Vaccines for flu are not far between

By Mike Helenthal

T
he opportunity to get a flu shot has not flown, but it’s gotten a little more difficult.

A resurgence of influenza this late in the season, and especially a jump in cases of the potentially dangerous H1N1 strain, has local health officials recommending residents get the vaccine. “It’s definitely not too late to get the vaccine,” said Dr. Robert Palinkas, the director of the U. of I.’s McKinley Health Center. “It’s the most effective way to protect yourself, even at this late date.”

The university has plenty of vaccine to take care of those who haven’t been vaccinated, but Palinkas said the state’s contract with the university to offer flu shots to employees expired Dec. 31, and only students can obtain the vaccinations at McKinley.

Palinkas recommends that employees go to their usual health providers to set up an appointment for their flu shot. “Students can go to the Health Center on the Urbana campus, and employees can go to their local health provider,” he said.

In the area

Extreme weather

U. of I. snow-removal crews fought hard through the brutal blizzard of Jan. 4-7, which, according to climatologist Steven Hilberg, of the Midwestern Regional Climate Center at Illinois, dropped as much as 10 inches in southeastern Champaign County. The storm was particularly difficult because of temperatures that reached 17 degrees below zero and winds that led to a wind chill of 40 below zero. According to Hilberg, who also is a meteorologist, winter so far has brought 19.6 inches of snow, which is 3.6 inches below the normal average area snowfall for the entire season. Through Jan. 12, this year’s winter ranks as the fifth worst since 1950 on Hilberg’s severe winter index. Last winter at this date, only 2.1 inches of snow had fallen in the area.

Program helps to ensure safety of those traveling abroad

By Mike Helenthal

T
hanks to a group of well-connected employees, help is always just a phone call away for anyone with a campus connection traveling overseas.

“If something goes wrong we have people here on campus who can help,” said Bo White, the assistant director for international health and safety. White, whose position was created last year through the Office of the Associate Provost for International Affairs, works closely with the university’s Study Abroad programs. He is among the group that never stays far from a cell phone and is the point man when an emergency arises and action is needed.

“My role is to backstop all of the students, all of the staff and all of the faculty members traveling abroad – all of the time,” he said. “We want everyone to know the university has their back even when they’re not around.”

To avoid mishaps that could lead to an emergency, the university has put together a large network of faculty and staff members as on-campus contacts and provides training for students and faculty members who work and study abroad, he said.

Faculty members can take advantage of organized campus travel discussions prior to a trip, and students participate in orientation sessions targeted to their destinations. Local customs, language differences, security risks and legal requirements all are covered in the general student training.

“I’ll intersect with the advisers so that we can offer effective orientation and ongoing updated training,” he said. “We do what we can to standardize things, but we try to pinpoint that information based on where the students will be traveling.”

The training includes drills for common recurring travel problems, such as what to do when travel documents are misplaced or stolen. Two of the major suggestions for students include registering with the U.S. Embassy in the host country they’re visiting and purchasing travel insurance.

“Obviously, we can’t control everything, but we do everything we can to prepare them and help them through their travels,” White said. “They are still students – but their classroom just happens to be in some far-away place like Western Africa.”

Services also are available for the 10,000 international students who call the Urbana campus their home.

During winter emergencies that delay flights, for example, campus contacts work with hotels and keep in regular communication with advisers at all hours.

White said the university’s Study Abroad program would not go nearly as smoothly if not for the extra efforts of faculty and staff members from a variety of departments and disciplines across campus. He said the campus is a unique source of expertise for interpretation assistance and specific travel information for students and advisers, and that many of the advisers already are well-traveled Study Abroad alumni.

“We wouldn’t be able to provide all we do for the students in the program if not for the fact this campus is so open to sharing information,” he said.

He said the University Library has been especially helpful in looking up and finding specific travel information and that the university also utilizes some third-party resources for travel planning.

“We’ve taken a lot of the university expertise and applied it to this experience,” he said. “People are always willing to help, and the cooperative spirit has been amazing.”

White said he also works with counterparts at other universities, considering the Big Ten schools are national leaders in travel abroad programs. He said the members of the loosely organized consortium help one another when the need arises and that they regularly discuss best practices and new approaches to make the travel abroad process run even better.

“The ability to connect with like-minded people is really incredible,” he said.

Last year the U. of I.’s Study Abroad program helped to ensure safety of those traveling abroad.

Backup plan

Bo White, the assistant director for international health and safety, works closely with the Study Abroad programs not only to ensure students and faculty members are properly prepared when they travel, but also to provide a support network when mishaps occur. The university created White’s position last year so that anyone with a university connection can travel at ease with the knowledge emergency assistance is just a phone call away.


Pension reform

A. U. of I. expert on business and public policy answers questions about Illinois’ pension reform plan. Will it work?

Of lice and men (and chimps)

Researchers measured the evolutionary divergence between humans and chimps and compared it to that of theirlice.
Ad hoc committees mark start of active semester

By Mike Helenthal

S

enate Executive Committee chair Roy Campbell laid out an agen-
tes, another to study the honorary degree issues, another to study the honorary degree recipients in light of the IOMA, but that the terms should be debated within the ad hoc committee.
Campbell also reported on the progress of the effort to create an online election pro-
ces, and the chair of the benefits committee, in his report, said the committee would look at other institutions and the GUP. It will be presented to the full senate for review and consideration at an upcoming meeting.
Kindt reported there are three laws pending over the state’s pension-reform plan. He said March is likely too late and that the suits likely will be consolidated. He said the only issue that could jeopardize the suit is the one involving a-certain section of state’s constitution’s ability to make wholesale changes to Cost-of-Living Adjustment formulas. Other individual issues could be challenged in the courts, however.
Wise concerning national efforts to orga-
nize a boycott of academic institutions in Es-

ciples, national efforts to organize a boycott of academic institutions in Espinosa’s laws, which would likely require a change in senate rules and the adoption of a new resolution done across the country," she said. “We hope the term ‘specialized fac-

city becomes a national norm.’
The communication is designed to bet-

ter educate students and ensure that the recogni-
tion of a new ‘teaching professor’ career track. Each specialized faculty category has a ‘teaching professor,’ ‘associate professor,’ and ‘assistant professor,’ with the "assistant" and ‘associate’ levels, with the chair of the benefits committee, in his report, said the committee would look at other institutions and the GUP. It will be presented to the full senate for review and consideration at an upcoming meeting.
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On the Job

