical burst strength tests — on a vise-like piece of equipment hooked to a computer — and recorded tension and pressure readings. They pumped saline through arteries with an infusion pump.

Their goal was to develop a rigorous and

**Christopher Pesce**

**Thesis:** “The Moroccan Banking System: A Focus on Small Businesses and Western Influence”

**Majors:** International Business and French

**Adviser:** William Sekely

“I’m interested in the history of economics. I wanted to study the impact that French post-colonial influence has had on banks,” said senior Christopher Pesce, who in June 2006 studied at Al Akhawayn University in Ifrane and interviewed managers and staff of Banque Central Populaire and BMCE, two of Morocco’s largest banks that are spread geographically throughout the country. He traveled by bus to Casablanca, Rabat, Fez, Marrakech and Meknes and conducted 11 of his interviews in French.

Pesce’s first trip to Morocco in 2004, as part of UD’s study abroad program, sparked the idea for his honors thesis. He was struck by the Western influence that exists on a macro scale. Yet, “on the micro scale, Moroccan culture is intact and impacts the way transactions occur,”
Senior Amanda Walz gained a firsthand perspective on President Bush’s Faith-Based and Community Initiative last year when she served internships with the U.S. Department of Health and Human Services and with the Department of Housing and Urban Development.

She had not yet heard of Abraham Kuyper, a 19th-century Dutch scholar and statesman who called for Christianity to have an impact on all areas of life, including politics. Kuyper’s theories are reflected in the Faith-Based and Community Initiative, which calls for greater participation of grassroots and faith-based organizations in the delivery of the nation’s social service programs by allowing them to fully participate in the federal grants process.

Walz’s research explores Kuyper’s views on politics and religion and looks at how the First Amendment’s Establishment Clause limits full implementation of Kuyper’s views.

“One of the misconceptions about the initiative is that it’s giving money to churches. It’s about finding the highest quality provider of social services and making the competition open to everyone,” Walz said. “I think the initiative is working well and operating within the boundaries between church and state.”

Walz, who plans a career in public service, notes that Kuyper would probably call for fewer restrictions and stronger relationships between faith-based organizations and the government.

Kuyper’s ideals are still sparking policy discussions. The Center for Public Justice, which has as its goals to “serve God,” “advance justice” and “transform public life,” sponsors an annual Kuyper Lecture designed to promote public consideration of religious dynamics at work in the world.

Larah Sadar

Thesis: “Audible and Visible Communication in Canis familiaris”

Major: Biology

Advisers: Mark Nielsen, biology, and Rex Berney, physics

Did you know that dogs have more than just the six categories of voice patterns — sad, frustrated, on-guard, needy, happy and self-assertive — suggested by a previous study?

Senior Larah Sadar does. It was one of the hypotheses she tested while interning and conducting research at the K9 Solutions Center, a police dog training facility in Brookville, Ohio.

“A large part of the internship involved humans and dogs communicating, so I began to question how well we really understood what dogs were trying to convey,” Sadar said. “I found it silly that some people discredit the communication abilities of dogs, given how obviously complex their language and expressions are to me. I realized that maybe I’m giving dogs credit where it is not due. I decided to stop wondering and start researching.”

Sadar wanted to know, among other questions, whether dogs’ use of combinations of tone, pitch and bark length is comparable to humans using words or phrases. She began by videotaping two female Belgian Malinois dogs in the kennel, paying special attention to acoustic vocalizations and body movement. The camera, inconspicuously mounted above ground, visibly captured the activities of any dog within three kennels, and audibly captured noise from any dog within five kennels. Data was collected on random days throughout the weeks.

Calhoun

Thesis: “Genes and Function: To What Extent Can Divergence Be Predicted?”

Major: Biology

Adviser: Sudhindra Gadagkar

Jeff Calhoun wants to understand why drugs that are considered safe for animals might pose problems for humans.

“Using computers and the sequenced genomes of organisms, I want to help pharmaceutical companies predict in advance when a drug might not be safe in humans,” Calhoun said.

As Calhoun began to explore this genetic mystery, he stumbled across a clinical trial gone terribly wrong. In March 2006, volunteers tested the drug TGN1412, a drug deemed safe in animal testing, yet produced near-fatal reactions in its human participants.

Using online databases to identify patterns in noncoding promoter regions and coding regions for a number of genes, Calhoun specifically studied the promoter region and coding sequence of CD28, a gene targeted by TGN1412. He
discovered a discrepancy between human and mouse subjects that may begin to explain what went wrong.

“My analysis of CD28 showed a unique region of DNA near the human CD28 gene that is known to have regulatory function in other genes,” he said. “If the CD28 gene is expressed in a different tissue or different amount in humans compared to mice, the addition of the drug could have had profoundly different effects.”

