New system to streamline purchases, offer data analysis

By Sharita Forrest
Assistant Editor

A part of the budgetary reductions and administrative streamlining that the UI has undertaken in recent years, procurement has been identified as an area for the university to save money. A study by the consulting firm Accenture in February 2004 indicated that the university could save 5 to 15 percent on the $158 million it spends annually on purchases of commodities by re-engineering its procurement activities, including the use of a systemwide purchasing application that simplifies buying, encourages units to buy from contracted vendors and facilitates data analysis to better manage spending.

This fall, the university is going to start using an electronic procurement system, which Illinois is calling iBuy. The system will be hosted by SciQuest HigherMarkets, a supply-chain software maker, and its product partner SCT, maker of the Banner software suite that Illinois uses for financial and business processes. Indiana University, the University of Chicago, the University of Michigan and Yale University already use the e-procurement system. According to Philip Abruzzi, university chief procurement officer, “The introduction of iBuy is the first step in making it easier for departments to get the goods and services they need to support their operations. Future areas of focus will enable the Purchasing Department to work more collaboratively with the campuses in leveraging our resources by streamlining our processes and implementing the right supportive technology.”

The iBuy system will be tested by the entire Springfield campus and by selected units at the Urbana and Chicago campuses beginning in October. During the next several months, the application will be phased in at Urbana and Chicago, with access available to everyone who wants to use it by July 1, 2007.

“We’re not mandating the use of iBuy,” said Brad Sheffir, administrative director of university procurement in the Office of Business and Financial Services. “People are still welcome to create requisitions in Banner and use their P-cards for purchases, but we’re hoping that iBuy will become their tool of choice when they want to make a purchase.”

iBuy offers a shopping experience similar to Amazon.com, where buyers select products and load them into a virtual shopping cart using their computer mouse. When iBuy goes live in October, OBFS expects to have about a dozen vendor catalogs who offer discount pricing, and expects to have up to 100 catalogs by the time the system is fully operational. Although OBFS is negotiating with vendors, iBuy will contain the

Better buying. Philip Abruzzi, chief procurement officer in the Office of Business and Financial Services, is leading an initiative to overhaul the university’s procurement processes, a move that has saved millions of dollars annually for peer universities and will involve a new e-procurement system and the promotion of strategic buying habits.

Trees appear to respond slower to climate change than previously thought

By James E. Kloeppel
News Bureau Staff Writer

Genetic analysis of living spruce trees provides strong evidence for the presence of a tree refuge in Alaska during the height of the last glacial period (17,000 to 25,000 years ago), and suggests that trees cannot migrate in response to climate change as quickly as some scientists thought. The Illinois co-authors from left, Ken Pringle, professor and head of natural history, Dave Nelson, post-doctoral research associate, Lynn Anderson, lead author and doctoral student, Feng Sheng Hu, a professor of plant biology and of geography.

Climate change Genetic analysis of living spruce trees suggests that trees cannot migrate in response to climate change as quickly as some scientists thought. The Illinois co-authors from left, Ken Pringle, professor and head of natural history, Dave Nelson, post-doctoral research associate, Lynn Anderson, lead author and doctoral student, Feng Sheng Hu, a professor of plant biology and of geography.

Lake effect. A new paper shows the shape of a lake’s basin has a key role in exporting harmful water fleas grazing on lakes in Michigan.
Polynean explorers created web of scientific knowledge

Scientific travelers of the 18th and 19th centuries led waves of daring expeditions into the uncharted oceans of discoveries about their geography, flora and fauna and people. Some of these men of science were the producers and mediators of a new “global network of scientific knowledge.”

The book explains how these men of science worked with their subjects, how they just read about the exotic, in order to define the subject of their study. By studying the behavior, the scientists could then “imagine” the subject through the lens of their own culture. By focusing on the natural environments of the scientific travelers, the book argues that rigorous empirical work would lead them to the “straightforward truths” about human nature in “natural” societies, they were convinced of the truth of their position and the bad faith of their opponents. While working to install colonial rule and capitalist commerce, “while working to install colonial rule and capitalist commerce, they also had their own conceptions of truth.”

By Andrea Lynn, News Bureau

Digital imagery leaves artists without legal protection

The exclusions of the 1990 law create barriers for the legal protection of digital art, especially the destruction or alteration of the original image code into software in order to copy, sell or remove material. Additionally, digital artists need to excise all non-visual elements in their creations, such as sound, film and video, to receive VARA protection. More broadly, “digital artists must acquire to a traditional conception of the art object as unique and enduring,” or else accept the fact that their art can be freely borrowed, modified or incorporated into other works. "Moral rights can have a role in protecting digital art, but artists must choose to claim them," Mucinskas noted. Her article is titled, "Moral Rights and Digital Art: Reviving the Artists Rights Act?" The journal is published by the College of Law, National Center for Supercomputing Applications and the Institute of Government and Public Affairs.