David Steiner

By Mike Heletonthal
Assistant Editor

David Steiner, a building service employee, has never stopped moving and doesn’t plan to stop anytime soon. Steiner was an ironworker for 17 years, ran his own tree-care service for another 10, and was working on his certificate to become a Certified Nursing Assistant when he was offered a job as a kitchen laborer at the U. of I. in 2010.

Variety has been the spice in Steiner’s life, and that hasn’t changed at the U. of I.

He continues to take the requisite tests to move up the employment ranks, going from the kitchen to the car pool to a BSW post at Gregory Hall – and finally to the campus moving crew, where he has worked for the past year.

“It’s been a great experience here,” he said. “I like talking to people and I like helping people – I always have. I just try to be nice to everybody. I get a lot of smiles because I try to say ‘good morning’ to everyone.”

The moving job has given him a perspective of the whole campus that not many get.

The crew comprises 10 workers and is responsible for moving furniture and equipment from any campus building. One day, the crew might help move staff members out of the soon-to-be-renovated Natural History Building; the next, it may be helping set up chairs at graduation or some other public event.

“They send us all over the place,” he said. “I don’t usually know where I’m going or when they tell me at 8 a.m. I’ve learned where most of the buildings are and who the building person is, and I can find my way around pretty well.”

One of the challenges of the job is that so many campus offices reside within renovated residential housing. That usually translates to tighter spaces, heavy file cabinets and lots of steps.

“Yes, it’s something we kind of dread – but we know it has to be done and we’re the ones who will do it,” he said.

Steiner, one of the older men on the moving crew, said he gets his fair share of razzing about his age. He says the key point he makes to anyone who makes a comment about his age is that he can still keep up with the younger guys. “All the guys I work with are great guys,” he said, “but they don’t give me any leniency, that’s for sure.”

He said he is always careful to lift with the proper technique and to communicate with co-workers to prevent accidents.

“We use as many tools as we can, but sometimes you just have to do it the old-fashioned way,” he said. “You just have to take your time and talk to each other while you’re lifting something or somebody will get hurt.”

Steiner’s father was a military man, and Steiner still lives in rural Paxton, where most of the buildings are and who the building person is, and I can find my way around pretty well.”

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“I’m done; if you want to keep going, that’s your choice.”

Steiner still lives in rural Paxton, where he is also affiliated with the Fredericksburg Fire Department. He has been married for 34 years and has two adult-aged daughters. They grew up riding horses, one of Steiner’s passions.

On the Job features U. of I. staff members. To nominate a civil service employee, email dkdahl@illinois.edu.

Illinois professor earns Presidential Early Career Award

By Liz Ahlberg
Physical Sciences Editor

University of Illinois professor Lane Martin was honored with a Presidential Early Career Award for Scientists and Engineers.

Recognizing innovation Illinois professor Lane Martin was honored with a Presidential Early Career Award for Scientists and Engineers.

Steiner was employed at the U. of I. for about three years and currently working as a member of the Facilities and Services moving crew, has had several career iterations in his life. He’s a former ironworker, once owned his own tree-care service company and was working on his Certified Nursing Assistant certificate when he received the call about a university job opening.

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TRAVEL

CONTINUED FROM PAGE 1.

Abroad office coordinated 2,500 students through 400 available programs in more than 60 countries. Students can work on improving communication skills in a foreign language, continue taking classes in their major or minor, earn elective credit, participate in an internship, volunteer and more. The average travel group runs from 12 to 25.

And as the 17th-ranked U.S. university in the country for travel/study programs, the number of participating students continues to rise. White said that in the past decade abroad programs have tripled at U.S. universities, but that growth has not been matched with increases in federal grant funding. Wherever the trip, he said the most important tool that advisers and university contacts have is to stay calm and collected in all situations. It not only helps resolve the situation more quickly, but it calms down travelers who may be stressed out and in a different time zone.

“Doing this, whether you’re on this end of the phone or stuck in an airport, you have to have a sense of humor,” he said. “Otherwise, working through some of these details can be maddening.”

White, who has traveled extensively himself as part of internationally non-governmental organizations, said he thinks of his own children when he fields a late-night call from a frazzled adviser, student or parent.

“A parent has been helpful, I think,” he said. “I’m fielding the call with a parent’s perspective and I get it: They’ve entrarised their students with us and they have to have someplace to call when help is needed. That’s why we take it seriously when they call, no matter what the reason.”

A second lesson is specific to pensions. Public sector unions in Illinois have long been advocates of defined benefit systems, and they have been somewhat hostile to defined contribution systems. This is because it is generally thought that the employer (in this case, the state of Illinois) bears the risk in a defined benefit system, whereas that risk gets shifted to employees in a defined contribution system.

The recent ruling by a bankruptcy judge in Detroit shows the very foundation of this belief. The court ruled that pension rights receive no special seniority in bankruptcy, and thus are treated like any other creditor. This dramatically increases the risk to participants in public defined benefit systems, at least at the local level where municipalities have a federal bankruptcy option.

Indeed, one could even argue that public defined benefit systems are now even more risky than corporate plans because the latter are insured by the federal government, whereas public plans are not.

Thus, in a state like Illinois that seems to have few effective mechanisms to force the state to fund the system, it is not at all clear that a defined-benefit system is safer. It may take a while, but I suspect more and more public employees will come to the conclusion that a well-designed and fully funded defined contribution system is more secure than an unfunded promise from the state’s politicians.

