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Role of protein suggests strategy to kill cancer cells

BY GWEN ERICSON

To remain healthy, all cells must quickly mend any breaks that arise in their DNA strands. But cancer cells are particularly dependent on a process called homologous recombination to repair DNA and stay alive.

Now, School of Medicine researchers have found that a protein known as MDC1 has a role in homologous recombination. This discovery could be exploited in a two-pronged treatment strategy to eliminate cancer cells’ ability to repair DNA.

"Frequently, cancer cells are more efficient at DNA repair than normal cells," said Simon Powell, M.D., Ph.D., head of the Department of Radiation Oncology and a researcher with the Stierman Cancer Center. "Normal cells can’t fix the DNA damage that they accumulate as it accumulates. MDC1 can bind to chro- matin, the complex mixture of DNA and proteins that holds the molecular material," Powell said. "Because of chromatin’s proper- ties, getting into it to reach the DNA strand requires the right ‘passwords.’ MDC1 provides the DNA-repair proteins with this privileged access and efficiently transports them to the site of damage so they can do their jobs.

Chemotherapeutic strategies that reduce the activity of MDC1 could inhibit the ability of cancer cells to restore broken DNA. An accumulation of DNA damage would signal cells to initiate sui- cide pathways and die.

Although cells can find other ways to mend broken DNA, their ability to cope with DNA damage. Their study appeared in a recent issue of Nature Structural & Molecular Biology.

The research group discovered that MDC1, a protein previously recognized only for its function in sensing DNA damage and signal- ing its presence, also transports DNA-repair proteins to the site of DNA strand breaks. Without MDC1 to pave the way, repair happens slowly because the DNA-repair proteins have a hard time reaching damaged areas, which are buried in the tightly packed chromosomal material of the cell’s nucleus.

"MDC1 can bind to chromatin, providing the right ‘passwords’ to allow DNA-repair proteins to enter areas of damage," said Simon Powell, M.D., Ph.D., head of the Department of Radiation Oncology and a researcher with the Stierman Cancer Center.

Researchers have found that MDC1, a protein previously known to help the cell recognize DNA damage, could also transport repair enzymes into areas of DNA damage.

"This discovery could open up two possible strategies to exploit MDC1’s ability to repair DNA and destroy them," said Simon Powell, M.D., Ph.D., head of the Department of Radiation Oncology and a researcher with the Stierman Cancer Center.

"That’s what makes it an important discovery," said Simon Powell, M.D., Ph.D., head of the Department of Radiation Oncology and a researcher with the Stierman Cancer Center.

"But in light of their findings, Powell and his colleagues believe MDC1 along with other pro- teins involved in this repair path- way — may be good targets for drug or radiation treatments that physicians use in an effort to damage cancer cells’ DNA and destroy them."

Encouraging interdisciplinary study

Shana Russell, assistant director of admissions in the School of Law, grewls M.D.A. student Ryan Lucco during a joint degrees information event Nov. 29 in Simon Hall. Sponsored by the Joint Degree Society, the fair provided an opportunity for graduate students interested in pursuing a joint degree to speak with representatives or collect information from graduate programs on WUSTL’s Hilltop Campus. Nearly 50 students interested with representatives from Arts & Sciences, the George Warren Brown School of Social Work, the Olin School of Business, the Sam Fox School of Design & Visual Arts, the School of Engineering & Applied Science and the School of Law.

Genetic diversity in jocote trees is saved by growing them locally

BY JENNIE IVERSON

In a refreshing twist, humans have been shown to be part of the solution to the issue of decreasing genetic diversity in our world rather than part of the problem.

Global genetic diversity is being eroded through any number of human-driven activities, the removal of large-scale forests key among them. Now, WUSTL researchers have reported that farmers and families in Central America actually have saved genet- ic variation in the jocote (ho-CO-tay), or Spondias purpurea, a small tree that bears fruit similar to a tiny mango.

They’ve done this by taking the plants out of the forest, their wild habitat, and growing them close to home for family and local consumption.