By Andraas Karan, News Bureau
Scientists identify gene involved in stem cell self-renewal in planarians

By James E. Kloeppel
News Bureau Staff Writer

No matter how it is sliced, the freshwater planarian possesses an amazing ability to regenerate lost body parts. Chop one into pieces, and each piece can grow into a complete planarian. The flatworm relies upon a population of stem cells to accomplish this remarkable feat, recent work shows light on how planarians maintain these stem cells throughout their lives.

In a paper to appear in the August issue of the journal Developmental Cell, scientists show that a member of the Bruno-like family of RNA-binding proteins – produced by a gene found in both planarians and humans – plays a vital role in maintaining the stem cell population in the planarian Schmidtea mediterranea. The work could lead to better understanding of the fundamental mechanisms by which stem cells are regulated; such basic understanding is required for the successful therapeutic application of stem cells in humans.

“One of the defining characteristics of stem cells is their ability to self-renew,” that is, to make more stem cells in addition to differentiating into multiple cell types,” said Phillip A. Newmark, a UI professor of cell and developmental biology and corresponding author of the paper. “We found that in the absence of this protein, the stem cells could respond to wound stimuli, proliferate, and differentiate, but they were unable to self-renew. As a result, the regeneration process failed and the animals died.”

Using a technique called RNA interference, Illinois graduate student Tingxiao Guo and Newmark first eliminated most of the Bruno-like protein (Bruni) from a number of planarians. They then amputated a small piece from each flatworm.

In the usual manner, the planarian stem cells migrated to the site of the wound, sensed what was missing and began rebuilding. Regeneration ceased, however, when the stem cell population became depleted.

“Had Brunl protein been present, the regeneration process would have continued,” Newmark said. “What may be happening is that when this protein is eliminated, RNAs that are supposed to be turned off (that is, not made into proteins) are now turned on and made into proteins. Those proteins may then cause the stem cells to differentiate, instead of also generating new stem cells to maintain the population.”

While there is still much to be learned about how this gene makes that protein in planarians plays a similar role in stem cells in other organisms and to identify possible RNA targets of this protein,” Newmark said. In addition to Newmark and Guo, Antoinne Peters at the Friedrich Miescher Institute for Biomedical research in Basel, Switzerland, was a co-author on the paper. Funding was provided by the National Institutes of Health, the National Science Foundation, and the Damon Runyon Cancer Research Foundation.

Stem-cell research New research has identified a protein, produced by a gene found in both planarians and humans, that plays a vital role in maintaining the stem cell population in planarians. Phillip A. Newmark, UI professor of cell and developmental biology, and graduate student Tingxiao Guo were the Illinois co-authors of the paper to appear in the August issue of the journal Developmental Cell.

GLACIAL TREES, FROM PAGE 1

riders after regional climatic conditions have become unfavorable as a result of rapid global warming. This resilience might reduce the probability of species extinction and allow time for efforts at biodiversity conservation.

“Or maybe not.”

“Our study looked at the past, before humans had made any significant impact on climate,” said Hu. “In the future, both human and natural disturbances will likely interact with climate change to reduce resilience and trigger larger ecological shifts.”

The study illustrates the power of using genetic techniques to answer paleoecological questions relevant to global change,” said co-author Ken N. Paige, professor and head of animal biology who has studied the genetic structure of plant and animal species for more than 20 years. “It’s likely that more new insights can be gained into how species have responded to past climate change and how they might respond to future disturbance,” he added.

In addition to Anderson, Hu and Paige, the other co-authors are David M. Nelson, a postdoctoral research associate at Illinois, and Rémy J. Petit at the French National Institute of Agronomy. The work was funded in part by the David and Lucile Packard Foundation and the National Science Foundation.
Study: Demographic shifts require fresh approach to city planning

By Melissa Mitchell  
News Bureau Staff Writer

For some residents of La Habra, Calif., a clothesline was a convenient, inexpensive way to dry laundry.

To others, a garage sale was nothing more than a legal method of recycling unwanted consumer goods into fast cash.

But, as Stacy Harwood observed, not all of La Habra’s residents viewed clotheslines and garage sales through the same lens.

“We take for granted – assume – that the municipal codes and ordinances within a community are the norm, but in reality, they are culturally constructed,” said Harwood, a UI professor of urban and regional planning.

