



Submitted/Jim Ellis

This image was taken from a camera aboard a weather balloon launched by Jim Ellis, associate professor of curriculum and teaching, and his class. The class launched weather balloons and recorded data as part of a class on inquiry-based science teaching.

## Science at 90,000 feet

### Prof's class launches two weather balloons to collect data, learn to carry out experiments

A few days after the nation sat glued to its collective TV sets

watching a homemade balloon glide through the air, worrying that a

6-year-old boy might be on board, a group of KU students, faculty and

volunteers held a balloon launch of their own. But there was no hoax about it — the launch was in the name of science and learning how to teach it to young students.

Jim Ellis, associate professor of curriculum and teaching, took members of his class to a football field near Salina on Oct. 17, where they launched two weather balloons that climbed to nearly 90,000 feet, then burst, dropping sensors by parachutes that took measurements of oxygen levels, temperature, carbon dioxide levels and atmospheric pressure. The sensors, including a Geiger counter and cameras, took measurements on the way up and the way down.

Science education students enrolled in the Teaching Science in Middle and Secondary Schools class designed experiments and built six instrumentation modules that were taken aloft by two weather balloons. The project, which was an exercise in inquiry-based education, intended to show them how to design an

experiment, carry it out and share the findings with a class, while teaching the scientific method the entire time.



Submitted/Jim Ellis

Ellis' class and collaborating crew launch a weather balloon from a football field near Salina.

“Some of our students haven’t experienced inquiry-based science teaching in their own education,” Ellis said. “Since that’s the way we want them to teach, we feel they need to get out there and experience it.”

Each year, the students design and conduct their own experiments as part of a model inquiry science unit. This year, they just happened to have a balloon satellite expert in their ranks. Paul Verhage, a veteran physical sciences and electronics teacher is a co-instructor in the class. A faculty member at Washburn Institute of Technology, Verhage is completing his doctoral work at KU. Verhage, a

long-time amateur radio enthusiast, began working more with meteorological sensors in the past few years and eventually became involved with weather balloons.

He guided the students in designing the boxes that would hold the sensors to be attached to weather balloons that would rise into near space, burst and parachute to the ground. They used Styrofoam, tape and rubber bands among their materials.

“What they did was design technology to go up in a space shuttle,” Verhage said. “Their shuttle happened to be a weather balloon with parachutes and data sensors. It’s essentially a poor man’s space program.”

The students developed hypotheses about what weather conditions they would find at various altitudes and how they would change as the sensors reached different levels. They launched two balloons with about 10 to 15 sensors in each. They are now compiling their data and will report their findings in class.

The group launched its balloons near Salina at Kansas Wesleyan University. The Physics Club at Kansas Wesleyan provided the weather balloons and helium and built a tracking module to fly on one of the balloons. A crew of other weather and technology enthusiasts helped launch and track the balloons.

One balloon reached 88,000 feet, and the other climbed to 89,000 before sending their sensors plummeting to earth. Using tracking technology designed by Verhage, they were able

to determine where the wind took the balloons and roughly where they would come down. One traveled about 95 miles, and the other was found about 100 miles away from its launch point near Leon.

“It’s kind of a road rally in a way,” Verhage said. “We got in the car and followed them, but only had a general idea of where they were going.”

The students have wrapped up their balloon experiment, but aren’t done with inquiry-based learning. Before graduating, they will team teach with

educators working in the field. They will design and teach two inquiry lessons and report their findings as well as their progress with the class.

“This helps show that it’s not just about learning facts in a textbook,” Ellis said. “They’re going to be science teachers, so they need to be able to show how the scientific process works. It helps them understand the way scientists do their work and to be able to take that into the classroom and impart it to their students.”

# **KU Cancer Center hires researchers to aid quest for NCI designation**

## **Professors bring more than \$3 million of funding**

The KU Cancer Center has recruited two researchers that bring with them a total of \$3 million in National Cancer Institute funding. The research dollars will help achieve the critical requirement of \$11

million in total NCI grant funding needed to apply for designation as a national cancer center.



Sharmila Shankar

Sharmila Shankar will be an associate professor of pathology and laboratory medicine, and Rakesh Srivastava will be a professor of pharmacology, toxicology and therapeutics.

“Our focus has been on recruiting new researchers who have NCI-funded research in order to help us meet the requirement of having a strong funding base before we apply for designation,” said Roy A. Jensen, director of the KU Cancer Center. “Drs. Shankar and Srivastava have an incredible track record

of NCI funding with a strong background in cancer prevention and drug development. We are thrilled to have them on our team.”

