H. pylori's bacterial-host relationship emphasized by study

BY DAREEL E. WARD

The bacterium that causes stomach inflammation, peptic ulcers and gastric cancer thrives in the human stomach by triggering changes in stomach cells and using those changes to its own advantage, report School of Medicine and Swedish researchers in a study appearing in a recent issue of Science. The study suggests a dynamic and constantly evolving relationship between bacteria and host.

Researchers found that stomach infections caused by the bacterium Helicobacter pylori lead first to mild inflammation. As the inflammation occurs, cells lining the stomach produce a specific kind of sugar molecule and display it on their surface. Normally, that sugar, known as sialyl-di-Lewis x (sLex), serves as a flag to attract immune cells to the infection site. The worse the inflammation, the more sLex on the cells displays.

Investigators also discovered that H. pylori latches onto the new sugar using a previously unknown bacterial adhesion protein, enabling the bacteria to draw closer to the stomach cells, presumably where more nutrients are available. This worsens the inflammation and further increases the amount of sLex the cells display.

Some of the bacteria, which are loosely attached, may then move slightly away from the cells, avoiding destruction by immune cells that are attracted to the inflammation. As the inflammation occurs, the bacteria produce a specific kind of sugar molecule and display it on their surface. Normally, that sugar, known as sialyl-di-Lewis x (sLex), serves as a flag to attract immune cells to the infection site. The worse the inflammation, the more sLex on the cells displays.

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Junior Ernst reaches for the STARS
Local program gives students taste of real scientific research
BY CAROLINE JONES OTTEN
You may not see her star on the Delmar Loop’s Walk of Fame (yet), but junior Laura Ernst, a double major in drama and biology, both in Arts and Sciences, has already done much to make her hometown proud.

The St. Louis native is one of a new generation of scientists-in-training who have been benefited in recent years from the rise of intensive summer programs that give St. Louis high school and even college students a taste of real scientific research as opposed to “cookbook” experiences of many laboratory classes.

I have found the St. Louis area to be incredibly encouraging in my scientific career path, primarily because of our strong science fairs and the St. Louis-based corporations such as Monsanto and Solitiva that support them,” said Ernst, who plans to attend graduate school in plant science and one day teach and conduct research at the university level. “I have also been lucky to have so many opportunities to participate in scientific programs thanks to leaders in the St. Louis community that are dedicated to exposing students to science and research.

Still, a love affair with science usually begins early in life. Ernst’s mother, Leona, a music teacher, always supported her daughter’s interests and began encouraging her to enter science fairs in grade school.

Later, at a high school junior at the Urbana Academy in Oakland, Mo., Ernst developed a serious interest in science through an independent study class taught by Marie Sherman, whose enthusiasm Ernst recalls as “contagious.”

The following summer, Ernst and Sherman spent six weeks participating in STARS (Students and Teachers As Research Scientists), a unique local program that draws on the faculty and resources of Washington University, Saint Louis University and the University of Missouri-St. Louis.

STARS combines classroom learning with hands-on laboratory experience by pairing students and teachers with faculty researchers. In addition, the program aims to educate students about the broad range of professional opportunities that a degree in science can offer.

“I am grateful that Professor Zayas has made the commitment to join us here at Washington University,” Wrighton said. “This new professorship will enable us to honor and celebrate two members of our community and two distinguished leaders in social work education and research.”

In addition to his work as a professor, Zayas served as director and principal investigator for the Center for Hispanic Mental Health Research, where he has recruited the finest faculty, research and development center, created to conduct research on Hispanic mental health, service delivery and treatment approaches and to train faculty researchers.

He was also the director of Predoctoral Research Training in Minority Mental Health, a National Institute of Mental Health-funded social work research development center created to conduct research on Hispanic mental-health needs, service delivery and treatment approaches and to train faculty researchers.

Zayas named Khinduka distinguished professor
BY JESSICA N. ROBERTS

Wend H. Zayas, Ph.D., has been appointed the inaugural Shanti K. Khinduka Distinguished Professor of Social Work, Chancellor Mark S. Wrighton announced in a recent letter to the George Warren Brown School of Social Work community.

This distinguished professorship in honor of Khinduka has been established by an anonymous donor. Khinduka, Ph.D., the George Warren Brown Distinguished University Professor, has served as professor and dean of GWB since 1974.

Zayas, a licensed clinical psychologist and certified social worker, comes in GWB from the Graduate School of Social Service at Fordham University.

“Dean Khinduka has led the school with wisdom, creativity, clinical training, sensitivity and dedication for more than one-third of the life of the school,” Wrighton said. “He has contributed to the development of the finest school of social work in the world, and this stems in large measure from having recruited the finest faculty.