Although Calhoun realizes further research and testing is required, he said he is excited his research has practical implications that may help protect people in the future.

Matthew Gordon
Thesis: “CPFR: The Sharing of Information within a Supply Chain”
Major: Accounting and Operations Management
Adviser: John Kanet

CPFR sounds like a life-saving technique, and for retailers and suppliers striving to gain competitive advantage, it may well be.

Senior Matthew Gordon researched CPFR — “collaborative planning, forecasting and replenishment” — and found that when suppliers and retailers combine intelligence and use each other’s information, they create a more seamless supply chain and provide better inventory control and customer service.

Gordon’s paper has already won three awards from APICS, the Association for Operations Management, at the local, regional and international levels. He earned the top prize at the APICS international conference in November, the Donald W. Fogarty International Undergraduate Research Paper Award, and will be featured in the organization’s magazine.

CPFR dates to 1995, when Warner-Lambert, which produces Listerine, realized that Wal-Mart, the largest Listerine distributor, had market knowledge about the sales of its product. Warner-Lambert proposed the two companies share information through a database to create a more efficient supply chain and increase sales. The companies cut weeks of inventory out of the Listerine supply chain, and “Wal-Mart found so much success, it implemented CPFR with other products,” Gordon said.

Gordon’s paper looks at the history of CPFR and how it applies to the future of logistics. Initially used in the grocery and retail industries, the principles of CPFR are now applied in healthcare, manufacturing and service industries, he found. Advances such as radio frequency identification tags, which use satellite communication for inventory control, will increase the benefits of sharing information between providers and suppliers.

“To grow at global speed you have to be willing to give up and share knowledge to advance above the competition,” said Gordon, who will graduate from UD’s MBA program in August and has been hired as a consultant with Provititi in Chicago.

He thinks of his research paper as a living document that he intends to keep refining throughout his career.

“It was really beneficial to find something that I enjoyed researching,” he said. “I spent countless hours reading all those different articles, and they sparked so many new interests.”

Erin Moosbrugger found.

Using the Democratic Republic of Congo as a case study and examining earlier allegations in Cambodia, Bosnia-Herzegovina and Kosovo, Moosbrugger analyzed root causes of sexual misconduct by U.N. peacekeepers, U.N. and U.S. responses and obstacles to addressing the problem.

“I focus primarily on sociological and cultural causes,” she said. Military training, which the majority of U.N. peacekeepers have undergone — and a military culture in which sex is linked to control and violence — can be a primary cause, she said. “U.N. peacekeepers sometimes practice this hyper-masculinity by asserting sexual control over the women in the countries where they serve.”

Peacekeepers in the Democratic Republic of Congo come from 55 countries, including some where prostitution and rape are legal.

“The peacekeepers bring these aspects of their own cultures into the already vulnerable culture of the host country.”

Gender inequality contributes to the vulnerability. “Many times, a woman who has no husband or family must rely on her body to feed herself and her children. U.N. peacekeepers have not had sufficient gender training … to realize that they are only exacerbating the problem.”

Moosbrugger found numerous legal obstacles to punishing abusive peacekeepers, who receive immunity in host countries and can only be punished by their home country. Other countries and the United Nations cannot intervene to force the home country to prosecute.

Moosbrugger suggests an on-site courts-martial to make evidence more accessible and show victims that justice is being served — a process the peacekeeper’s home country would need to agree to.

She calls for pressure from the international community to convince troop-contributing countries to provide gender training and HIV/AIDS education for all peacekeepers and to continue that training in the host country.

“I also suggest U.N. and NGO aid and counseling programs for women who are victims and further education for women in the host country to try and prevent sexual exploitation or abuse of other girls or women.”
Leno M. Pedrotti
Experimental, traditional, effective

On a sabbatical, he developed a new teaching method. He doesn’t use it anymore.

He tried to get students to learn how to use a time-saving tool. For some, it took too much time.

Leno Pedrotti, the winner of the College of Arts and Sciences Outstanding Teaching Award, is not afraid of failure. A good student, he learns from it.

Part of what he has learned is that outstanding teaching relies primarily on neither a particular method nor a particular tool. “The most important part of teaching,” he said, “is not the delivery.” To him, more important elements are preparation and the teacher’s attitude toward the student, an attitude combining good humor and “thinking the student is intelligent.”

Nevertheless, attention to method can improve a teacher’s effectiveness, no matter which method a teacher might choose. That was part of what Pedrotti said he learned during a sabbatical year in 2004 when he received a Learning Teaching Center Innovation Grant for a nontraditional experiment. For Physics 206 General Physics I, he tried out, in his words, “a new delivery scheme that involved proficiency tests and less lecture time.”

Factors motivating him to try the experiment included the need for physics students to learn much material fast and each physics course building upon the previous one.