Allison Miller, Ph.D., a postdoctoral researcher at the University of Colorado and a former WUSTL graduate student, worked with two faculty members from the Department of Biology in Arts & Sciences: Barbara A. Schaal, Ph.D., the Spencer T. Olin Professor of Ecology; and Peter H. Raven, Ph.D., the Engelmann Professor of Botany and director of the Missouri Botanical Garden.

"Many of the crops are so highly domesticated that they don’t have much genetic variation, and we are kind of looking at them after they’ve been highly domesticated and produced these elite varieties," Schaal said.

In a paper recently published in Proceedings of the National Academy of Science, Miller identifies the various wild and cultivated jocote species and indicates that cultivation of the jocote has preserved genetic diversity.

Olin Cup winners share

$75,000 in seed money

BY SHEILA NEUMAN

Entrepreneurship teams from Somark Innovations Inc. and iMobile Access Technologies (iMAT) have won the University’s 2005 Olin Cup and will receive a total of $70,000 in seed funding for their enterprises.

An additional $5,000 grant for student projects will be split between two winners, HomeWUrk and Suzanne Shenkman Designs.

The annual awards were an- nounced Dec. 1 at a ceremony that featured Robert J. Skanda- liaris, founder and chairman of Noble International.

Somark Innovations, which will receive $50,000 of the seed money, is the brainchild of 2004 WUSTL graduates Ramos M. Mays and Mark C. Pydynowski.

Mays, who earned an engi- neering degree in 2004, developed an infrared tracking sys- tem that works like a Radio Fre- quency Identification (RFID) chip, but without a physical chip, but without a physical
Board of Trustees briefed on community engagement

In Dec. 2, meeting, the University's Board of Trustees reviewed a new initiative to recommend ways to strengthen the University's engagement with the St. Louis region.

The trustees approved amendments to the bylaws of the Faculty Senate on the recommendation of the Faculty Senate Committee involving the constituting and organizing the Senate, increasing the terms of at least members from two to three, and tying the time to improve and national for any optional. The bylaws state that these large schools are distributed more widely within the community.

Following a memorial resolution and moment of silence in memory of the late Chancellor viewed — who died Nov. 4, in a motor vehicle accident — trustees received a report from Wright, chancellor.

Wright reported that admissions applications for the fall 2006 classes are ahead of last record-setting pace, and he noted that the final application deadline is Jan. 15. He noted that the fall 2005 class was the strongest in University history, according to academic indicators.

The meeting of the International Advisory Council for Asia (IACA) in Shanghai and Beijing, according to academic indicators.

"The idea was to let the kids learn about their own city, their own community in finding ways to engage issues, and ensuring that at least two different turning murals.

The Room, which has more than 50 different animals, ranging from deers, skunks and squirrels to birds, is printed on attachable, magnetically.

"The idea is to let the kids learn about their own community, their own environment," Dowd said. "The variable environments perceived by teachers to pose simple questions in ways that actively engage students instead of just telling them that fish live in water, etc., teachers can say 'Here's a fish. Where do you think the fish might live?"

The Specimen Room houses a pair of video microscopes as well as drawers and display cases filled with plants, minerals, bones, feathers and other touchable samples, most drawn from the science center's collection. The Case Room, which features a replica of a Missouri limestone cave — allows students to study natural scientists and stalagmites while learning about native ani-

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Researchers Identify Bipolar Disorder in Preschoolers

Children psychology researchers at the School of Medicine have identified a small group of preschoolers who appear to suffer from bipolar disorder, also known as manic-depressive illness.

The findings, presented this fall at the annual meeting of the American Academy of Child and Adolescent Psychiatry, identify symptoms that distinguish bipolar disorder from other mental health problems in the preschool age group. Diagnosing bipolar disorder in children under 6 can be particularly difficult because the manic phase of the illness can be confused with the more common attention deficit hyperactivity disorder (ADHD). The confusion arises because mania and ADHD both involve hypervigilance, irritability and distractibility.

These issues may be even more difficult in young children who display some of these behaviors and emotions normally. For example, Dr. Luby, M.D., associate professor of child psychiatry and mania symptoms as defined by psychiatrists' Diagnostic and Statistical Manual (DSM-IV) did not occur in healthy preschoolers and that three main symptoms — elation, grandiosity and hypersexuality — distinguish bipolar disorder in ADHD in preschoolers.