Thus, a professorship in honor of Dean Khinduka is most fitting—indeed this professorship is given to our generous and thoughtful donor for such a meaningful contribution.”

A formal installation ceremony for Zayas will take place this fall.

“I am grateful that Professor Zayas has made the commitment to join us here at Washington University. This new professorship will enable us to honor and celebrate two great members of our community and two distinguished leaders in research and education,” said Wrighton.

Zayas is an editorial board member for the Journal of Social Service Research and is the author of various chapters and journal articles related to his research.

Zayas is a fellow of the American Orthopsychiatric Association and a member of the American Psychological Association, the American Public Health Association, the American Association of Social Workers Professionals, the National Association of Social Workers, the Society for Social Work and Research and the Society for Research in Child Development.

During Khinduka’s tenure, one of the longest for a social work dean and the longest of a dean currently serving at the University, the school has risen to one of the top-ranked institutions of social work in the country and has become a model for cutting-edge research and innovative curriculum.

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Grant funds studies, new Molecular Imaging Center

By DARRELL E. WARD

David R. Pivovar-Worms, M.D., professor of radiology and of molecular biology and pharmacology, has received a five-year, $9.4 million grant from the National Cancer Institute to establish the new Molecular Imaging Center at the School of Medicine.

The new center, to be housed in the Molecular Imaging Center, is designed to translate the knowledge gained from molecular and basic research into improved care for cancer patients, said Povovar-Worms, who will direct the center. "We want to be at the forefront of the latest imaging technologies with the power of basic science to guide our work."

Molecular imaging, a newly emerging area of medicine, is an outgrowth of the field of radiology. Whereas radiology is the imaging of tissues, organs or the entire body to detect disease, molecular imaging works at the level of cells, genes and proteins. It detects changes in how processes of molecular medicine are metabolized by cells.

Positron emission tomography (PET) is one example of molecular imaging technology already in use. PET studies are planned in the grant, for instance, to detect the activity of a protein that promotes anti-cancer drugs out of tumor cells, rendering the drugs ineffective.

Patients in the study will be given a compound that contains a radioactive isotope, labeled to track the compound as it is taken up more rapidly by tumor cells that lack the drug resistance pump and less by tumor cells with an overactive pump. A PET-scan image can reveal the levels of uptake and elimination, thereby providing an oncological means of detecting the presence of the drug-resistance protein in the tumor. The goal of the study is to predict the effectiveness of certain chemotherapy drugs in patients with advanced lung cancer.

Investigators involved in the new Molecular Imaging Center will work from various medical disciplines, including chemists, molecular biologists, molecular imaging scientists and physician-scientists.

Galvin receives awards for dementia research

By GIL Z. RECKESS

James E. Galvin, M.D., assistant professor of neurology, received three awards in recognition of his research on Lewy body dementia, the second-most common form of dementia after Alzheimer’s disease.

Galvin received the Alene and Marvin Kopelow Award from the Barnes-Jewish Hospital Foundation at the inaugural annual awards celebration sponsored by the University’s new Center for Aging.

Other awards included a $2,000 in recognition of excellence in gastroenterology by junior faculty and an award from the Kopelow's efforts to improve geriatric care by Barnes-Jewish Hospital. Kopelow’s award was not given away this year, given the Kopelow award is named in honor of a recipient only when achievement justifies the award. Galvin was also awarded the Paul Bergren Faculty Scholarships in Aging Research Award, which provides $450,000 over three years to young physician-scientists.

The program is administered by the American Federation for Aging Research and the Alliance for Aging Research and is dedicated to encouraging outstanding young clinicians to continue aging research, patient care and teaching. The Bergren Award will support Galvin's research into the molecular pathology of Parkinson's disease, he said.

"Research of Lewy body disease lags, in part, due to the absence of reliable animal models, that underlie Lewy body disease," Galvin said.

"Research of Lewy body disease lags, in part, due to the absence of reliable animal models, that underlie Lewy body disease," Galvin said. "It is the absence of these models that accurately recapitulate the pathologic features of the disease," Galvin said.

In addition, Galvin received a three-year, $400,000 grant from the National Institutes of Health to investigate the clinical and pathological features of Lewy body dementia in an effort to improve the definition and diagnosis of this disease.
Faculty choreographers to present intimate Dance Close-Up

Christine O'Neal, senior artist-in-residence and director of the University's Ballet Program, will perform Miss Lily as part Dance Close-Up, a faculty showcase Sept. 5-7.

