Architecture, business, social work students tackle urban renewal

The project is an innovative one: Select a struggling St. Louis business area. Brainstorm redevelopment ideas with shop owners, community associations and concerned residents. Create architectural designs, a neighborhood strategy and a business plan. Begin implementing the ideas.

The Washington University chapter of the American Institute of Architects (AIA) takes on a community volunteer project each year. What makes this year's project different is that students from the School of Architecture merged their energies with students from other disciplines.

The result is that more than 40 students from architecture, the John M. Olin School of Business and the George Warren Brown School of Social Work are creating a vision for Cherokee Street, a south St. Louis business area.

"When we first started meeting with people in the community," said Scott Foster, a graduate student in architecture and business and one of the project leaders, "we realized it was much more than an architectural project. So we decided to integrate three disciplines. Being able to see things from more than one angle really helped problem-solving."

When planning began in January, the community was apprehensive of the student undertaking. But after meeting the students, said Foster, apprehension gave way to enthusiasm and involvement. After conducting two all-day Saturday brainstorming workshops, the students began the implementation phase March 30.

During a six-hour period, more than 30 students cleaned seven blocks of street litter and spruced up storefronts by scraping off old signage, cleaning windows, scrubbing tile and painting. St. Louis aldermen and University faculty worked alongside students on interactive small groups. "The brain was the highlight," said Mann Koepke, research assistant in the Rockwood school district, Kathleen Mann Koepke, Ph.D., research assistant professor of neurology and executive director of the Alzheimer's Disease Research Center at the School of Medicine, engaged sixth-graders in a host of hands-on experiments to illustrate the field of neuroscience. She also took along a human brain — immersed in water in a Tupperware bowl — for the students to look at and touch. "Did you take it from a live person?" one boy asked.

"The brain was the highlight," Mann Koepke said. "The kids got excited and for a few minutes forgot that it was science."

Several students explained the result of the experiment, "Cool," she said softly. "That's one of the great things about being a geologist." The girl's eyes widened. "Cool," she said softly.

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Fitting better

Development of 3-D medical imaging system should greatly improve the design of artificial limbs

Attacking osteoporosis

Steve L. Teitelbaum, M.D., is committed to breaking down "the invisible killer of all bone diseases."

Celebration weekend

University welcomes prospective multicultural students to campus

April 11-14

Continued on back page
A better fit
New 3-D medical imaging system to improve design of artificial limbs

Engineer and radiologist Michael Vannier, M.D., professor of radiology, has been a pioneer in 3-D medical imaging, developing technologies that have revolutionized head and face surgery. He now has turned his attention to artificial limbs, which attach to flesh with a plastic socket.

Vannier, who also is an assistant professor of surgery, has received a four-year $1.2 million grant from the National Institutes of Health (NIH) to develop a 3-D imaging system that should greatly improve the fit of artificial limbs. The grant comes from the NIH's National Institute for Medical Rehabilitation Research, a component of the National Institute of Child Health and Human Development.

"The system is to improve the design and fitting of prostheses by developing imaging procedures that will allow prosthetists to objectively evaluate the quality of fit," Vannier said.

"To be comfortable and easy to use, the socket must hug the contour of the remnant limb that tends to vary greatly in shape from patient to patient because surgeons have different ways of shortening bones during amputation. If a socket does not fit well, it can cause pain and hamper walking.

Prosthetists currently take a plaster cast of the remnant limb, use the cast to make a socket, and manually sculpt the socket to obtain the best fit. Considerable guesswork is involved because the socket deforms the flesh when in place.

Vannier thought it would be better to look directly at interactions between the socket and flesh. "With computer graphics, you can subtract the image of the socket to reveal the flesh as it exists when the socket is on," he explained.

The socket must hug the contour of the remnant limb during amputation. If a socket does not fit well, it can cause pain and hamper walking.

Vannier uses an optical scanner to make 3-D images of an amputee's remnant limb's surface and CT (computed tomography) scans to assemble images of the underlying bone, muscle and fat.

Mathematical modeling of the changes that take place in the flesh is done in collaboration with Barba A. Szabo, Ph.D., the Albert P. and Blanche Y. Greensfelder Professor of Mechanics in the School of Engineering and Applied Science.

Vannier is testing the validity of his 3-D graphical displays with amputee spouses. Then he will compare images of patients with poorly fitting prostheses with images of patients whose prostheses fit well. "We will use these data to identify the biomechanical characteristics of successful prostheses," Vannier said. "That should allow us to develop reliable methods to improve the design and evaluation of artificial limbs."

Correction
In the April 4 Record, the local phone number for the Benign Prostatic Hyperplasia (BPH) study should have been 576-4907.