Similarly to the mania symptoms in older bipolar children — first outlined by Barbara Geller, M.D., professor of psychiatry of the School of Medicine — young children whose parents had elation, grandiosity and hypersexuality had higher odds of having bipolar disorder when compared with children with ADHD.

"This is different than the ordinary energetic behavior that children, even children with ADHD," Luby said. "When you ask healthy young children what they're capable of doing, they know how to inflame their capabilities and say they can run very fast or jump very high, like Superman."

What's different about bipolar children is that they become delusional and actually believe they can do things like run the preschool. An extreme example might be having a young preschooler who believed that she made the sun rise and set."

During the manic phase of the illness, children may experience exceedingly high self-esteem, an inflated sense of power or ability or act as though they are in charge of the home or school. They may act extremely happy, silly and lively, but their moods can change rapidly.

A decreased need for sleep and fatigue are other telltale signs of bipolar disorder, but because the sample was put together in such a way that depressed children and others with symptoms of disruptive disorders were removed the first time they were studied to be studied than healthy children.

Luby said the prevalence of bipolar disorder in preschoolers certainly is much lower than was reflected in this clinical study.

The study also had higher numbers of children with depression and ADHD and would be as high as a new study published in the American Journal of Psychiatry, Ellenberger said that the research could compare the disorders and determine differences that allow for more precise diagnosis.

The ability to distinguish a problem like bipolar disorder from ADHD is critical because though the disorders share some symptoms and some children meet the diagnostic criteria for both disorders, Luby said treatment with stimulant medications that can help kids with ADHD can be problematic for children with bipolar disorder.

How best to treat bipolar disorder remains an open question, but not just for preschoolers but for older children, too. Although several effective treatments exist for adults, children often respond to different medications and have different symptoms that might help them.

A National Institute of Mental Health (NIMH)-funded study called the TEAM (Treatment of Early Age Mania) study is comparing the effectiveness of treatments in older children. At the national level, Geller is leading the multicenter TEAM study. The National Institute of Mental Health's Early Emotional Development Program is one of five sites participating in the TEAM study. Luby is the principal investigator in St. Louis.

Researchers are comparing how well different medications and medication combinations work in making bipolar children age 6-11 feel better. Qualified participants are randomly selected to receive either lithium, a drug commonly prescribed for adults with bipolar disorder, valproate, another mood stabilizer that has been related to improve manic symptoms in a few smaller studies, or risperidon, an antipsychotic medication used in adults with schizophrenia that is also being tested in children.

"We hope that by comparing these drugs and drug combinations, we might be able to find better ways to control this severe, lifelong in older, affected children," Geller said. "As those results become available, we can look at whether these treatments also might help younger children."

The TEAM study is recruiting children ages 6-11 with a diagnosis or symptoms of bipolar disorder. For more information, call 286-2783.

Ellenberger named head of biochemistry & molecular biophysics

Thomas Ellenberger, D.V.M., Ph.D., has been named director of the Department of Biochemistry and Molecular Biophysics.

The appointment was announced by Larry I. Shapiro, M.D., executive dean for medical affairs and dean of the School of Medicine. The academic appointment is effective Jan. 1.

Ellenberger comes to the University from Harvard Medical School, where he was the Henry Winship Professor of Chemical Biology and Molecular Biophysics.

"We are pleased to welcome Dr. Ellenberger," Shapiro said. "Not only has he proven himself an outstanding teacher and investigator, but also his expertise in a key area of biochemistry can provide him with a unique role in interdisciplinary teaching and research.

"Dr. Ellenberger is a leader in determining the molecular mechanisms of a variety of diseases and is highly respected for the quality and originality of his research."
The Department of Music in Arts & Sciences — under the direction of John Stewart, director of vocal activities — will present three concerts this December. The Choir Concert, with directed by John Stewart, will feature the various ensembles in their various endeavors, including music-making," said Dolores Pesce, Ph.D., professor and chair of music. "In appreciation of her support for our department, we dedicate this concert to her memory."