- On Location (E. Cowell) choreographers and performers will travel to different campus locations for an intimate and emotional experience of dance in familiar settings.
- Slow (David W. Marchant, senior artist-in-residence, choreographs and performers and this exploration of time and patience). Set to Franz Joseph Haydn's Adagio from Quartet in E Op. 72 No. 2 - Ghebue and Mandieni.

Dance Close-Up: What: The Dance Program in the Performing Arts Department in Arts & Sciences; When: New and original choreography by Dance Program faculty Where: Annett McClellan Dance Studio, Main Campus Student Center, Room 207 When: 8 p.m. Sept. 4-6 and Sept. 7 Tickets: $14; $10 for University faculty and staff, students and senior citizens (60% and over) seating available Through the Edison Theatre Box Office (935-6435) and Metrolink.

For more information, call 935-3858.

The Densest Stuff on Earth • Vertebrate Segmentation Clock

Submit "University Events" forms to Genie Polkides of the Record Calendar. (1) e-mail - record_calendar@wustl.edu (2) E-mail to University Affairs, Campus Box 1070, or telephone 935-6435. Upon request, forms for fall meeting events may be emailed, mailed or faxed. All entries must be submitted and they may fill in and return entries at the discretion of the editor. Deadline for submissions is noon on the Thursday after Labor Day.

Task force

To review undergraduate grievance procedures - from Page 1

University Events

Exhibitions

Lectures

Task force

Members of the Task force on Undergraduate Grievance Procedures

Joseph Seligman, J.D., dean of the School of Law and the Ethan A. Shriver University Professor: Martin W. Crimp, Ph.D., professor of economics and management, Olin School of Business; Geoffrey E. Davies, director of the computer science, School of Engineering and Applied Science; Frederick Dickinson, president of the architecture student group; Maya Evans, president of the Association of Black Students; Lefi E. Fox, associate general counsel; Iain A. Fraser, director of the new grievance structure is expected to be in place by next academic year.

More and... 

Tuesday, Sept. 4


From Quartet in E Op. 72 No. 2 - Ghebue and Mandieni.

Daniele Barthly, adjunct instructor, is where the students Adam Bago, Roland N’Gueuand, Sky Klock, and Dominic M. Hallstone for two traditional West African dances. Ghebue is a traditional dance of the Bete people of Upper Guinea. Mandieni is a popular dance of the Mandinka people of Upper Guinea.

Polo: Mercedes Hernandez, adjunct instructor, performs this West African dance, Chambala, which dates from the early 18th century, stresses rhythm and patience. Set to Franz Joseph Haydn's Adagio from Quartet in E Op. 72 No. 2 - Ghebue and Mandieni.

from the Fallstuhl Institute for the Performing Arts Department in Arts & Sciences; When: New and original choreography by Dance Program faculty Where: Annett McClellan Dance Studio, Main Campus Student Center, Room 207 When: 8 p.m. Sept. 4-6 and Sept. 7 Tickets: $14; $10 for University faculty and staff, students and senior citizens (60% and over) seating available Through the Edison Theatre Box Office (935-6435) and Metrolink.

For more information, call 935-3858.
Gallery of Art Book Fair launches new Friday series

BY LIAM OTTEN

The Gallery of Art will hold its first Gallery of Art Book Fair from noon-8 p.m. Sept. 6. The sale will feature a large selection of art-related books from the Gallery of Art's library, including monographs, exhibition catalogues and auction catalogues. All proceeds go to support exhibition and education programming. The event is free and open to the public.

The book fair inaugurates a series of special events — including lectures, films and student demonstrations — designed around the Gallery of Art's newly expanded Friday hours. Gallery hours are now 10 a.m.-4:30 p.m. Tuesday through Thursday; 10 a.m.-8 p.m. Fridays; and noon-4:30 p.m. weekends. The gallery is closed Mondays.

The special events begin at 7 p.m. and are free and open to the public, unless otherwise noted. Highlights for the fall include:

**Sept. 27:** Elizabeth Childs, associate professor of art history and archaeology in Modern Art, will speak on "Voyages and Fantasies: Exoticism and Orientalism in Modern Art" in the newly established Teaching Gallery. The talk is the first of three Friday Forum discussions and is repeated by request on 6:30 p.m. Cost, which includes wine and appetizers, is $10, or $5 for the series. Reservations are required for Friday Forum events and are due Sept. 3, 195-5490.

**Oct. 15:** panel and discussion on "Promoting Modern European Art in Mid-Century America: The Case of H.W. Janson." Panelists include Elizabeth Childs, professor of art history at the University of Chicago; and Sabine Eckmann, curator of the Gallery of Art. A reception will follow.