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BUSINESS AND PUBLIC POLICY EXPERT JEFFREY R. BROWN ON PENSION REFORM LAW

Editor’s note: In an interview with News Bureau business and law editor Phil Cicicoma, finance professor Jeffrey R. Brown, who’s also the director of the Center for Business and Public Policy in the College of Business, is a senior economist with the President’s Council of Economic Advisers from 2001-2002, discusses Illinois’ pension reform law.

Does the new pension law eliminate the estimated $100 billion in unfunded future benefit promises? If not, is it just delaying the day of reckoning?

To begin, let’s be clear what we mean by the unfunded liability. This is the actual value of benefits that have been promised in excess of the money we have put aside to pay for them. Clearly unrealistic: for any reform to eliminate this instantaneously. The only way to do so would be to take away $100 billion of taxpayer wealth or to default on $100 billion of promised benefits, or some combination of the two. Obviously, neither of these is going to happen.

What this reform attempts to do is to address the problem in three ways. First, it reduces the value of already earned benefits by reducing the cost-of-living adjustment (COLA) and raising the retirement age. Of course, the fact that it does this may be unconstitutional — an issue that will be up to the courts to decide. Second, it reduces the benefits that will be promised in the future. One can view this as a form of, “If you are in a hole, the first thing you should do is stop digging.” By reducing future benefit promises, this will free up $100 billion of taxpayer wealth or to default on $100 billion of promised benefits, or some combination of the two. Obviously, neither of these is going to happen.

The increase in the personal and corporate income tax rates will expire in 2015. The revenue from these increases account for $7.5 billion a year. Can the Legislature let these tax increases expire?

First, we should recognize that the system is already progressive according to the standard definition, which means that the average tax rate rises with income. Even with these “temporary” rates in effect, we have been unable to close the fiscal gap. It will only widen without those revenues. For perspective: the pension reform is expected to reduce spending by only about $1.5 billion per year in the short run, so it is only a small fraction of the additional revenue raised by the higher tax rates.

Does Illinois need a progressive income tax?

Yes, there are several lessons. The first is that poor fiscal management over many decades can end very badly. We Americans are a pretty optimistic people, and so we often have a view that we can fix anything if we just set our mind to it. Most of the time, that serves us well. But Detroit shows us that you can sometimes dig a hole so deep that there really are no good solutions. Illinois has a stronger overall economic foundation than Detroit, but we have done an equally bad job of managing our finances. People should not assume that just because the Illinois General Assembly passed pension reform that we are out of the woods. The problems here are still quite large, and the solutions will be difficult and will require sustained focus over many years.

In percentage terms, those hurt the most are employees in the defined benefit plan who have earnings over the new pensionable earnings cap and who still have another er couple of decades of employment ahead of them. Absent other changes to offset some of the harm, some of these individuals just had their pension benefit cut not just in half, but by two-thirds or more. The danger to institutions such as the U. of I. is that some of these individuals will simply choose to go elsewhere, taking their grant money, their labs and their intellectual property with them.

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Financial penalties trigger welfare exits, study finds

By Sharita Forrest
News Editor

Welfare recipients in Wisconsin who received financial sanctions for failing to comply with the program’s work requirements were from two to 33 times more likely to exit welfare – with or without jobs – and the effect increased with the duration of the sanctions, according to a new study by a U. of I. expert on poverty.

Even welfare recipients who weren’t sanctioned directly were more likely to leave the welfare rolls when their peers were penalized, suggesting that just the “threat” of being sanctioned can dramatically affect continuing on welfare, said Chi-Fang Wu, who is a professor of social work at Illinoiis and was the lead author of the study.

“Once they have been sanctioned, recipients face different transition probabilities that may delay or hasten their exit from welfare,” Wu said. “The higher the agency’s sanction rate, the greater recipients’ perceived risk of being sanctioned, which can influence behavior in ways that prompt people to leave the program.”

Wu and her co-authors examined the effects of work-related financial sanctions on nearly 1,600 single mothers who were receiving cash benefits through Wisconsin Works, the state’s welfare-to-work program. The Wisconsin program, known as W-2, replaced the federal cash assistance program Aid to Families With Dependent Children beginning in September 1997. Many of the study participants were moved from AFDC to W-2 in March 1996. Wu and her co-authors tracked the women for up to 42 months, from the time they entered the program until they no longer received cash benefits or until August 2001 when the study concluded.

Recipients who earned less than $300 in the quarter after leaving W-2 were classified as having left without a job. Those whose post-welfare earnings ranged from $100 to $700 per month were considered having obtained a below-benefits job, and people whose monthly income exceeded $700 a month were classified as having obtained an above-benefits job.

While most states have implemented sanction policies that partially or fully reduce recipients’ benefits for noncompliance with work requirements, W-2 is unique in that it directly reduces cash benefits at the rate of $5.15 per hour for every hour that recipients fail to participate in assigned activities, such as paid job placements, counseling or job-training programs.

Wu found in her prior research that Wisconsin’s sanction rate was particularly high even though the duration of the sanctions tended to be short.

About 65 percent of participants in the current study were sanctioned at least once during the period studied. Slightly more than half – 51 percent – of the women were sanctioned during their first year in W-2, and 64 percent had been sanctioned by their fourth year with the program.

The duration of the sanctions varied from one month to more than seven months and reduced recipients’ cash benefits by an average of $222 to $339 per month.

Recipients who were sanctioned in any given month were more likely than their counterparts to be sanctioned again the subsequent month and were five times as likely to leave welfare without a job. Moreover, they were up to 33 times more likely to exit public assistance for a job that paid less than the maximum welfare benefits, which was $673 at the time of the study.

The study also found links between increased sanctioning and relatively small increases in recipients leaving welfare for jobs that paid more than the maximum monthly cash benefit.