Both come to the medical center from the University of Texas Health Science Center at Tyler. Srivastava was a professor and Shankar



Rakesh Srivastava

was assistant professor in the Department of Biochemistry and Medicine. Their research focus is on the molecular mechanisms of cancer cell growth and death and on developing novel drugs that treat and prevent cancers.

Srivastava did a postdoctoral fellowship at the NCI from 1994 to 1996 when he was also awarded a Fogarty International Fellowship by the National Institutes of Health.

To apply for designation in September 2011, the cancer center must have a strong base of funding from the NCI to demonstrate the amount of cancer-focused research being conducted.

“Our needs right now fall into a simple equation: We need to recruit world-class researchers who already have NCI funding, and we need state-of-the-art facilities in which to house them,” Jensen said. “Bringing these two recruits on board moves us closer to meeting these needs and fulfilling our goal of achieving NCI designation.”

# Ginther lands grant to study why women leave sciences

Something happens to women in the sciences that causes a substantial number to leave the field before attaining academic careers. Donna Ginther intends to find out what's happening and why.

Ginther, professor of economics, has received a \$1.2 million grant from the National Institutes of Health to research the influences on women in biomedical sciences. The four-year grant is part of an estimated \$16.8 million grant program by the NIH that has selected 14 research projects from across the country to address such factors in behavioral science and engineering as well. The grants respond to a 2007 National Academies report that urgently called for a broad, national effort to maximize the potential of women scientists and engineers.



Donna Ginther

Ginther will collaborate with Shulamit Kahn of Boston University for the project. In previous research, Ginther and Kahn found that an inordinate number of women leave science fields at about the time they reach the post-doctoral level, and before they secure an academic career. In this project, she will examine biomedical sciences specifically and ask two questions: are post-doctoral research positions productive for

a long-term career, or are they used instead to wait out tight job markets until more positions are available.

Along with her colleagues, Ginther hopes to identify factors that lead women to leave sciences in hopes of helping realize potential solutions to the problem.

"Understanding the issues that impact the recruitment, retention, reentry and advancement of women in biomedical and behavioral science careers will help us develop strategies to assist women at critical points," said Vivian Pinn, director of the NIH Office of Research on Women's Health and co-chair of the NIH Working Group on Women in Biomedical Careers.

In previous research projects, Ginther has

examined gender differences in pay and promotion in other academic disciplines including the humanities and social sciences. She recently co-authored a study with Raynard Kington, deputy director of the National Institutes of Health and Walter Schaffer, senior scientific adviser for extramural research, also at the National Institutes of Health. That paper studied the academic career paths of all underrepresented groups in biomedical sciences. Ginther made a presentation about the findings to the NIH on Oct. 19.

In an effort to find out why a “career gap” exists when it comes to women in the sciences, Ginther will examine several factors, such as the effects of publications and grants on career outcomes, gender differences in promotion and pay and the rise in the number of international post-doctoral researchers and the increase in commercial biomedicine on women’s academic careers.

“There’s overlap between the projects, but they’re not the same,” Ginther said of her work. “We found that

the challenges for women are very different than those of other underrepresented minority researchers. We hope to soon be able to understand these challenges better.”

The research comes at a crucial time. A “gender gap” exists in the biomedical sciences, at a time when about half of all doctoral degrees in the discipline are being earned by women, but far fewer advance to academic careers.

# December graduation ceremonies announced

Several KU schools have announced plans for fall graduate recognition ceremonies.

**School of Business:** 4 p.m. Dec. 11, Lied Center

**School of Engineering:** 9 a.m. Dec. 12, Woodruff Auditorium, Kansas Union

**School of Education:** 11:30 a.m. Dec. 12, Joseph R. Pearson Hall. This is the first-ever School of Education fall recognition ceremony.

**William Allen White School of Journalism and Mass Communications:** noon, Dec. 13, Woodruff Auditorium, Kansas Union

**College of Liberal Arts and Sciences:** 2 p.m. Dec. 13, Lied Center

KU has only one formal commencement ceremony each spring. The Class of 2010 will walk down the Hill on May 16. More information is available at [www.commencement.ku.edu](http://www.commencement.ku.edu).