**Nov. 5:** "Adventures Film." A screening of three short films from the Museum of Modern Art Film Archive: Works of Calder (1950), directed by Herbert Matter, and erroneous by John Cagin; Jackson Pollock (1950-51), directed by Edward Nunn and Paul Falkenberg, score by Morton Feldman; and Willem de Kooning: The Painter (1963), directed by Nunnihh, score by Feldman. **Nov. 7:** William Mitchell, dean of the School of Architecture & Planning at Washington University in St. Louis, joins Eckmann to present "Campus Design for the 21st Century." Mitchell is an expert on design theory, imaging synthesis and other applications for architecture and urban design. This recent book is a must-read. "Urban Life, Fun — But Not As We Know It" (1999).

**Nov. 22:** Laurie Stoltz, director of the Pulitzer Foundation of the Arts, joins Eckmann for a discussion of "How Modern Art Came to Saint Louis," focusing on mid-century collecting of mid-century modernism. The talk is the second of three Friday Forum lectures and is preceded by a reception at 6:30 p.m. Cost is $10.

Dec. 6: Lotus Koppnitz, associate professor of Germanic languages & literatures and of Film & Media Studies, both in Arts & Sciences, joins Eckmann for a discussion of "Public Dialogues and the Work of Christian Jankowski," in conjunction with the Gallery of Art's exhibition Christian Jankowski's Targets. The talk is the third of three Friday Forum lectures and is preceded by a reception at 6:30 p.m.

For more information on the book fair, call 935-4523.

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**STARS**

**Program pairs students with scientific research — from Page 2**

in science can offer and perhaps give St. Louis' own art fair a reason to consider staying in St. Louis — either for college or later for a career.

"I first met Laura in June of 1999 at a science fair held at Creve Coeur, Mo. It's a prestigious award that others will follow in her footsteps. "I think the reputation and pride in our scientific accomplishments. "Before embarking on her freshman year, Ernst enrolled in Washington University's Freshman Summer Scholars Program. Sponsored by the Howard and Huschges Medical School. The program allows 20 incoming students in biology and biomedical engineering to begin acclimating to life on the Hilltop Campus by diving directly into an actual research project.

Michael Neff, Ph.D., assistant professor of biology in Arts & Sciences, studied light signal transduction in Arabidopsis, a flowering member of the mustard family that is prized by plant biologists for its relatively small genome and its ability to grow in the presence of non-mimic domestic crops in its environment and as a model for human disease. Ernst focused on Arabidopsis again this summer while interning at the Michael Dandorf Plant Science Center (DPDSC) in Creve Coeur. It's an especially propitious appointment. "What I love most about lab life is that others will follow in my work because I plan my experiments carefully and with sizzle (salt) that crops are unable to grow. Schachman discovered Ernst, and her past experience (including salt-tolerant crops), through the CAFES website.

So what's lab life like for a budding scientist? "Every day is very different with my work because I plan my research based on the results I gather as the summer progresses," Ernst said.

Ernst's project involved examining potassium transporters — those mechanisms through which potassium travels throughout the plant. Her daily tasks ranged from setting up hydroponic tanks to making plant media and growing several lines of plant specimens.

But Ernst's duties went well beyond glorified gardening and into the realm of molecular biology — extracting DNA, making cloned DNA and looking at the unusual physical characteristics of plants in which one gene has been "knocked out," rendering them incapable of making a particular potassium transport protein. "What I love most about plant science research is that I can pose questions about basic plant biology, and the answer I find to those questions will have practical applications that directly benefit society," Ernst said. "The more we learn about the role of potassium transporters in plants and how they regulate sodium, the closer we come to creating crops that can withstand salt stress, and hopefully we can eventually use more of our salt-affected land for agriculture, to feed our growing population."

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**Sports**

First-team All-American setter Rebecca Rotello (2) and first-team all-University Athletic Association performer Amy Brand are two of five starters returning for the Bears' 2002 campaign. WUSTL advanced to the quarterfinals of the NCAA Tournament last year.

**Volleyball, men's soccer previews**

Head coach Rich Lueken said the WUSTL Bears are grueling a run for a spot in a Division III-record eighth national championship as the club returns nearly intact from a 32-6 campaign last season. The team, which advanced to the quarterfinals of the NCAA Tournament a year ago, returns five starters, including first-team All-American setter Rebecca Rotello. Fellow first-team all-University Athletic Association member Amy Brand is back in the middle, while 2001 Central Region Freshman of the Year Colleen Winter also returns. Junior Cindy McPeak and Katie Quinn join a talented group of underclassmen and freshmen as the Bears look to extend their streak of UAA titles to 14.