Linda Sage
Osteoporosis affects about 25 million Americans and contributes to 1.3 million bone fractures annually. Teitelbaum said that by developing new ways to study osteoclasts, researchers can learn more about how mutations in genes that control osteoclasts lead to cancer. "The research team now is injecting DNA from the molecular marker into the metastatic breast cancer cells to see if it prevents their spread to the bone," Teitelbaum said. "This University gave me a real sense of excellence and the latitude to explore what I wanted. There are very few places, if any, where I could have grown osteoclasts to develop and break down bone. Without the critical attachment protein, which resorbs the bone around the artificial implant, it causes excruciating pain and leaves weakened bones susceptible to fracture. Patients with bone cancer also face a shortened life span."

The team has identified a molecular marker that enables researchers to study which cancer cells that makes them less likely to metastasize. The marker is absent on the surface of metastatic cancer cells. The research team now is injecting DNA from the molecular marker into the metastatic breast cancer cells to see if it prevents their spread to the bone.

The bulk of Teitelbaum's lab time is spent dissecting the molecular mechanisms that lead immature osteoclasts to develop and break down bone. He and his co-workers have identified the ion transport and enzymatic mechanisms important in bone destruction. They have shifted their focus to a key molecule that allows osteoclasts to attach to bone. Without the critical attachment molecule, which Teitelbaum identified with the help of Ross, osteoclasts can't break down bone. The researchers also cloned the gene that produces the molecule.

"It's been very exciting to go from bench research to clinical trials," Teitelbaum said. "In this lab, we try to focus on in vivo experiments. The in vitro experiments are also important, but ultimately we want to see what happens in a living human being, we want to know what the real-life applications are."

Outside of his life at the University, Teitelbaum loves to travel, and when possible, he travels with his wife, Marilyn. When their three children were younger, the entire family often would travel abroad to scientific meetings in Europe, Africa and other far-flung destinations. Teitelbaum said he's thankful for the opportunity he's had at the University. "It's really been an exciting experience," Teitelbaum said. "I get a high off the research and the ability to train good people."

"It's a lot of work, but it is very satisfying," Teitelbaum said. "We've received the help of liberal Democrats and conservative Republicans."
Music
Thursday, April 11

Tuesday, April 16

Saturday, April 20

Performances
Thursday, April 11
8 p.m. Student dance concert. Sponsored by the Dance Studio. 2:30 p.m., April 12; same time, and April 13 at 2 p.m. (Dance Studio, Room 207 Mallinckrodt Center; $3; 725-9156.)

Friday, April 12
8 p.m. The Performing Arts Dept. presents "Romanzo e Istante." In celebration of the play "Romanzo e Istante," 8 p.m. April 12, same time, and April 13 at 2 p.m.) Edition Theatre. Cost: $8 for the general public; $6 for senior citizens, students, and WU faculty and staff. 935-6543.

Miscellany
Thursday, April 11

4:30 p.m. American Indian studies panel discussion. "American Indians of Today." Room 307 Brown Hall. 935-4510.

Friday, April 12
1:30 p.m. American Indian Awareness Week. Book signing, Basil Johnson, Canadian Ojibway author and educator. Campus Bookstore, Mallinckrodt Center. 935-4510.


Thursday, April 18
7 p.m. Faculty/graduate student faculty panel discussion. "Eligent Women: Modernist Feminism in a Postmodern Age." Room 220 Busch Hall. 935-5102.

Saturday, April 20

Nuclear weapons focus of Feenberg lecture
From zero nuclear weapons in 1945, the world's stockpile grew to more than 60,000 and now is decreasing. Can the residual nuclear weapons be maintained safely and reliably? This and other questions will be answered by Richard L. Garwin, a physicist who worked with

Compiled by Mike Wolf, director, and David McConney. assoc. director, sports information.

Track squads place high at WU Open
Finishing a respective first and second, the women's and men's track and field squads were in full stride at last weekend's eight-team Washington University Indoor Track Open. Freshman Claudine Rigaud won the 100- and 200-meter dashes. Her 25.50 seconds in the 200 obliterated the WU varsity record. The squads were given a provisional ticket to the NCAA Division III Indoor Championships. Also earning national berths were Emily Richard and junior Jeryn Jordan in the 3,000-meter run. The women's 4x400 relay included Ashley Lewis in the 400. On the men's side, sophomore Alex GuhaFurman charted the season's top time in the 1,600-meter. The Washington University Athletic Association competitors with a 5:04-second performance in the 4000-meter hurdles.

This week: 11 a.m. Saturday, April 13, at Western Illinois Invitational (Macomb). 935-6200.