While sanctions reduced the length of time that people received benefits, they also substantially reduced economic support for vulnerable, low-income families. Promoting women to leave public assistance even when it wasn’t in their best interest financially, Wu said.

Prior research suggests that participants who receive sanctions tend to be long-term welfare recipients who have less education, limited work experience and serious personal, familial or other problems that impede their ability to comply with program requirements, Wu said.

“Caseworkers should pay particular attention to recipients who are sanctioned for long time periods so as to identify clients’ personal and family challenges that affect program compliance and limit their employment and earnings after they leave welfare,” Wu said. “The results from this study have important policy implications at a time when states are considering modifying the work requirements and sanction policies in the context of scarce, potentially diminishing resources and tough economic times.”

The study appears in the January issue of the journal Children and Youth Services Review and is available online: http://dx.doi.org/10.1016/j.childyouth.2013.10.022.

Co-authors were Maria Canzian and Geoffrey Wallace, both professors at the La Follette School of Public Affairs, which is a unit in the Institute for Research on Poverty at the University of Wisconsin at Madison.

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To view job postings, apply for civil service or academic jobs at Illinois, or to update your application information: jobs.illinois.edu
A new study compares the relative rate of molecular evolution between humans and chimps with that of their lice. The researchers wanted to know whether their molecular matches on a steady pace in all creatures or if subtle changes in genes – substitutions of individual letters of the genetic code – occur more rapidly in some groups than in others.

A report of the study appears in the proceedings of the Royal Society B.

The team chose its study subjects: humans, chimps, and their common lice, Pediculus schaeffi, the chimp louse. The researchers wanted to know that began at the same point in hosts. “Humans are chimps’ closest relatives and chimps are humans’ closest relatives – and their lice are each others’ closest relatives,” said lead researcher Kevin Johnson, an entomologist with the Illinois Natural History Survey at the U. of I. “This means we can talk to each other, and our parasites were not in contact with each other because they spend their entire life cycle on their hosts.”

This fact, a mutual divergence that occurs at the same point in time (roughly 5 million to 6 million years ago) allowed Johnson and his colleagues to determine when different molecular evolutionary rates occurred in primates or in their parasites.

Previous studies had looked at the rate of molecular changes between parasites and their hosts, but most focused on single genes in the mitochondria, tiny energy-generating structures near the nucleus of the cell that are easier to study. The new analysis is the first to look at the pace of molecular change across the genomes of different groups. It compared a total of 1,534 genome sequences shared by the insects and their lice.

To do this, the team had to first assemble a rough sequence of the chimp louse genome, the only one of the four organisms for which a full genome sequence was unavailable. The team needed to look at the changes in gene sequence altered the structure of the proteins for which the genes coded (those they looked only at protein-coding genes). For every gene they analyzed, they determined whether amino acid changes resulted in a different amino acid being added to a protein at a given location. They found that – at the scale of random changes to gene sequence – the lice are winning the molecular evolutionary race. This confirmed what previous, more limited studies had hinted at.

For every single gene we served as, the lice had more differences (between them) than were found between humans and chimps. On average, the lice had almost 15 times more changes, Johnson said. “Often in parasites you see these faster rates.” They have been several hypotheses as to why, he said.

Humans and chimps had a grand-slam strategy: sequence changes that led to changes in protein structure, the researchers found. That means that even though the louse genes are changing at a faster rate, most of those changes are “silent,” having no effect on the proteins for which they code. Since these changes make no difference to the life of the organism, they are tolerated. Johnson said. “That means that even though the louse genes are changing at a faster rate, most of those changes are silent,” having no effect on the proteins for which they code. Since these changes make no difference to the life of the organ- ism, they are tolerated. Johnson said. “This most likely explanation for this is that certain genes are more important for the function of the cell and can tolerate change as much,” Johnson said.

The new study begins to answer fundamental questions about changes at the molecular level that shaped the evolution of their hosts and primates.

By Diana Yates

News Bureau Writer

Teaming studies pace of evolution in primates and their lice

Lice lessons

The researchers measured the evolutionary divergence between humans and chimps, and compared it to that of their lice, Pediculus schaeffi, the chimp louse.

Molecular evolution

A new study led by Kevin Johnson of the Illinois Natural History Survey (seated, at left), with, clockwise from top left, entomologist professor Barry Pittendrigh, animal biology professor Ken Prasse and postdoctoral researcher Julie Allen, indicates lice are evolving faster than their humans and chimpanzee hosts.

Guerrilla Girls invade Krannert Art Museum in January

Four new exhibitions – including “Not Ready to Make Nice: Guerrilla Girls in the Artworld and Beyond” – will open Jan. 23 at the U. of I.’s Krannert Art Museum. Featuring major works from international projects by the anonymous feminist collective that has been urging museums to incorporate collage, digital prints and other hybrid objects. Her installation “Mandala Flea Market Museum,” which was organized by Columbia College Chicago, runs through April 26. “Art as Provocation,” curated by Kathryn Koca Po- lite, runs through May 4. “Auto-Graphics” and “Mandala Flea Market,” curated by Tomoko Mo- saka, run through July 27.

Krannte Art Museum is open 9 a.m. to 5 p.m. Tuesday through Saturday (and till 9 p.m. on Thursdays), and 2-5 p.m. on Sundays. Admission is free. For more information, email Diane Schumacher at schucham@illinois.edu.

Ekpuk return to Krannert Art Museum for a Gallery Con- versation with art history profes- sor Pria Meier and exhibition cu- rator Alyson Purpura at 5:30 p.m. March 13.

“Mandala Flea Market Mu- seum,” presents the work of Yoko Inoue, a Japanese-born artist who explores the transcultural assimil- ation of popular objects ranging from water bottles to Hello Kitty figurines by hand cast- ing hybrid objects. Her installation will transform the gallery space into street vendor booths stocked with “mutant” ceramic sculptures.