“In fact,” Harwood said, “there are multiple ways to live and use space, but when the dominant norm begins to transform, long-time residents often associate these different activities as having only a negative outcome for their quality of life.” And once residents begin to complain about their neighbors’ activities, community leaders and planning officials are often ill prepared to respond appropriately. Frequently, solutions are motivated – at least in theory – by safety concerns or legal precedents, while ignoring race and ethnicity issues.

The question, Harwood said, ultimately comes down to one of “how do you regulate and create safe environments without losing cultural diversity? It’s a fine line – a delicate balance – between healthy and unique, and creating ways for people to feed their families and survive.”

The planning field actually “emerged in response to these same kinds of things in the late 1800s when cities were growing fast.”

Nowhere is this clash of cultures today more evident than in areas of the county experiencing rapid demographic changes cited in the journal Planning, Practice & Research. In 1990, only one city out of 33 in Orange County had a majority of its population made up of ethnic minorities. By 2004, 30 percent of the county’s population was foreign-born, and more than 40 percent spoke a language other than English at home.

Harwood examined controversies over the approval processes for granting a liquor license to a Hispanic grocery store in Anaheim, for issuing a conditional-use permit for a Buddhist temple in Garden Grove, and for approving restrictions on garage sales and clotheslines (and related standards that appeared to target low-income and immigrant families) in La Habra.

“These cases show how people involved in intense debates draw on deeply embedded fears, concerns, and resentments about different social and cultural groups,” Harwood said. “Tensions arise as regulations per-
Lake shape a major factor in outbreaks of plankton epidemics

By Jim Barlow

The shape of a lake’s basin—in reverse of what researchers had theorized—has a prominent role, along with predation and weather patterns, in epidemics affecting water fleas grazing on lakes in Michigan, researchers say.

The findings, published in the June issue of the journal Ecology, however, may extend well beyond these minuscule crustaceans officially known as Daphnia dentifera Forbes. “The ecology of disease must move beyond the study of host-parasite interactions in isolation,” says lead author Carla E. Cáceres, a professor of animal biology in the School of Integrative Biology at the University of Illinois.

“Instead, ecologists sorely need a broader framework that jointly considers interactions among biotic drivers, such as selective predation, and abiotic/physical drivers of epidemics,” she and co-authors from three other institutions conclude.

The researchers had hypothesized that lakes with gently sloping sides, where there is increased contact with the sediment in the warm, upper layer of shallow water along the shoreline, would more strongly influence the ability of a common yeast parasite (Metschnikowia bicuspidata) to infect populations of Daphnia.

In an effort to learn something new about why epidemics erupt in some host populations at some times whereas others show little or no infection, Cáceres and the research team spent three years studying 18 lakes with glacial origin in Barry and Kalamazoo counties in southern Michigan. All the lakes feature Daphnia as a common member of the zooplankton but vary in surface area, depth, basin shape and productivity.

Daphnia are infected by eating asci, a club-like structure of spores formed through the sexual reproduction of the parasite. Once ingested, these needle-shaped spores eventually kill the host after knifing through its gut. When host die, ascii return to the water.

Epidemics were more likely to occur after mid-August, peaking in September, following the passage of cold fronts, “but outbreaks were only common in the lakes with the steepest sides,” the researchers wrote. “Lakes with gradually sloping sides were devoid of epidemics.” Cold fronts, they noted, increase turbulence, allowing for a mixing in the water that increases the chances of spore resuspension and horizontal transport.

The physical environment of the lakes rather than the density of hosts or the prevalence of infection appeared to dictate the outbreaks of epidemics, Cáceres said. The researchers suggest separate but related mechanisms to explain their findings:

• Predation in shallow-sloping lakes in warm weather may reduce interactions between Daphnia and parasites. In deeper water, Daphnia escape predators by seeking deepwater refuge, Cáceres’ team believes. The variation in fish species also may be wider in deeper lakes. A companion study, published in the July issue and led by Spencer R. Hall of Indiana University, argues that warmer temperatures under global warming won’t necessarily translate to more epidemics for all host-parasite interactions. Hall’s findings suggest that higher densities of predators feeding on hosts such as Daphnia could serve to lower the risk of epidemics.

• Aquatic plants in shallow-sloping lakes are more numerous along the shore and may interfere with the transport and suspension of the spores into the feeding area of Daphnia. In deep-sloping lakes, Daphnia may swim closer to shore since deepwater refuge is available to them. Such movement, researchers suggest, would put Daphnia into shoreline regions that boast higher resuspension of the spores and allow more contact with parasites.