And there was the phenomenon of weaker students getting through the course knowing some things very well, some poorly — which could hurt them in later courses. “I wanted a certain level of proficiency in everything,” he said, “so that a C student would be competent in everything.”

He gave more than a dozen proficiency tests covering different material. A student would master one set of material then move to the next, rather than having his or her achievement measured by three tests. The format required a significant amount of teacher-student interaction at the expense of lecturing.

The result? “They didn’t retain the material any better,” Pedrotti said, “than those taking three tests.”

Different teachers, different subject matter and other variables could lead to different results. But, since Pedrotti expended more of his time without improving his results, he has returned his Physics 206 format to what he called “a more traditional lecture style.”

But for him it’s not a matter of one concept — lecture vs. students working together — being clearly superior. “Either can work if well organized,” he said. The need is “to get the students focused on the material.”

He also pointed to what he learned. The experience, he said, “reinforced the importance of student interaction.” And it impressed on him that the delivery system is not as important as the professor’s expectations, organization and presentation.

In another context, he expected to help students save time. He and colleagues had done so by using certain computer algebra software packages for graphs and mathematics. Having students use them, however, yielded mixed results. The time needed to learn to use the packages was time taken away from physics, and some students had difficulty with the necessary precision of syntax — just too many colons, semicolons, parentheses and other symbols needing to be in the right place. That ongoing experiment, he also deemed a “partial success.”

A third experiment of Pedrotti’s, however, may be a successful part of an educational revolution. “I got tired of the cost and bulk of textbooks and of tailoring what I had to say to the text,” he said.

And he had experience with textbooks as co-author, with his father and uncle, of the third edition of Introduction to Optics, published by Pearson Education/Prentice Hall. His experience writing, editing and proofreading the book led him to lament the “time wasted on details of publishing, not on physics.”

So far he has written online textbooks for the honors’ section of Physics 206 and for Physics 232 Physics of Waves.

And for five years, in working with the free software available under the Linux operating system, he has become intrigued by open-source development. Linux’s underlying source code is available for anyone to use, modify and redistribute freely.

What if the professors of the world developed their textbooks that way? Pedrotti wants to put a text on the Web and be part of it organically developing.

And he’s thinking of integrating into the text the graphing and computer algebra packages he tried in another context. With a Web-based text maybe those who had the aptitude and time to learn to use them, could.

Partial success here, partial success there. Soon it adds up.

—Thomas M. Columbus
Dan E. Miller
Beyond cockroaches

Dan Miller is not a cockroach.
The winner of the College of Arts and Sciences Outstanding Scholarship Award realized that in graduate school.

One day a professor, overhearing Miller and other students discussing social facilitation, gave Miller a book chapter to read and come back and discuss with him. It was about cockroaches running from light. The author described his research measuring how fast they do so. He took measurements with one roach, then with another present, then having a roach run with a paste made of roaches present, then with a mirror. He discussed the roaches as if they were human, talking of them as vain and self-absorbed. Then, even though he had difficulty replicating results, he generalized them to human beings.

Miller read aghast. To him, it was all what in polite society would be called a pile of crap. He returned the book and told the professor in blunter terms what he thought. When the laughter of the professor and his colleagues died down, Miller learned he had passed a test. He would not reduce the world of social interaction to something mechanically minimalistic; he would not reduce human beings to mere presences.

So he began a career that immersed itself in studying how people relate to each other, how they communicate, how they construct their lives together.

His dissertation at the University of Iowa was The Social Construction of Hypnosis and Authority. “I was not so much interested in hypnosis,” he said, “as in the question of how one person just by talking can make another so obedient. My interest was in authority, in compliance.” He was fascinated by the recently published work of Stanley Milgram, whose experiments, now banned in the United States, indicated that ordinary individuals would follow orders from an authority figure to inflict substantial pain on other human beings — results indicating that a commonly held (or hoped for) belief that the Nazis were aberrations was not true.

Among the quotations on Miller’s personal homepage: “Question authority.”

During his career, Miller’s research has covered a broad range of topics from analyses of conversations to those of print media, from rumors to research methodology. Describing the serendipity of discovery, he said, that after a period of publishing, “Manna drops from heaven.”

For example, he teaches collective behavior, people in non-institutional settings. Cults fall into that category, so he read about them. A court needed an expert witness. He read more. The case was settled but a church wanted a presentation. That led to a video.

Some interests predate his professional education. His father worked as a journalist so, as a boy, he noticed how things that happened were reported. “During the times of student demonstrations,” he said of a later time, “what was reported wasn’t what I observed as happening.”

He now teaches mass media. “I have an interest,” he said, “from Guttenberg to the bloggers — a deep vein for interaction: mind, self, how people make meaning out of the world.”