The exhibition “Auto-Graphics,” will display members of the group will join curator Nessya Page-Lieberman for a conversation with art history profes- sor Pria Meier and exhibition cu- rator Alyson Purpura at 5:30 p.m. March 13.

“Auto-Graphics,” will display

molecular evolutionary race. This confirmed what previous, more limited studies had hinted at. For every single gene we served as, the lice had more differences (between them) than were found between humans and chimps. On average, the lice had almost 15 times more changes, Johnson said. “Often in parasites you see these faster rates.” There have been several hypotheses as to why, he said.

Humans and chimps had a grand-slam strategy: sequence changes that led to changes in protein structure, the researchers found. That means that even though the louse genes are changing at a faster rate, most of those changes are “silent,” having no effect on the proteins for which they code. Since these changes make no difference to the life of the organism, they are tolerated. Johnson said. “That means that even though the louse genes are changing at a faster rate, most of those changes are silent,” having no effect on the proteins for which they code. Since these changes make no difference to the life of the organism, they are tolerated. Johnson said. “This most likely explanation for this is that certain genes are more important for the function of the cell and can tolerate change as much,” Johnson said.

The new study begins to answer fundamental questions about changes at the molecular level that shaped the evolution of their hosts and primates.

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Quasars illuminate swiftly swirling clouds around galaxies

By Liz Ahlberg

A new study of light from quasars has provided astronomers with illuminating insights into the swirling clouds of gas that form stars and galaxies, proving that the clouds can shift and change much more quickly than previously thought.

Led by U. of I. astronomy professor Robert J. Brunner and former graduate student Troy Hacker (now with the U.S. Air Force), the astronomers published their findings in the Monthly Notices of the Royal Astronomical Society.

The team used data from the Sloan Digital Sky Survey, a major eight-year cooperative project to image and map galaxies and quasars. A quasar is a supermassive black hole that emits a tremendous amount of energy, like a shining cosmological beacon.

"Quasars, while very interesting, are merely tools in this study to help us actually find and study what we’re really interested in, which is the invisible gas that surrounds galaxies," Brunner said. "That gas gets turned into stars, and stars expel gas back out of the galaxy. One of the things we have a hard time understanding is, how is that gas involved in the formation and evolution of a galaxy? So we use quasars as big searchlights."

The research team looked at data collected from quasar light that traveled through the gas clouds in galaxies between Earth and the quasars. Like meteorologists who can look at sunlight filtering through clouds to learn about the chemistry and dynamics of the clouds, astronomers can learn a lot about the galaxies that the quasar light travels through by measuring how that light is absorbed.

The novel aspect of Brunner and Hacker’s work is that it looks at the quasar light not once, but at two different times. Astronomers have long assumed that any changes in large structures such as nebulae or galaxies would take eons and would not be observable during a human lifetime. But in the span of only five years, Brunner and Hacker saw measurable shifts in a small but substantial number of the giant gas clouds mapped by the Sloan Survey.

"The new aspect of this work is the gas is very distant from the quasar," Hacker said. "It has no physical interaction with the quasar itself. Something within a galaxy, unassociated with the quasar, is causing the observed change."

As a possible explanation, the researchers posit that the gas clouds are much smaller than theories point to.

"We’re seeing structures on the order of 10, maybe a hundred, astronomical units, and these are orders of magnitude smaller than what other theories are showing," Hacker said. "That gas is very distant from the quasar itself. Something within a galaxy is causing the observed change."

The questions raised by these findings have implications for how the gas around galaxies is modeled. It is usually modeled as a huge spherical cloud surrounding the galaxy. Because of that size, variability within the cloud would only happen over millions of years. The quick-shifting clouds that the new study found, however, would have to be much smaller or different in composition than previously thought.

"That means it can’t be a spherical ball of gas; it’s more like the clouds in our atmosphere," Brunner said. "The gas around other galaxies has different types of structures and shapes. The data are telling us that the dynamics are more complex than previously thought, and you can use that to get a limit on the size and motions of these clouds. Now we can start thinking about how these things together – what is the chemistry in these clouds, and how are they tied to the stars in these galaxies?"

With the Sloan telescope still recording spectroscopic observations, Brunner and Hacker now can provide a target list of particular quasars to re-evaluate to look for this highly variable phenomenon.

"Now we have the evidence to run a more targeted campaign," Hacker said. "We can start looking at certain areas where this has been seen. Now that we’ve established this phenomenon, there are so many ways it could go. If we looked at it not just twice, but four, five, six times, we would learn more about these clouds that are moving around and better understand just what is changing."

"It’s just not all quiet and calm and peaceful out there," Brunner said. "There are dynamic, explosive, exciting things happening."
Mellon grant to focus on ‘Global Midwest’

By Dusty Rhodes
Arts and Humanities Editor

The Illinois Program for Research in the Humanities has been awarded a $3 million grant by the Andrew W. Mellon Foundation to fund a consortium of 15 humanities institutes.

IPRH, a division of the U. of I. College of Liberal Arts and Sciences, provides fellowships and hosts conferences, lectures, films, art exhibitions and reading groups. Titled “Humanities Without Walls,” the funded initiative is led by IPRH director Dianne Harris, who is a professor of landscape architecture, of architecture, of art history and of history. The grant will fund cross-institutional teams focused on “The Global Midwest” — research that rethinks or reveals the Midwest as a key site shaping global economies and cultures. The grant also will fund summer workshops for pre-doctoral humanities students pursuing careers outside the academy, beginning in 2015.

Besides the U. of I., the consortium comprises the current Big Ten schools — Indiana, Iowa, Michigan, Michigan State, Minnesota, Nebraska, Northwestern, Ohio State, Penn State, Purdue and Wisconsin — as well as Notre Dame, the University of Chicago and UC. The Chicago Humanities Festival and the Graduate School of Library and Information Science at Illinois will serve as key partners for the consortium.