Co-authors on the Cáceres-led study were Hall, a former UI postdoctoral researcher at Illinois; Meghan A. Duffy, formerly a doctoral student at Michigan State University and now a postdoctoral researcher at the University of Wisconsin; Alan J. Tessier, a zoologist and program director in the Division of Environmental Biology of the National Science Foundation; and Chad Helmle and Sally MacIntyre, both at the University of California at Santa Barbara. Three National Science Foundation grants supported the research.

Editor’s note: This release was written by Jim Barlow when he was life sciences editor of the UI News Bureau. He recently became director of science and research communications at the University of Oregon.
Sinfonia da Camera

Gala celebration kicks off concert series

Sinfonia da Camera, the state’s premier chamber orchestra under conductor Professor Ian Hobson, will kick off its 23rd concert season at Krannert Center for the Performing Arts with a celebration of the College of Fine and Applied Arts’ 75th anniversary. The 2006-2007 season will include a variety of music spanning three centuries. Sinfonia pays tribute to the talents of the local and worldwide community, honoring the university.

The first concert of the season celebrates artistic milestones at 7:30 p.m. Sept. 23 with a new work by composer Keriell Makan, a UI professor of composition theory. The program will also feature selections from the repertoire of the College of Fine and Applied Arts during the past 75 years. Violinist Graeme Jennings and violinist Masami Rostaud will help Sinfonia celebrate the International Year of Mozart with a performance of Mozart’s “Sinfonia Concertante” and Robert Schumann’s “Overture to Manfred.” The concert will end with a tribute to Shostakovich and a performance of “Symphony No. 9.”

Tickets can be ordered through the Krannert Center ticket office at 333-6320 or kran-tix@uiuc.edu. For concert information, contact Sinfonia da Camera at 244-4350, sinfonia@uiuc.edu, or online at www.sinfonia.uiuc.edu.

University Library

Library tours offered Aug. 21-24

The University Library will offer a series of tours of the Main Library Aug. 21-24. The tours begin at 11 a.m., noon, 1 p.m. and 2 p.m. each day, and start in the Marshall Gallery on the first floor of the Main Library. The tours are helpful for anyone who is new to campus and interested in learning more about the library. For details, call 244-1880 or go to www.library.uiuc.edu/announce/tours06.html.

WILL-AM (580)

White to be guest on “Focus 580”

UI President Joseph White will be a guest on WILL-AM’s “Focus 580” with host David Inge on Aug. 22. Inge will talk with White about the university’s preparation for the upcoming 2006-2007 academic year as well as the university’s role in the economy.

In addition to purchasing core products at substantial discounts from catalog vendors, shoppers will be able to request additional items from the vendors’ Web sites – at the university’s discount prices – as well as from non-catalog vendors, all through the iBuy-Banner interface.

Buyers will have the option of charging purchases to a university account (the seven-segment accounting code called a C-FOAPAL in Banner) or to a P-card, and will be able to customize iBuy by storing frequently used account codes, then selecting them from drop-down menus when making purchases. If departmental approval or special approval from oversight units is needed, additional forms are available. iBuy automatically generates purchasing requests and sends them to the vendors. Requisitions involving non-catalog vendors will be sent to Purchasing for review before purchase orders are generated.

The iBuy system is one portion of a broader, strategic approach that the university is taking toward re-engineering its procurement processes.

iBuy, CONTINUED FROM PAGE 1

catalogs of external vendors such as Fisher Scientific, OfficeMax and Zonk Inc. and CDW-G, as well as internal vendors such as Campus Stores and the Printing Department which purchase core products for all three campuses. A full accounting of purchases is available online.

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iBuy-Banner interface will improve procurement

Procurement processes will improve significantly through a re-engineering of the iBuy-Banner interface, said Robert Sherif, iBuy program manager. In addition to purchasing core products at substantial discounts from catalog vendors, shoppers will be able to request additional items from the vendors’ Web sites – at the university’s discount prices – as well as from non-catalog vendors, all through the iBuy-Banner interface.

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By Phyllis Picklesimer

Ages Media Communications Specialist

A mother’s attentiveness to her baby’s distress, especially in the first year, is more important to his secure attachment than positive feedback when he’s happy and content, concludes a study published this week in the journal of Family Psychology.

"Unfortunately, sometimes it’s difficult for parents to deal with their own distress," said Nancy McElwain, a UI professor of human and community development. "A mother may become anxious when her baby is really unhappy and try to comfort him by saying, ‘Oh, don’t cry, don’t cry.’ But it’s OK to cry.