That interest is central to the Society for the Study of Symbolic Interaction, which was founded while Miller was in graduate school and of which he was an early member. He has served the society in many ways including program chair, vice president and, in 2005-06, president. Although the majority of members in the interdisciplinary society are sociologists, Miller estimates that maybe a third are in communication; others, English or psychology.

A central tenet of symbolic interaction, according to Miller, is “that each new or emergent present creates a congruent past that makes the present ‘seem’ inevitable, but which could not have been predicted from the past that existed prior to the new present that has emerged.”

This “profoundly affects how we conceive of memory, history, evolution…”

Although he has published extensively, one attraction of the University of Dayton for Miller, when he was recruited by the late Stan Saxton, was its lack of a publish-or-perish mentality. He had to teach more than he would have at a school more heavily emphasizing publication but, he said, “I could do that and still write.”

He appreciated that as well as UD’s smaller classes and social justice focus.

It might be his kind of place for interaction, a place where he can compile a list of publications on which “Cockroach Culture” is immediately preceded by “Mathematical Dimensions of Qualitative Research,” itself immediately preceded by an article co-written with colleagues Patrick Donnelly and, now provost, Fred Pestello — “Spots on a Gnat’s Ass, Good Soldiers, and Sociology Departments: Stan Saxton’s Pragmatic Approach to Sociology.”

—Thomas M. Columbus
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Sunday, April 1
Ebony Heritage Singers
4 p.m., Kennedy Union ballroom
Conducted by Donna Cox

Monday, April 2
“Side by Side Concert”
7 p.m., Kennedy Union ballroom
University Orchestra-Greenville High School Orchestra, conducted by Jiang Liu and J.R. Price

Wednesday, April 4
Easter recess begins after last class.

Saturday, April 7
Saturday classes meet.

Tuesday, April 10
Classes resume at 8 a.m.

Friday, April 13
Faculty meeting
3 p.m., Boll Theatre

Saturday, April 14
Café Operetta
8 p.m., Kennedy Union ballroom
The University Orchestra, Chorale and Opera Workshop join forces for a benefit concert for music scholarships. Admission charge. Call 229-3936 for more information.

Sunday, April 15
Dayton Christian Jewish Dialogue
7 p.m., Alumni Hall Room 101
“The Meaning of the Land of Israel for Christians and Jews,” presented by Father Francois Rossier, S.M.

Tuesday, April 17
Evening at the Stander: A Celebration of the Arts
8 p.m., Victoria Theatre
Admission is free, but tickets are required. Call the Kennedy Union box office at 229-2545.

Wednesday April 18
Brother Joseph W. Stander Symposium and Honors Convocation

Thursday, April 19
Diversity celebration
2:30-4 p.m., Kennedy Union ballroom

Friday, April 20
Academic senate meeting
3 p.m., Kennedy Union west ballroom

Sunday, April 22
Symphonic Wind Ensemble
3 p.m., Boll Theatre
Conducted by Patrick Reynolds
Percussion Ensemble/Compos
5 p.m., Boll Theatre
Conducted by James Leslie
University Concert Band
8 p.m., Boll Theatre
Conducted by Dave Leppla

Monday, April 23
University Orchestra
8 p.m., Boll Theatre
Conducted by Jiang Liu

Tuesday, April 24
Dayton Jazz Band and University Jazz Band

Exhibit celebrates Mary as mother
A celebration of Mary as mother with the Child Jesus will be featured in an exhibit of original icon-style paintings by artist Christine Granger at the Marian Library April 1 through June 15.

About 30 icons, which were featured in Granger’s 1996 best-selling book *Mary, Mother of My Lord* and the 2006 follow-up *Mother and Child,* will be on display along with poetry and prayers about mothers and children, in particular Mary and Jesus.

Granger grew up in Toronto and has been painting icons, images representing a significant holy being or object, since 1980. Her icons can be found in many private and public collections, including the Canadian Museum of Civilization.

She uses a variety of media, including wax and egg tempura. Currently, she works with acrylic colors and gold in a layering technique to build up textures, patterns and borders. Her primary color palette includes reds, oranges, yellows and golds, colors usually associated with fire, light and the divine.

Her starting point is the Ukrainian and Byzantine icon tradition, and she sees her paintings as a joyful reaffirmation of the mystery of the incarnation.

“If I had a good voice I would sing in a gospel choir. … I work in color instead, bring new techniques and ideas to a tradition as old as Christendom,” Granger said. “Each painting is a joyful reaffirmation of the mystery of the incarnation,” she wrote.

The exhibit will display both of Granger’s books, which include words from such spiritual sources as Mother Teresa of Calcutta, poet Rainer Maria Rilke and Archbishop of Canterbury Rowan Williams.

The Marian Library is open Monday-Friday 8:30 a.m. to 4:30 p.m. and on Saturday and Sunday by appointment. For more information, call 229-4214 or see http://www.udayton.edu/mary.
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