“...This is an enormously exciting opportunity that will increase the impact and visibility of the humanities and arts at the University of Illinois and throughout the Midwest,” Harris said. “I have outstanding intellectual partners in this consortium. Working together, we developed a set of initiatives that will allow us to experiment at a very large scale, and to stimulate new research practices and the creation of new knowledge across some of the world’s most esteemed universities. I am very grateful to the Mellon Foundation for making this possible.”

To contact Dianne Harris, call 217-244-3344; email harris3@illinois.edu.


Larry William Gibson, 70, died Dec. 26 at his Champaign home. He was a member of the U. of I. police department for 25 years, retiring in 2000 as a lieutenant. Memorials: American Diabetes Association, diabetes.org.

William T. Greenough, 69, died Dec. 18 in Seattle. Greenough retired in 2009 after 40 years as a professor of psychology. At the time of his retirement, he held a Swanlund endowed chair and was a center for advanced studies professor of psychology, of psychiatry and of cell and developmental biology. He had served as the director of the Neuroscience Program and the director of CAS, and he played a critical leadership role in the establishment of the Beckman Institute for Advanced Science and Technology.

Daniel Frank Hang, 95, died Dec. 15 in Urbana. Hang taught at the U. of I. for 37 years, retiring in 1984 as a professor of electrical engineering and of nuclear engineering. Memorials: Tau Beta Pi (engineering honorary), thp.org; or the Prairie Island Council of Boys Scouts of America, prairieislandsbsa.org.

Eugene Leroy Hayn, 75, died Dec. 27 at Carle Foundation Hospital, Urbana. Hayn worked at the U. of I. for 26 years, retiring in 1993 as a building service worker at the Physical Plant.

John Herbst, 92, died Dec. 14 at Carle Foundation Hospital, Urbana. He was a U. of I. faculty member for 26 years, retiring in 1981 as professor emeritus of agricultural economics and vocational agriculture.


Edward Jones, 67, died Jan. 6 at Heartland Nursing Home, Champaign. He worked at the U. of I. for 34 years, retiring from University Housing.

William E. Marilatt, 83, died Jan. 4 at Presence Covenant Medical Center, Urbana. He worked at the U. of I. for 27 years, retiring in 1993 as a communications network specialist III for the Computer and Communications Services Office. Memorials: Villa Grove United Methodist Church, 302 Second St., Villa Grove, IL 61956; or the VFW of Villa Grove, 9 S. Main St. #11, Villa Grove, IL 61956.


Vincent D. Mulcahey, 79, died Dec. 26 at Champaign Urbana Regional Rehab Center, Savoy. He worked at the U. of I. for 30 years, retiring in 1999 as the assistant chief building engineer at Krannert Center for the Performing Arts. Memorials: St. Matthew Catholic Church, 1303 Lincolnshire Drive, Champaign, IL 61821; or Schlarmann Academy, Development Office, 2112 N. Vermilion St., Danville, IL 61832.

James Pulliam Jr., 90, died Dec. 14 at his Champaign home. Pulliam worked as a welder at the U. of I. for 35 years, retiring in 1976.

Duane W. Silver, 84, died Jan. 4 at Advocate BroMenn Medical Center, Bloomington, Ill. He worked at the U. of I. for 22 years, retiring in 1990 as a fieldworker for the animal sciences department. Memorials: Bridges for Peace, bfpusa.org; or the American Lung Association, lung.org; or Cystic Fibrosis Foundation, cff.org.

William Warner Slearor Jr., 96, died Dec. 23 at Carle Foundation Hospital. He was a professor of physiology and biophysics for 18 years, retiring in 1987. He served as head of the department from 1969-1976.

Rebecca Strater, 63, died Dec. 21 at Carle Foundation Hospital, Urbana. She worked at the U. of I. for 30 years, retiring in 2005 as a veterinary technician II in the department of veterinary clinical medicine.

Darlene Ciocciolo Teltido, 63, died Dec. 16. She worked as a clerical assistant in the department of agricultural engineering.

Ads removed for online version
Repealing prevailing wage law would weaken state economy

By Phil Cluora
Business and Law Editor

Mounting state budget deficits as well as debt from underfunded pensions have prompted calls for the repeal of Illinois’ prevailing wage provisions for publicly financed construction projects in order to save taxpayer money.

But the state of Illinois’ prevailing wage law is associated with positive labor market outcomes, and its costs are less than the substantial positive benefits it has for the state economy, says new research co-written by a U. of I. labor expert.

According to Robert Bruno, a professor of labor and employment relations on the Urbana campus, prevailing wages for public construction projects in Illinois provide numerous positive economic and social outcomes for construction workers and the state.

“A policy like the prevailing wage law is one of those safeguards that protects Illinois’ economy and workplace,” said Bruno, also the director of the Labor Education Program in Chicago. “Any efforts to change, alter or weaken it put one of the most important pillars of a middle-class economy in the state at risk. There are enormous implications when you attempt to undermine a standard for compensation and health and safety, especially in an occupation as dangerous as construction work.”

Bruno and co-authors Alison Dickson Quesada, a labor education specialist; Frank Manzo IV, a former research associate and current policy director of the Illinois Economic Policy Institute; and Dale Belman, of Michigan State University, argue that repealing Illinois’ prevailing wage law would not result in any significant savings for taxpayers or the state.

Critics of the law claim it inflates the costs of government contracts by compensating labor at levels higher than market wages.

“Prevailing wage laws are among the oldest policies intended to regulate labor markets,” Bruno said. “They serve to establish minimum or community standards in labor markets.”

Repeal of the law would result in job losses throughout the state’s economy as well as increases in construction worker fatalities and declines in construction worker benefits and training opportunities, Bruno said.

According to the research, the indirect effects of the law’s repeal would result in about 3,300 net jobs lost; a contraction of more than $1 billion in state gross domestic product annually; and more than $44 million in lost state and local taxes as well as roughly $116 million in lost federal tax revenue.

“This is one of the key policies that allows the state of Illinois to sustain a high-wage economy,” Bruno said.