The Department will host its annual sing-along of George Frederic Handel's oratorio Messiah at 3 p.m. Dec. 11 in Graham Chapel. The performance, which will last about an hour, will include the Christmas portion of Messiah as well as the "Hallelujah Chorus."

Those who wish to sing in special sections arranged according to voice type (soprano, alto, tenor, baritone), though those who choose to sing are also welcome to attend. Copies of the music will be available. John Stewart will direct the performance, and William Partridge will be the organist. Students — all students or recent graduates of music's vocal performance program — will include soprano Megan Higgins; alto Jodie Hornbaker; tenor Adam Cromer; and baritone Scott Levin.

Friday, Dec. 14, in Holden Lounge, the music department will present a recital by campus chamber ensembles. Finally, directed by Jolly Stewart and conducted by John Stewart, will present "Two Operatic Cinderellas," a program of excerpts from Gluck's "Don Juan" and John Masecz's "Cenerentes," at 8 p.m. Dec. 16-17 in Umtrath Hall Lounge.

For more information, call 935-4841 or e-mail staylor@wustl.edu.

Women's Health • There's a Hole in the Bucket • Canada's Incredible Parks

"University Events" fall a portion of the activities taking place Dec. 10-30 at Washington University. Visit the Web for expanded calendars for the West Campus (calendar.wustl.edu) and the School of Medicine (medschool.wustl.edu) calendars.

Exhibits


Lectures

Friday, Dec. 9
9 a.m. — 4 p.m. "Carpe Diem, Crescere, Aperire: 'A Rights to Voice for the At-Risk Boarder'" — John Rogers, prof. of education, Clayton Ath; 4000 Children's Hospital Bldg.

4:30 p.m. "Carpe Diem, Crescere, Aperire: 'A Rights to Voice for the At-Risk Boarder'" — John Rogers, prof. of education, Clayton Ath; 4000 Children's Hospital Bldg.

Monday, Dec. 12

Monday, Dec. 19
8 a.m.-5 p.m. Physical Therapy CME Course. Eric P. Newman Education Center. 935-6891.

Monday, Dec. 26
9:15 a.m. Pediatric Grand Rounds.

Film

Wednesday, Dec. 14

Monday, Jan. 23
11 a.m. — 4 p.m. Blood Drive. Sponsored by Phi Delta Theta, Lambda Chi Alpha, Delta Upsilon, Delta Sigma Phi, Delta Tau Delta, Kappa Sigma, Iota Alpha Phi, Phi Sigma Kappa, Phi Kappa Psi, Sigma Chi, Phi Lambda Upsilon, Sigma Nu, Sigma Phi Epsilon, Sigma Alpha Epsilon, Phi Gamma Delta, Alpha Gamma Rho, Alpha Phi Delta.

Saturday, Dec. 17
1 p.m. Women's Basketball vs. Fontbonne U. Athletic Complex. 935-4795.

Friday, Dec. 23
6 p.m. Women's Basketball vs. New York U. Athletic Complex. 935-4795.

Monday, Dec. 26
9 a.m. Men's Basketball vs. Brandeis U. Athletic Complex. 935-4795.

Monday, Jan. 23
11 a.m. — 4 p.m. Blood Drive. Sponsored by Phi Delta Theta, Lambda Chi Alpha, Delta Upsilon, Delta Sigma Phi, Delta Tau Delta, Kappa Sigma, Iota Alpha Phi, Phi Sigma Kappa, Phi Kappa Psi, Sigma Chi, Phi Lambda Upsilon, Sigma Nu, Sigma Phi Epsilon, Sigma Alpha Epsilon, Phi Gamma Delta, Alpha Gamma Rho, Alpha Phi Delta.

Submit "University Events" items prior to the publication date. Each item must be filled out and returned. Upon request, forms for submitting events may be e-mailed. Forms must be received by Friday at 2 p.m. (campus mail) or 4 p.m. (recordcalendar@wustl.edu). Submissions for inclusion in "University Events" are not guaranteed. Additional deadlines for submission are posted Thursday after publication date.
Grant helps Center for Social Development invest in poor

By BARBARA REA

A center for Social Development (CSD) in the George Warren Brown School of Social Work, Director Michael W. Sherraden, Ph.D., and his faculty colleagues are dedicating themselves to the creation of a permanent endowment for the Center.