# KU work group partners with Kansas City, Kan. community groups to improve Latino health

A grassroots coalition that includes the Life Span Institute's Work Group for Community Health and Development recently awarded its inaugural mini grants to organizations that will develop projects aimed at improving the health, fitness and access to health care among the Latino population in Kansas City, Kan. The grants went to 10 public service organizations, clinics and other entities that serve the 66101 zip code.

The project came about as a result of an ongoing partnership between the Work Group, the KU Medical Center and El Centro Inc., which is a family-focused organization in Kansas City, Kan. Grants will be used to test a model designed to reduce the incidence of diabetes



Submitted/Mary Margaret Simpson

Community Health and Development members pose near a garden they created. The group is part of a grassroots coalition led by the Life Span Institute that is working to help Kansas City, Kan.'s Latino population improve its health, fitness and access to health care.

and heart disease in a demographic group where rates of these ailments are higher than in the majority population. The

endeavor is part of the Work Group's longtime efforts to improve the capacity of urban neighborhoods to solve local problems by partnering with community groups.

Made possible by funding from the NIH National Center on Minority Health and Health Disparities, the Latino Health for All Coalition will award \$100,000 over the next five years, about \$10,000 annually. Jerry Schulz, co-director of the Work Group, is project director, and Blanca Mendoza-Perez is the community mobilizer.

The first year's projects include:

- Spanish-language translation services at a medical clinic

- Development of Spanish-language radio programs on health, healthy eating and physical activity
- A program to teach healthy meal preparation

and provide community meals to those in need

- A family social activity that promotes physical activity through Latin dance

- The creation of a community garden to supply fresh produce at little or not cost to residents of the Bethel neighborhood.

# Edwards Campus to offer bachelor's in business administration

The Edwards Campus will offer a new bachelor's degree in business administration beginning in January, following action by the Kansas Board of Regents.

The regents voted to approve the new bachelor's of business administration degree program as the first new program at the Edwards Campus funded through the Johnson County Education and Research Triangle initiative. As of this semester, students can also minor in business.

The goal of the program is to boost the career prospects of working adults in Johnson

County and to enhance the business capabilities of local organizations to achieve commercial success that will stay and thrive in Kansas, as in the case of bioscience-sector research.

“This is an ideal program for people in the workforce who want to combine their work experience and technical skills with enhanced business management skills,” said Bob Clark, vice chancellor of the Edwards Campus. “There has been great demand for an undergraduate business degree. Students attending Johnson County Community College as well as

working adults have expressed a strong desire to have access to the high quality program provided by KU's nationally ranked School of Business. Johnson County has developed into a powerful economic and employment engine for the region. The demand for skilled workers has grown along with it.”

According to the Bureau of Labor Statistics, job growth in Johnson County increased 68 percent between 1990 and 2007, although job growth in Jackson County increased only 1.3 percent. The national growth rate was 25.6 percent.

“The bachelor’s in business administration provides students with advanced management skills so they will understand the cost/revenue business implications of their workplace decisions. This can open the door to additional responsibilities with their current employer or to a new career path,” said Keith W. Chauvin, associate dean for academic affairs and professor in the School of Business. “Without these skills in our community, companies will go somewhere else

to find the talent they need. This program will boost the human capital of the community and help keep good jobs in Johnson County and in Kansas.”

The degree differs from the bachelor’s of business degree offered at the Lawrence campus and is available only at the Edwards Campus. Calculus will not be required for the Edwards Campus program.

The new program is for students who have completed at least 60 college credit hours, yet

have not earned a bachelor’s degree. Coursework will focus on business-oriented decision-making and business management skills. The same faculty who teach the highly regarded master’s of business administration program at Edwards will teach the bachelor’s of business administration program. Classes will be offered late afternoons and early evenings to accommodate working students.

# Researcher shows spatial skills could lead to earlier indications of Alzheimer's disease

A massive research effort headed by a KU investigator deepens our understanding of how Alzheimer's disease affects our ability to think, especially in its earliest stages. David K. Johnson, KU professor of psychology, and

colleagues from Washington University School of Medicine in St. Louis have shown that testing a person's aptitude with spatial relationships between objects - the skills needed to complete a jigsaw puzzle, for

instance - could give an earlier indication of Alzheimer's disease than conventional methods involving verbal memory.

"We saw that there were not only verbal memory changes - the classical,

hallmark features of Alzheimer's disease - but there were a lot of other cognitive declines as well, most notably visuospatial defect," Johnson said.

Johnson described visuospatial skills as the ability to interpret complex visual stimuli and know how to interact with them and use them for a particular task.