Prevailing wage laws mandate that contractors and subcontractors pay all workers employed on taxpayer-financed projects no less than the general prevailing rate of wages (including benefits) where the work is performed.

The study forecasts that employment in the construction industry would likely increase if the state-wide law were to be repealed. But any new jobs linked to the law’s repeal would be significantly offset by job losses experienced throughout the rest of the state, and would likely cost the state money and reduce construction sector efficiency, Bruno said.

“We took a very conservative approach in running our impact model, and we still found that the overall net impact of repealing the law would be a decrease in the total number of jobs in the state, all due to the reduction in wages,” Quesada said.

Although not statistically significant because of the small sample size, the numbers suggest that states with prevailing wage laws suffer fewer work-related casualties in the construction sector than states with no regulations, the researchers said.

“The study also finds no substantial evidence that state prevailing wage laws are harmful to African-American participation in the construction industry. ‘The argument that states with prevailing wage laws have reduced African-American participation in the construction industry are based on simplistic analyses which are, at best, descriptive and unconvincing,’” Bruno said. “Our paper finds no evidence that such laws act to the detriment of African-American workers.”

Key policy
Repealing the prevailing wage law in Illinois would not result in any significant savings for taxpayers or the state, says a new study co-written by Robert Bruno, a professor of labor and employment relations on the Urbana campus.
**ACME awards**

Public Affairs presented its annual ACME awards (Awards for Communicati- on and Marketing Excellence) to campus professionals during its Brand U seminar in November.

Those honored:

The Branding Leadership Award went to Sarah Dolinar, the associate director of communications in the College of Educa- tion, and Gina Manola, the college’s assis- tant director of marketing and design. The award recognized the college’s re-branding efforts in 2012, which set out to position the college as a leader in education research, teacher preparation and community out- reach.

The Innovation in Marketing Award was presented to Jennifer Shike, the di- rector of communication and marketing for the College of Agricultural, Consumer and Environmental Sciences. Working with a graphic designer, Shike established a visual identity that included key messages, held monthly brown-bag meetings to share best practices and developed a social media strategy to reach prospective students. With improved marketing, undergraduate enroll- ment grew nearly 20 percent.

Brian Mertz, the chief communications officer for Campus Information Technolo- gy, was presented with the Team Player Award. From leading the way in brand- ing efforts for CITES, furthering efforts to partner CITES with other campus units, or in helping to identify and connect Public Affairs with key technical experts at CITES to make the augmented Alma Mater a reality, Mertz has demonstrated the spirit of a team player.

Sheldon Jacobson, a professor of computer science, was named Communicator of the Year. The team com- prises Lance Campbell, software architect; Minja Gaso, software architect; and user interface specialist; Jim Wilson, Web Services director; and student worker Filip Gaso. Although Public Affairs employees are considered exempt from receiv- ing ACME awards, communications profes- sionals across campus and throughout the U of I system are eligible. Jacobson’s students have taken on numerous projects showing how computer science and data analysis can be put to practical use in a way that the news media and general public under- stand. He always goes above and beyond to respond to inquiries from the news media, whether local, regional, state or national in- reach. He is an articulate advocate for his work and his discipline.

Katherine Galvin, the associate provost for administrative affairs, received the Cri- sis Communications Award. Galvin always sees the bigger picture – even in the stress of a crisis. She sees her role not just as help- ing the university respond to crises, but in preventing them.

The Web Services team was named Communicator of the Year. The team com- prises Lance Campbell, software architect; Minja Gaso, software architect; and user interface specialist; Jim Wilson, Web Services director; and student worker Filip Gaso. Although Public Affairs employees are considered exempt from receiv- ing ACME awards, communications profes- sionals across campus and throughout the U of I system are eligible. Jacobson’s students have taken on numerous projects showing how computer science and data analysis can be put to practical use in a way that the news media and general public under- stand. He always goes above and beyond to respond to inquiries from the news media, whether local, regional, state or national in- reach. He is an articulate advocate for his work and his discipline.

Brian Cunningham, a professor of electrical and computer engineering, was recently appointed a fellow of both the Opti- cal Society and the National Academy of Inventors. His biosensing innovations in- clude sensors that detect water-borne con- taminants and toxins, and others that target specific biomarkers and antibodies.

David Forsyth, a professor of computer science, was named a fellow by the Asso- ciation for Computing Machinery. He is one of 50 people honored for 2013. He was recognized “for contributions to computer vision,” according to the association. The program celebrates the exceptional con- tributions of the leading members in the computing field. Forsyth is well known for his research in geometric methods in ob- ject recognition, interpreting color images, the interaction of words and pictures in an image, shading and reconstruction, among other topics.

Daniel J. Bodony, a professor of aero- space engineering, has been elected an as- sociate fellow of the American Institute of Aeronautics and Astronautics. Each year, the institute recognizes exemplary pro- fessionals for their accomplishments in engineering or scientific work, outstanding mer- it and contributions to the arts, sciences or technology of aeronautics or astronautics.
will demonstrate an invention’s market viability to potential investors and partners.

I-POC projects consist of a defined set of milestones that, when completed, help overcome a specific hurdle to an innovation’s transfer outside of the university.

The purpose of the fund is to bridge an existing funding “gap” between government-supported innovations that result from university research and private sector supported translation of those innovations into commercial products.

The fund is supported by several colleges and units with matching funds from the Office of the Vice Chancellor for Research. The fund is open to projects that originate from a participating college or unit. To make a request from a unit not currently participating, contact the Office of Technology Management.

Fund participants: Beckman Institute for Advanced Science and Technology; the College of Agricultural, Consumer and Environmental Sciences; the College of Education, the College of Engineering, the College of Fine and Applied Arts; the Institute for Genomic Biology; and the College of Liberal Arts and Sciences.

Pre-proposals are invited for the first round of funding and are due Jan. 31. Pre-proposals must include a two-page letter of intent and a completed application form.