Over the years, the Ford Foundation has generously supported the CSD, the most recent a $2.5 million grant — which was a key component in the CSD's growth. In a one-on-one basis — support which really came down to just giving them the money. Sherraden said, "It is a gift that keeps giving because we are so proud of the work they do and the creation of a permanent endowment for the CSD."

"The Ford Foundation has been very generous to many of the University's programs and programs," Sherraden said. "This recent gift will enable the Center for Social Development to support ground-breaking work that will improve lives and communities for years to come."

"It is a gift that keeps giving because we are so proud of the work they do and the creation of a permanent endowment for the CSD."

"Building equity among low-income people is an approach to poverty reduction that produces multiple benefits," said Edward E. Lawlor, Ph.D., dean of the School of Social Work and the William E. Gordon Professor. "The Center for Social Development's research shows governments how to invest in themselves.

"Because of the great success of these research studies, asset-building programs are now the topic of choice. The idea of developing savings, which was unknown in public policy just a few years ago, is becoming more common." Indeed, the CSD has participated in drafting legislation at both the state and federal levels. More than 35 states have some type of IDA policy. The concept is also spreading internationally.

The Ford Foundation is an independent, nonprofit, grant-making organization. For more than 56 years, it has worked to strengthen democratic values, reduce poverty and injustice, promote international cooperation, and advance human achievement.

Headquartered in New York, the foundation also makes grants through offices in Africa, Asia and Latin America. Since its inception, the foundation has provided more than $112 billion in grants, projects and loans.

In Asset Building & Community Development Program is a recognition leader in the field that provides support for building human, social, financial and environmental capital and people and their communities to expand opportunities and participate more effectively in society.

"The Ford Foundation grant gives us the resources to capitalize on our successes and keep up the momentum," Sherraden said. "We are extremely grateful for their interest in the CSD and support of our research."

Sports

Women's hoops team wins invitational

The No. 8 unseeded basketball team (7-0) won the Hennicos Moyer Tournament on Dec. 3 in Hanover, Ind., and sophomore Kelly Manning, who scored a career-high 32 points in the championship game against host Hanover College and was named to the tournament MVP honors.

The Bears defeated Thomas More College, 70-66, in the opening round of the Tournament behind senior Shawna Iyengar's career-high 24 points.

Despite being unseeded, 19-16, WUSTL rallied for a 41-38 halftime lead. The Bears opened the second half 10-0 and went on to take a 50-40 lead and never looked back.

In the championship against Hanover, the Bears outscored the Panthers 48-24 in the second half en route to an 82-55 win. Manning, who shot 11 for 21 from the field and grabbed eight rebounds, hit four of her six 3-pointers in the opening half.

Iyengar joined Manning on the All-Tournament Team.

Men's hoops claims Lopata Classic crown

The men's basketball team improved its overall record to 7-2 by winning the 22nd Annual Lopata Classic at the Field House.

WUSTL opened play with a 67-43 win over University of Chicago on Dec. 2. Sophomore Tony Ruths ended the game with 18 points and tied for the game-high with seven steals. Freshman Tyler Nading finished the game with 13 points and eight boards; sophomore Danny O'Boyle came off the bench to hit his career-high with 10 points on 2-for-3 shooting from the floor.

In the championship game Dec. 3 against Wheaton College (Ill.), the Bears used a 19-0 run early in the second half to post an 80-49 victory. Manning scored a career-high 27 points on 9-of-11 shooting from the field and 1-of-1 from the free-throw line to lead 91-86. Ruths was named the all-tournament team by Nading, who finished the game with 14 points and seven rebounds.

Slavik led off and Tierie anchored WUSTL's winning 400- meter relay squad that finished in 46.25 seconds and also resulted in another school record, a 200-yard time of 1:39.77.