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nure at Tokyo University, launches the series Sept. 9 with a talk on "Light and My Works." Koyama's work has been featured in numerous books and projects, including the MEXT Architect, Process, Architecture, and Urban Design Project. Significant projects include the Saint Andre Church in Turku, Finland, in Helsinki (1984-1992), the Open Field: Essays Drawn on Architecture, Design, and Landscape, with concentrat-

tories, and understand how math and science are applied to real-world problems, which will be passed along to future generations of students and teachers. The stude-
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"The students will be exposed to engineering and have engineering experience. The students will be exposed to engineering and have engineering experience."
Notables

Making memories Anne Enright Shephard (left), director of alumni and constituent relations in the School of Medicine, helps Halls Ferry Manor resident Lorine Simmons compile a memory book. For the fifth straight year, several University employees participated in the United Way’s Days of Caring, and the Halls Ferry Manor project was one of eight venues where volunteers cooked and cleaned.

Anne Fagan-Niven, Ph.D., research assistant professor of neurology, has received a three-year, $199,957 grant from the Alzheimer’s Association for research titled “Epidemiologic Relationships Between Amyloid-Beta: Role of Apolipoproteins and Insulin-Like Growth Factor.” Thomas M. Menzer, Ph.D., research assistant professor of neurology, has received a two-year, $55,996 grant from the Alzheimer’s Association for research titled “Loss of the ApoE4 allele in Alzheimer’s Disease.”

Speaking of... T.L. Torn, D.S.C., professor of systems science and mathematics, delivered two lectures in Australia in March: The Institute of Electrical and Electronic Engineers (IEEE) Distinguished Lecture on Fusion of Human and Machine Intelligence in Brain Science, and a lecture on the same subject at the Defence Science and Technology Organisation in Adelaide. Torn’s trip was sponsored by the IEEE and the Institution of Engineers, Australia.

Notables

Richard K. Groger, M.D., Ph.D., asst. professor of internal medicine, has received a three-year, $128,869 grant from the National Institute of Allergy and Infectious Diseases for research titled “Tuberculosis Vaccine Candidate.” Agann Wei, M.D., research assistant professor of pediatrics, has received a three-year, $300,802 grant from the National Science Foundation for research titled “Control of Cellular Exocytosis by KCNO1-Like Potassium Channels in C. elegans.”

Stephan M. Hightown, M.D., instructor in medicine, has received a one-year, $25,000 grant from the National Institute of Allergy and Infectious Diseases for research titled “Mechanisms of Regulation of Cell Migration in the Heart.”

Jane Y. Wu, M.D., Ph.D., associate professor of pediatrics, has received a one-year, $245,380 grant from the National Institute of Allergy and Infectious Diseases for research titled “Mechanisms of Regulation of Cell Migration in the Heart.”

Cullen G. Nichols, Ph.D., professor of cell biology and molecular medicine, has received a five-year, $246,300 grant from the National Heart, Lung, and Blood Institute for research titled “ATP: Sensitive Potassium Channels in the Heart.”

Robell J. Grayson, M.D., instructor in medicine, has received a five-year, $251,300 grant from the National Institute of Allergy and Infectious Diseases for research titled “Lymphocyte Homing to the Spleen.”

A native of Metz, professor emeritus in the Performing Arts Department in Arts & Sciences (where she founded the Dance Program), recently edited The Body Can Speak: Essays on Creative Movement Education With Emphasis on Dance and Drama.

The Body Can Speak: Essays on Creative Movement Education With Emphasis on Dance and Drama. (Southern Illinois University Press)
Helping students find their way

Sharon Stahl, Ph.D., takes great reward in advising undergraduates in all areas of college life

By ANDY CLENNDENIN

"She is smart and creative and commits her talents to a number of areas," said James E. McLeod, vice chancellor for student affairs and dean of the College of Arts & Sciences.

Stahl leaves her imprint on several aspects of University life.

She is an associate dean in the College of Arts & Sciences. She is the director of the Life Sciences Program. She is a four-year advisor. She is the liaison for the college to the Office of Undergraduate Admissions.

She works with the Honors Scholars Program. She is active with the Danforth Scholars Program. And she works with the Bigs Residency in the Classics.

"She does so many things so well," said James E. McLeod, vice chancellor for student affairs and dean of the College of Arts & Sciences.

"It was a great honor for me to have been able to do all of the things I have done," Stahl said. "But it was a challenge. I had to make a decision about how to use my talents and energies."