Baseball team suffers back-to-back losses
WU's momentum on the baseball diamond was slowed last weekend in Jacksonville, Ill., as Central Region rival MacMurray College recorded 8-1 and 5-0 victories over the Bears. The losses marked the first successive losses of the season.

Current record: 17-6

This week: 3 p.m. Friday, April 12, at Greenville (Ill.) College; 1 p.m. Sunday, April 14, vs. Maryville University (2, Greensboro, N.C.).

Women's tennis team faces SU's this week
Idle last week, the women's tennis team resumes play this week.

Current record: 6-5

This week: 4 p.m. Thursday, April 11, vs. Southern Illinois University, Edwardsville; 1 p.m. Saturday, April 13, vs. Siena College at Tuscaloosa Tennis Center; noon Sunday, April 14, vs. Alabama. (Tuscaloosa Tennis Center, Alabama.)

Greenville next for men's tennis team
Finishing its season with a flurry of matches, the men's tennis team returns to action this weekend. 

Current record: 2-3

This week: 3:30 p.m. Wednesday, April 10, vs. Greenville College, Greenville, Mo.; 2 p.m. Thursday, April 11, vs. Southeast Baptist University, Texarkana.
Cornelia Homburg discusses Ludwig Meidner's painting "Selbstbildnis" (Self Portrait) with students who are taking a class on contemporary German society and culture.

The gallery's permanent collection offers a wealth of information for students and art history, she said. "Students of history, literature, anthropology, sociology, art history and the classics, to name a few, can take advantage of what we have here. It's a valuable resource on campus.

An upper-level class on contemporary German society recently took advantage of the gallery's noted 20th-century European painting collection to learn firsthand about Germany's artistic culture. Homburg, who is from Germany, gave the tour and subsequent discussion in her native language. She noted afterward that students can gain a much better understanding of the historical and artistic movements underlying the art by viewing the actual works rather than looking at reproductions in books or on slides.

"To work with the real thing is completely different," she said. "You look at it differently and from all sides and perspectives. Generally, the gallery does not show artworks in isolation, but rather you can see them in context and how they relate to other works.

The students in the course, titled "Germany Today," were impressed with the collection and the tour. "It was very helpful," said Quentin Krul, a sophomore civil engineering major. "I'm not very well learned when it comes to this art. It brings it all together." 

Both of these students, along with about half of the 16-member class, will take the next academic year at universities in Tübingen and throughout Germany as part of the University's overseas studies program.

"It's very impressive." 

Second-year M.F.A. students exhibit works

The School of Art will host its annual "Master's of Fine Arts (M.F.A.) Thesis Exhibition" from April 19 to May 5 in the Gallery of Art in Steinberg Hall.

Seventeen second-year M.F.A. students will show their works in various media, including painting, sculpture, ceramics, photography and printmaking. The show also will include some large-scale installations. All of the works are available for purchase.

An opening reception will be held from 5 to 7 p.m. April 19 in the gallery. It is free and open to the public.

The exhibition hours are 10 a.m. to 5 p.m. weekdays and 1 to 5 p.m. weekends.

The exhibition is the final requirement for students completing their degrees in the M.F.A. program. All of the works in the exhibit are available for sale through a panel of art faculty members. The show represents the best work from each student, said Stan Strzemkowski, professor of art and acting director of the graduate studies program.

Robert Weninger, Ph.D., associate professor in the department of Germanic Languages and Literatures in Arts and Sciences and teacher of "Germany Today," hopes the trip to the gallery will inspire these students to explore cultural attractions while abroad.

"We want them to experience the full cultural range of the country," Weninger said. "There is a fine collection of European art in the gallery. And she (Homburg) can explain it in German. This has been very useful for the students."

While a class on contemporary German society is ideal for taking advantage of the gallery's offerings, Homburg also plans to reach out to disciplines seldom associated with fine art. In the fall, Homburg will curate an exhibition of photographs that explore the influence of science on modern society.

"It's very impressive."
Students win top honors at regional dance festival

Washington University students dance sweep gracefully past hundreds of other aspiring dancers to win top honors at the regional American College Dance Festival held recently at the University of Utah in Salt Lake City.

As winners of the Northwestern regional festival, the dancers in the Performing Arts Department in Arts and Sciences will perform at the national National College Dance Festival on May 20-22. The performance will be held in the Kennedy Center in Washington, D.C.

“The students’ success is the result of the work they put into the buff in the classroom,” said Brigitte Rossbacher, assistant professor of history.

“Many people have protested the massive rapes committed by Serbian soldiers in the city of Palma, Kosovo, and the International Court of Justice in The Hague is considering whether to grant The Hague, the former home of the International War Crimes Tribunal, jurisdiction over the alleged war crimes. The court is expected to rule on whether it can exercise jurisdiction over the alleged crimes, which include murder, rape, and other atrocities.