On the season-to-date basis, Tierie won the 50-yard freestyle in 20.75, while Slavik took second place. Slavik also won the 200- yard freestyle and anchored a 44.49 in prelims to break the Bears' record; senior Eric Tierie, who totaled three "A" cuts, two "B" cuts and two school records on the weekend, was named as "A" cut in the event (45.62).

With 14 points and seven rebounds, Tierie helped anchor the Bears' 200-yard freestyle relay squad that finished in 1:37.36. Slavik also won the 200-yard freestyle and anchored a 44.49 in prelims to break the Bears' record; senior Eric Tierie, who totaled three "A" cuts, two "B" cuts and two school records on the weekend, was named as "A" cut in the event (45.62).

Sports

WUSTL's Troy Ruths named NACC Men's Swimmer of the Week

Senior Troy Ruths was named NACC Men's Swimmer of the Week. He qualified for the NCAA championships in the 50-yard freestyle and also led off the winning 400-yard medley relay squad, which recorded an NCAA automatic qualifying time and two NCAA provisional qualifying times.

Slavik swam in four individual events and helped two relay squads to school records, and achieved two NCAA and two "A" cuts on the day of the Invitational. Iyengar led off the record-setting 200-yard freestyle relay squad, which recorded an NCAA automatic qualifying time of 1:22.24. Iyengar's 50-yard split of 20.32 was also a school record.

Slavik was named to the 100 freestyle, clocking a 44.49 in prelims to break the Bears' record; senior Eric Tierie, who totaled three "A" cuts, two "B" cuts and two school records on the weekend, was named as "A" cut in the event (45.62).

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Plant

Jocote DNA extracted for analysis — from Page 1

Genetic diversity has been estimated to have decreased by as much as 80 percent in cultivated populations in the last century, so it's a remarkable occurrence to see how the jocote's genetic diversity is being identified as being a process for preserving as much diversity as possible.

Miller, primary author on the study, collected nearly 100 samples from 11 geographic regions in the United States and Central America. Each of these samples was taken from jocote trees, which have an important role in food preservation.

The study was published in the journal "Molecular Ecology" and focused on the genetic diversity of the jocote, a species native to Central America.

Cancer

Dual strategy would allow for one-two punch — from Page 1

Here's a method that's worth considering:

1. Proteins are widely known for being associated with a high risk of breast cancer in 5 percent of women. Tumors with BRCA1/BRCA2 deficiencies have ineffective homologous recombination repair mechanisms, and Powell's group has been using this handicap to attack breast cancer cells.

2. BRCA1-2 and -2 deficient tumors often represent a specific case in which the homologous recombination repair pathway is already messed up. Powell said, "We are currently testing a sensitizer to BRCA1-2 deficient cancer cells to see if that approach could be successful.

3. Having uncovered a role for MDC1 in homologous recombination repair, the group now will begin to build on their BRCA1/BRCA2 deficiency to develop chemotherapeutic strategies that take advantage of MDC1's cellular function.

Typical 'residency' goes Monday-Thursday — from Page 2

In addition to Delmar-Harvard, the Investigation Station has already partnered with the School of Health in North County, Old Bonhomme Elementary in Olivette and Drummond Elementary in Pattonville. Upcoming stays are planned for Dunbar Elementary in St. Louis City and Central Elementary in Wellston.

A typical 'residency' will run Monday through Thursday, with Friday dedicated to preparing for the next visit.

We're delighted that our students get to experience the Investigation Station, said Victoria Gonzalez-Rubio, principal of Delmar-Harvard.

"Many of our students are from urban environments and do not get to experience nature outside of their own backyards.

This visit allows them to learn about Missouri nature and science in a way that is interactive and fun.

MySci

The following incidents were reported to University Police Nov. 30–Dec. 6. Readers with information that could assist in investigating these incidents are urged to call 905-5555.

During this period, 16 people were arrested for public safety violations and 11,790 were ticketed.

Nov. 30

10:36 a.m. — A housekeeping manager at Olin Hall found the theft of 870 from an employee. The money was taken from the victim's purse inside a locked black metal cabinet in a classroom on the second floor.

There were no signs of forced entry. The theft occurred between 8:15 and 9:45 a.m.