"If the new mother wasn’t comforted very well by her own mother when she was a child, she may need help learning to comfort her own infant,” McElwain said.

In the study, McElwain coded maternal sensitivity to distress and non-distress in 357 mothers and their babies at six and 15 months of age, then assessed attachment security in the babies at 15 months. Infant difficult temperament was also used as a predictor of the baby’s attachment security at 15 months, but infant sensitivity to distress at six months was a significant predictor of attachment security.

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A cup of coffee and a slice of science
Abigail Salgery, a professor of microbiology, spoke about the relationship between humans and the microbial world recently at CU Café Sci, a monthly forum at the Verde Café in downtown Champaign. The event is based on the international concept called Café Scientifique, informal gatherings where experts lead discussions about scientific topics. For more information and a schedule of upcoming speakers, visit www.eva.uiuc.edu.org.

8 Friday
“Global Warming: Are We Reaching a Political Tipping Point?” Robert Cox, University of North Carolina at Chapel Hill. Noon. Latimer Hall. University YMCA. Fri day Forum. 

colloquia

24 Thursday
“Software Implications of Multi-Core Architectures.” Siddhartha Chatterjee, IBM. 4 p.m. B102 Chemical and Life Sciences Lab. Microbiology.

25 Tuesday
“The NLB Proteol Protein, Role in Innate Immunity and Disease.” Gregory St., Urbana. 3 p.m. 116 Roger Adams Library. Chemical and Biomolecular Engineering.

31 Thursday
“The Role of Syntax in an Autonomous System.” A. Alexiadis, University of Missouri, Kansas City. 2 p.m. 1003 Beckman Institute. Robotics.

notes

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Note: $ indicates Admission Charge.

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for online edition

For ticket information, call 367-5490. For registration, call 762-2721 for registration.

9 Thursday
“Animals of Allerton – Fish.” Jeremy Tiemann, UI. 1-2:30 p.m. Memorial Room, Smith Hall.

12 Sunday
“Symposium on Multidisciplinary Approaches to Support The Reading Initiative.” To register: ncsauiuc@uiuc.edu. More information is available from Marty Yeakel at 333-1085.

13 Tuesday
“Gender Roles in The Animatrix: A Report from the Field.” Tom Edgar, University of Texas, Austin. 3 p.m. 116 Roger Adams Library. Chemical and Bioengineering.

16 Friday
“Nucleic Acid-Protein Interactions and Molecular Dynamics, Catalytic Mechanisms, Proteomics.” Paul D. Geroski, University of Iowa. 4 p.m. B102 Chemical and Life Sciences Lab. Microbiology.

22 Wednesday

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CALENDAR, FROM PAGE 7

Wednesday-Friday: 10 a.m.-6 p.m. Sunday: 1-5 p.m. (office hours). Closed: New Years Day, Thanksgiving, Dec. 25.

Canada, the Louvre, onstage Dec. 13-15.


Carroll, Partitioning and Memory Management, 8 a.m.-4 p.m. Mon. and Thurs., 8 a.m.-5 p.m. Tue., 8 a.m.-noon Wed. and Fri., 8 a.m.-2 p.m. Fri. Closed: Mon. and Fri. of each month. Main Library, 2nd floor.

Spaces, 6-8 p.m. Wed. Casual Friday: 6-8 p.m. Fri. Triad: 7:30-9 p.m. Wed. Please note the change to the location: Triad.

Family Music: 10 a.m. Mon.


Knepp, 8 a.m.-4 p.m. Monday, Wednesday, Friday, 8 a.m.-noon Tuesday and Thursday.

The flip book for the new term is available online. It is located in the Academic Calendar under the “Upcoming Events” section. Visit www.library.uiuc.edu for more information.

Library Tours: 10 a.m. Mon. A special information desk is available to answer your questions regarding library services.


American Thistle: 10 a.m.-2 p.m. Monday.

For complete schedule, see the website www.library.uiuc.edu/cs/ for details about the available resources and services.

For detailed information about the services and resources provided by the Shanghai Library, visit their website at www.library.uiuc.edu/shanghai.

Library User Services: 8 a.m.-5 p.m. Mon.-Fri., 8 a.m.-4 p.m. Sat. Main Library, 3rd Floor, Suite 342.

Allerton Park: Gift Shop: 10 a.m.-6 p.m. Monday-Saturday.

Cendrillon: 7 p.m. Thursday, 2 p.m. Sunday. The Theatre at the Center for Performing Arts, 204 E. Fourth St., Urbana.

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