"For instance, one test that went into this is where someone looked at squares and triangles and circles and X's randomly strewn about a page, and they get to study that for 30 seconds," explained Johnson. "Then we take away the page and ask them to draw it from memory. Even if we put that piece of paper and leave it there in front of them and ask them to copy it, they're still

having trouble interpreting that visual stimulus."

The researchers tracked 444 volunteers over the course of more than 25 years, assessing each for global cognition, verbal memory, working memory and visuospatial skills. Of the volunteers, 134 developed dementia and 44 were confirmed to have Alzheimer's disease.

Reviewing the data, Johnson and his colleagues determined that visuospatial skills, or aptitude with spatial correlations between objects, declined measurably "three years before clinical diagnosis."

"We're desperate to find a treatment that can halt or even reverse Alzheimer's disease," said Johnson. "We're

pretty far away from that right now. What early diagnosis allows us to do is hopefully identify individuals that we can target new drugs for - and try to understand the biological underpinnings of the disease. If we can detect a person early enough, we have a much better chance of interfering with the disease, because by the time someone actually receives a diagnosis of Alzheimer's disease there's unfortunately pretty significant damage done already."

The results were issued this month in Archives of Neurology, a publication of the Journal of the American Medical Association. The National Institute on Aging, one of the National Institutes of Health, supported the study.

## Senior class nominates six finalists for HOPE award

The senior class has nominated six faculty members as finalists for

the HOPE Award. The award, Honor for Outstanding Progressive

Educator, will be presented at the Nov. 14

home football game against Nebraska.

The nominees are:

- Kerry Benson, lecturer in journalism
- Matthew Beuchner, associate professor of molecular biosciences
- Mark Haug, lecturer in business

- Misty Schieberle, assistant professor of English

- Kelly Welch, lecturer in business

The HOPE Award is the only KU award for teaching excellence bestowed exclusively by students. The senior class also selects the winner. The Class of

1959 established the award to recognize outstanding teaching and concern for students.

Senior class members select the winner by ballot and interviews. The winner receives a monetary award and recognition on a permanent plaque on display in the Kansas Union.

# Miller initiates project to collect oral histories of religion in Kansas

During the past century, Kansans have embraced an array of religions ranging from the commonplace to the obscure. Although some faiths have flowered in the state, others no longer retain active congregations.

Now, student researchers from the Department of Religious Studies are scouring Kansas to record oral histories of everyday people with recollections of a variety of faiths. They are taking part in a new

class led by Tim Miller, professor of religious studies, who hopes to collect memories of older Kansans' experiences in churches, synagogues, mosques and temples before such stories are lost to time.

“I got to thinking, ‘what are we losing?’ ” said Miller. “And we’re losing everything of a certain age, or most of it anyway. We have a number of really unusual religious stories in Kansas. We’ve had some that are already too far in the past to

capture through people, but more are recent and not very well documented. Religion is a huge part of the lives of a whole lot of people in Kansas — and preserving that for the future is great.”

A dozen of Miller’s students will spend the semester recording interviews, gathering documents and traveling the state to compile stories that otherwise would vanish. The materials will be collected and made available to the public.

“Through my grandmother, I’ve interviewed four people mostly from Methodist or Lutheran backgrounds,” said Rachel Gadd-Nelson, a junior from Kansas City, Kan. “It was really interesting because they were raised in the Great Depression and religion has been important to them forever. They’ve lived with religion since they were children, so it’s not a separate part of their lives.”

During hour-long interviews, students pose questions about a person’s memory of daily experiences within a religious body; how membership in a group colored life outside the congregation; what kinds of rituals were prevalent in a group; the way religious groups were governed; and how new members were recruited into the fold.

According to Miller’s students, Kansas is a fascinating panorama for research into spiritual conviction.

“I think that Kansas within most of the last century has been a fertile breeding ground for religious ideals,”

said Clint Shriner, a graduate student from Wichita.

“Pentecostalism was founded in Topeka. A lot of new ideas swirled around, making Kansas very interesting.”

According to Miller, Kansas’ largest religion is Catholicism. The dominant Protestant group has been the Methodists, but that religion is contracting gradually in the state. Religions on the rise in Kansas include Pentecostalism and other brands of conservative Protestantism.

But there are many lesser-known religions with roots in Kansas that Miller and his students are eager to preserve through the oral history project. For instance, Alfred Lawson was a baseball player turned spiritual leader who enjoyed a following in Kansas during the early 20th century.