11:05 a.m. — An unknown person took a Sony data projector from the first floor of the Hall, Room 231. The theft occurred between 3:29 and 9:29. Total loss is estimated at $500.

4:14 p.m. — Four wireless remote phones were stolen from a Loudonian and Rehstock hall between Nov. 28 and 30. An investigation is continuing.

Dec. 1

11:01 p.m. — A person reported that he had his laptop and car on the north side of Parking Lot 10 (south of Brookings Hall) at 7:50 p.m. and found it missing at 10:30 p.m. A search of the area was conducted without locating the vehicle.

In addition, University Police are responding to two instances of car auto accidents and one report of a car break-in. All three reports are still open.

4:18 a.m. — A car was broken into at Poplar Grove. A bag was stolen, and the police were on the scene.

4:45 a.m. — A housekeeping manager at Olin Hall found the theft of 870 from an employee. The money was taken from the victim's purse inside a locked black metal cabinet in a classroom on the second floor.

There were no signs of forced entry. The theft occurred between 8:15 and 9:45 a.m.

Cup

Competition was founded in 1988 — from Page 1

Founder and chief architect of the Olin Cup competition said he wants to create a wearable device that transcribes spoken words into text that the user can read.

Foster said the device may come in the form of eyeglasses that can project the text into the user's field of vision. IMAT is working with several technological and design groups on an advanced prototype that could be available in early 2004.

The specific sessions for this year were chosen with the common theme of the process of designing and refining teaching, according to Atan. If these technologies did become "field-tested" by our faculty, we would look back at their effectiveness and challenges.

"Similarly, the session on taking humanities problems in bite-sized pieces will describe ways to use modeling and simulation, usually the domain of science and engineer- ing, in teaching history and literature.

The first campus-wide ITeach symposium was hosted in January 2000, attracting an audience of over 200 faculty, members and offering a selection of presentations, hands-on workshops and informal opportunities to engage in discussions.

Since then, ITeach symposiums have been held on a biannual basis during winter break. About 150 people attended the 2004 symposium.

"for more information, complete the listing of sessions or to register, go online to university IT at teach/iteach/2006.

"For me, it is interesting to think that the food we eat is not just something we buy at the store. It is a product of domestication of a cultivated fruit that can be green, yellow, orange, or even a little-known fruit tree from Mexico and Central America, a fruit with an unusual and unique evolutionary history."

Cancer

Dual strategy would allow for one-two punch — from Page 1

Here's a method that's worth considering:

1. Proteins are widely known for being associated with a high risk of breast cancer in 5 percent of women. Tumors with BRCA1/BRCA2 deficiencies have ineffective homologous recombination repair mechanisms, and Powell's group has been using this handicap to attack breast cancer cells.

2. BRCA1-2 and -2 deficient tumors often represent a specific case in which the homologous recombination repair pathway is already messed up. Powell said, "We are currently testing a sensitizer to BRCA1-2 deficient cancer cells to see if that approach could be successful.

3. Having uncovered a role for MDC1 in homologous recombination repair, the group now will begin to build on their BRCA1/BRCA2 deficiency to develop chemotherapeutic strategies that take advantage of MDC1's cellular function.

Typical 'residency' goes Monday-Thursday — from Page 2

In addition to Delmar-Harvard, the Investigation Station has already partnered with the School of Health in North County, Old Bonhomme Elementary in Olivette and Drummond Elementary in Pattonville. Upcoming stays are planned for Dunbar Elementary in St. Louis City and Central Elementary in Wellston.

A typical 'residency' will run Monday through Thursday, with Friday dedicated to preparing for the next visit.

We're delighted that our students get to experience the Investigation Station, said Victoria Gonzalez-Rubio, principal of Delmar-Harvard.

"Many of our students are from urban environments and do not get to experience nature outside of their own backyards.

This visit allows them to learn about Missouri nature and science in a way that is interactive and fun.

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of note

Chenyang Lu, Ph.D., assistant professor of computer science and engineering, is serving as program co-chair for this year’s International Workshop on Parallel and Distributed Multimedia, to be held on the Island of Rhodes in April 2006. Chen, who is an assistant professor of computer science and engineering, was general co-chair for this year’s workshop, held April 4-5 in Denver. Cell also co-organized an upcoming special issue of the Journal of Computer Networks and Systems, which will contain selected papers from the 2005 IEEE Real-Time and Embedded Technology and Applications Symposium.