More information about the program and the application process is available online at go.illinois.edu/i poc fund or by contacting Jennifer Rice, technology and special programs manager: jenrice@illinois.edu, 217-244-1275.

Mexican-American debutantes Community Cinema is Feb. 4

February’s Community Cinema screening and discussion features “Las Marthas,” a documentary about the annual debutante ball in Laredo, Texas, which dates from the aftermath of the U.S.-Mexico War. The film follows two Mexican-American girls carrying this gilded tradition on their young shoulders during a time of economic uncertainty and political tension over immigration.

Sponsored by the Illinois Public Media/Spurlock Museum Community Cinema Partnership, the event takes place at 7 p.m. Feb. 4 at Spurlock Museum. Free parking is available in lot D-22 next to the museum.

Every February, one of the largest celebrations of George Washington’s birthday in the world takes place in Laredo, a border city. This 116-year-old tradition has evolved into an entire month of inventive re-enactments and bicultural celebrations, many of them involving Nuevo Laredo, Mexico – Laredo’s sister city across the border. The most pre-eminent event of them all, however, is the invitation-only Colonial Ball hosted by the elite Society of Martha Washington.

Society daughters, most of them Mexican-American, are invited to debut in elaborate colonial gowns representing iconic figures from America’s revolutionary history. Their goal: to recreate a party hosted by Martha Washington, but this time set on the U.S./Mexico border. “Las Marthas” follows two of the young debutantes – one a prominent member of Laredo society and the other a newcomer from Mexico – as they prepare for this rite of passage.

Each girl’s dress can weigh up to 100 pounds, take a year to make and cost up to $30,000 – nearly the median family income of Laredo. Many of these spectacular creations are made by highly coveted dressmaker Linda Leyendecker Gutierrez, an oil heiress who designs her dresses with “heavenly inspiration from God.”

“Las Marthas” premieres on the PBS series “Independent Lens” at 9 p.m. Feb. 17 on WILL-TV.

ON THE WEB
Photo series: illinois.edu/blog/view/1561
University Archives: archives.library.illinois.edu

NO doubt for many, especially today’s generation of college students, computer terminals such as this PLATO machine must seem like a relic. In this photograph, from about 1960, a PLATO terminal displays a mathematical problem. This teaching instrument was developed in the Coordinated Science Laboratory under professor Don Bitzer. PLATO (Programmed Logic for Automatic Teaching Operations) was developed at the U. of I. and remained functional for more than four decades, offering course work – from elementary to the university level – to U. of I. students, local schools and other universities. PLATO was the first generalized computer-assisted instruction system.

The University Archives contains many important records documenting PLATO and the Computer-based Education Research Laboratory. With the university continuing to make great strides in computer-based technology during the last 50 years, the archives documents and preserves these records and the records of the future, which will exist mostly in electronic formats.

FROM THE ARCHIVES

The University Archives is a division of the Archives and Special Collections Department, University of Illinois at Urbana-Champaign.

The University Archives contains many important records documenting PLATO and the Computer-based Education Research Laboratory. With the university continuing to make great strides in computer-based technology during the last 50 years, the archives documents and preserves these records and the records of the future, which will exist mostly in electronic formats.
Ancient ‘fig wasp’ lived tens of millions years before figs

A 115-million-year-old fossilized wasp from northeast Brazil presents a baffling puzzle to researchers. The wasp’s ovipositor, the organ through which it lays its eggs, looks a lot like those of present-day wasps that lay their eggs in figs. The problem, researchers say, is that figs arose about 65 million years after this wasp was alive.

A report of the findings appears in the journal Cretaceous Research.

The wasp belongs to the Hymenoptera superfamily known as Chalcidoidea, which parasitize other insects, spiders and some plants. The group includes about 22,000 known species and is estimated to contain up to 500,000 species.

“This is a tiny parasitic wasp, it’s the smallest fossil wasp found in this particular deposit and it’s the oldest representative of its family,” said Sam Heads, a paleoentomologist at the Illinois Natural History Survey. “More importantly, it’s possible that this wasp was fig-associated, which is interesting because it’s Early Cretaceous, about 115 to 120 million years old. That’s a good 65 million years or so prior to the first occurrence of figs in the fossil record.”

Heads worked in collaboration with University of Portsmouth scientists Nathan Barling and David Martill.

The new findings demonstrate the value of studying insect fossils, Heads said.

“The fossil record of insects is very extensive both geographically and temporally. It goes back 415 to 420 million years and preserves the ancestral forms of a lot of the insects that are alive today,” he said. “So it’s a great resource for understanding insect evolutionary history and the distribution of insects across the planet in the past.”

The presence of a wasp with an ovipositor that looks like those used by fig wasps today is not hard evidence that figs were around in the fossil wasp’s day – a time of dinosaurs, Heads said.

“There is no evidence of the existence of figs at this time and the most recent molecular study doesn’t place figs that far back,” he said. While it is possible that figs are older than current studies indicate, it is also possible that something like a fig was around and this wasp was parasitizing whatever that was.”

This could be an example of convergent evolution, where separate species independently evolve similar traits, he said. Or the fossil wasp could be the ancestor of the fig wasp, and its ovipositor, first adapted to a plant or fruit that was around long before the fig, later found a use in figs.

Comparing insect fossils with living organisms offers new insights into the natural history of insects, the plants they pollinate and their hosts or prey, Heads said. This differs significantly from studies of the fossils of animals that have become extinct.

“When you talk about paleontology to people the first thing they think of is dinosaurs,” he said. “And that’s great. Dinosaurs are really exciting, wonderful animals. But for the most part, they’re extinct. With insects and other arthropods like spiders and scorpions, they’re around still. So we have modern forms to compare our fossil forms to, which is incredibly useful.”

The Illinois Natural History Survey is a division of the Prairie Research Institute at the U. of I.

By Diana Yates
Life Sciences Editor