The court's decision will be closely watched by those who believe that the International Criminal Court is the only way to bring justice to those responsible for the crimes committed in Kosovo. The court's decision may also have implications for other international criminal proceedings, including those related to the war in Syria and the conflict in the Democratic Republic of the Congo.

The case has sparked a debate about the role of international criminal tribunals and the effectiveness of the International Criminal Court. Some critics argue that the court is too slow and too cumbersome, while others believe that it is an important step in the global effort to hold those responsible for atrocities accountable.

The outcome of the case will likely have a significant impact on the future of international criminal law and the fight against impunity. It is clear that the International Criminal Court will continue to be a key player in efforts to bring justice to those who have committed serious crimes in various parts of the world.
Direct deposit open to all employees

Beginning May 1, all Washington University employees will be able to participate in the direct-deposit program. Previously, direct deposit was an option only for those employees who received one paycheck a month. Beginning next month, however, all Washington University employees will be able to participate in the direct deposit program. Employees may sign up for direct deposit at any time during the year.

Meetings have been scheduled to answer employee questions about the direct deposit plan. Employees may sign up for direct deposit at any of the following meetings:

On the Hilltop Campus, there will be a meeting from 11 a.m. to 1 p.m. Wednesday, April 17, in Room 1140A of the Hilltop Campus Recreation and Athletic Complex.

In the Kirkwood Campus, there will be meetings from 11 a.m. to 1 p.m. Thursday, April 18, in Room 520 of the Hilltop Student Center; Monday, April 22, in Room 126 North Brookings Hall, or Room 126 as indicated in the campus directory; and Tuesday, April 23, in Room 800 of the Hilltop Student Center.

There will be a meeting from 4 to 5 p.m. Tuesday, April 23, Room 212 of the Hilltop Student Center.

There will be a meeting from 4 to 5 p.m. Wednesday, April 24, Room 105 of the Hilltop Student Center.

For more information, call Sherrill Payroll Services at 935-8833 or 935-4387.

Team tennis, lessons offered this spring

The Tao Tennis Center will be the site of two innovative tennis programs offered this spring by Lynn Immergut, head coach of the women’s tennis team, and assistant athletic director, and Pat DeWitt, assistant men’s coach.

World Team Tennis offers competition on a team basis for men and women. Leagues will be formed at the 3.0, 3.5, 4.0, 4.5, 4.6 and above levels. A match consists of two or more sessions, including singles, men’s doubles and women’s doubles and two sets of mixed doubles. Teams will play one evening per week from 6 to 8 p.m., or 8 to 10 p.m., depending on the number of teams entered. You may enter as a team (minimum of two men and two women) or as an individual and be placed on a team. The season runs from April 30 through July 12. Deadline for entries is Monday, April 2.

Group tennis lessons are offered for both adults and beginning juniors. Lessons will be held on Wednesdays in the evening in two sessions per week.

For more information and application forms, call Immergut at 935-5204 or come to the Administrative Office of the Athletic Complex.

Social work and architecture graduate student Sara Minarik scraps signoff on the agency’s new name, front of the building while architecture graduate student David Bellfield sweeps the entryway.

Students aim for ongoing renewal— from page 1

alongside the students, and area business owners. The group also applies for a grant from the National Endowment for the Arts. "The most gratifying part of the project," said Foster, "has been seeing relationships develop among people in the community who hadn’t worked together before.”

The students created their own volunteer workday by挂钩 their architectural designs for Cherokee Street in the newly cleaned storefronts.

"So often in school we design something that doesn’t have a real-life connection," said AIA chapter President Susan McNabb, a graduate student in architecture and construction management. "This was an opportunity to see the beginning of what we proposed and designed start working.

McNabb hopes the multidisciplinary approach will start a precedent for future projects.

Brainstorming sessions, conducted March 16 and 23 with professors, residents, church groups and community associations, resulted in a longitudinal vision for the area, which stretches from Gravois Avenue to the former Lemp Brewery. Architecture, historic structure and landscape work, including signage to promote Cherokee Street and public art solutions, including strategic downtowning of vacant shops in the middle of blocks to create walkways and retail, promoting behind shops; additional lighting and benches at intersection corners; and converting some "no man’s land" that is more likely to park on side streets, and a mixed-use project for the former brewery, which included an antique village on the first floor and office and residential space above. Although many of the students, like Foster and McNabb, may enter a team (minimum of two men and two women) or as an individual and be placed on a team. The season runs from April 30 through July 12. Deadline for entries is Monday, April 2.

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