Wenhong Zhang, Ph.D., associate professor of computer science and engineering, has received a $30,000 grant from Monsanto for research titled “Genome-wide identification of Stress Genes in Plants.” Zhang recently became an editorial board member of the Journal of Artificial Intelligence Research and associate editor of AI Communications: The European Journal of Artificial Intelligence.

... Ramia K. Farber, Ph.D., the Newton R and Sarah Louis Glass Professor of computer engineering, has received a three-year, $818,414 grant from the U.S. Air Force Office of Scientific Research for research titled “Simulation and Optimization Methodologies for Military Supply Chain Network Routing and Scheduling.”

John C. Martin, M.D., the Harvey A. and Doris虐umeak Vedrine Professor of orthopedic surgery, has received a one-year, $209,000 grant from the Pedicle Fixation Foundation Management for research titled “Continuous Antecedent Biomarkers for Alzheimer’s Disease and PET Scanning.”

Yuant-Hsuan Tai, Ph.D., assistant professor of radiology, has received a one-year, $127,828 grant from the National Cancer Institute for research titled “A Novel Device to Allow Zoom-in Imaging for PET Scans.”

Leonard B. Maggi Jr., Ph.D., professor of bioengineering and internal medicine-medical oncology, has received a five-year, $124,416 grant from the USA Med Research AQC Activity for research titled “Role of the ARF Tumor Suppressor in Prostate Cancer.”

Jennifer R. Smith, Ph.D., assistant professor of earth and planetary sciences, has received a two-year, $216,489 grant from the National Science Foundation for research titled “Developing a Record of Quaternary Climatic Oscillation for the Eastern Sahara through Analysis of Fossil-Spring Tubs and Lacustrine Deposits Western Desert.”

Karen Wiener, Ph.D., professor of chemistry in Arts & Sciences, has received a five-year, $12,549,757 grant from the National Heart, Lung, and Blood Institute for research titled “Integrated Nanosystems for Diagnostic and Therapeutic,” and a one-year, $14,011 grant from the National Science Foundations for research titled “U.S. Japan Seminar Advances in Polymers Chemistry and Their Impacts Upon Society.”

...Jaron W. Forisome Actuators” ... received a one-year, $11,542 grant from the L.S.B. Lokey Foundation for research titled “Ontology of Long Bone Disaphyses in Immature Late Pleistocene Primates...”

Liling Xu, M.D., research instructor in medicine, has received a two-year, $20,000 grant from the Bayer Healthcare LLC, for research titled “Developing and Producing Prognostic Treatments with the Purpose of Ex- panding and Enhancing the Lives of Persons with Hemophilia.”

J. Dewey Hudon, Ph.D., has received a three-year, $469,000 grant from the Department of Energy for research titled “Studies of Ground-state Hole/Elec- tron Transfer in Porphyrin-based Modular Architectures.”

... can we understand important social issues by studying individual personal and group decisions? Are societies somehow more than the people in them? Sociologists have long believed that the study of indi- vidual decisions and behaviors cannot fully explain the com- plex modern phenomena which somehow emerge from communication and social groups,” Sawyer said. Can we understand important social issues by studying individual personal and group decisions? Are societies somehow more than the people in them? Sociologists have long believed that the study of individual decisions and behaviors cannot fully explain the complex modern phenomena which somehow emerge from communication and social groups,” Sawyer said.
The road less traveled

Eschewing psychology for business, William Bottom has helped the Olin School grow

1988 have given him a greater appreciation for the education he got for his colleagues.

Bill Bottom

Age: 44

Birthday: Sept. 9

Childhood home: Murphysboro, Ill.

Current home: Kirkwood, Mo.

Colleagues say: "What impresses me is that he is very widely read. He knows a huge amount about the Middle East, the Ottoman Empire — he really is well-studied in everything he applies himself to."

— Amber Ras, Ph.D., the Fossett Distinguished Professor of Marketing

The results are...