“He came up with a universal theory of everything,” said Miller. “He called it Lawsonomy. He attracted thousands of followers, particularly during the Depression. He had an economic

theory that was going to solve the Depression. But it was metaphysical and it was religious. He had a very wide-ranging system. And out of his work came a few churches called Lawsonian churches, and one of them was in Wichita.”

Indeed, one of Miller’s students has tracked down “the three remaining Lawsonians” in Kansas and has scheduled interviews with them.

But Miller stresses that his class is looking to collect stories of people’s experience with as many religions as possible — including the religious mainstream.

“Kansas really in many ways is the average center of America,” Miller said. “When people selling consumer products have a new product they want to test market, our area is where a lot of the national test marketing is done because we’re considered average America. And I think that’s true for religion as it is for consumer products. We’re pretty

much a slice of the country.”

Kansans with interest in participating in the documentation and oral history project should

contact Miller at (785) 864-7263 or [tkansas@ku.edu](mailto:tkansas@ku.edu).

# Business school lands spot on Princeton Review list

The Princeton Review has included the University of Kansas School of Business master’s of business administration program in its publication “The Best 301 Business Schools.” The 2010 rankings were tallied by surveying 19,000 students from throughout the United States.

Students had great things to say about KU’s MBA program in terms of academics, future careers and campus life in a summary of comments compiled by the Princeton Review.

“The best business school in the Midwest,” said one student of KU.

Students frequently commented on the program’s excellent faculty and administration. The school’s professors are

“active in the business world within their fields” and they exhibit “a great blend of teaching skills and real-world experience.”

MBA students also raved about the KU’s international involvement opportunities. The business school’s diverse programs have taken students to India, China, Germany, France, Brazil and Mexico. Students say KU provides “an exceptional international business program for being in the middle of the United States.”

KU’s MBA program has produced prominent professionals in the business world. Alumni include chief executive officers, chairs and vice presidents at companies such as Google, Goldman Sachs and Deloitte and Touche.

“I already have a job waiting for me when I complete the master’s program,” said one student.

Students also complimented the Business Career Services Center for its preparation programs and career fairs. Tradebot, MarketSphere, United Missouri Bank, EMBARQ and Sprint Nextel are just a few of the companies that frequently come to KU to hire MBA graduates.

“There are really more things that I’d like to be able to participate in than I have time to do,” said one student. The MBA program is “filled with a variety of activities, including extracurriculars (Net Impact, MBA Ambassadors), social events put on by MBA student organizations,

working for the MBA

admissions office, and  
of course, course work.”

# Vigil, flag retreat among events to commemorate Veterans Day

The Army, Navy, Air Force and Marine ROTC programs and The Dole Institute of Politics will honor service men and women with a host of Veterans Day events.

The events will start at 4:30 p.m., Nov. 6, with the formal retiring of the colors in front of Strong Hall. Afterward, retired Lt. Gen. Robert Arter will be speaking in the main auditorium of Budig Hall. Arter served as an infantry officer in both Korea and Vietnam. As a brigadier general he served as the commanding general of the Third ROTC Region; the deputy commanding general, U.S. Training Center and Fort Ord; assistant division commander, 7th Infantry Division; and deputy commandant, U.S. Army Command and General Staff

College at Fort Leavenworth.

Following the speech, Army, Navy and Air Force cadets will begin their annual 24-hour Veterans Day vigil at KU's war memorials. The vigil begins at 7 p.m. Nov. 6, and concludes at 7 p.m. Nov. 7. Cadets will stand in observance of those who have given the ultimate sacrifice for the nation's defense. There will be two cadets posted at the Campanile World War II Memorial, the Korean War Memorial and the Vietnam War Memorial.

A Veterans Day 5K Race will take place on campus at 7 a.m. Nov. 7, starting and ending at the Burge Union. Pre-race registration starts at 6:30 a.m. in the Burge Union parking lot. To register for the event online go to

[www.active.com](http://www.active.com) and search for Lawrence Veterans Day 5K. Registration will also take place on Wescoe Beach, Nov. 2 through 6. The proceeds will be donated to the National Veterans Foundation.

The Dole Institute of Politics will team with ROTC to host a special salute to veterans, followed by music and dancing in "A Tribute to Veterans: USO Style" on Nov. 15. The recognition program begins at 5:30 p.m., followed by music and dancing to the sounds of the Moonlight Serenade Orchestra until 9 p.m. at the Dole Institute. Veterans, their families and friends are invited.

Reservations are required. Interested parties must confirm their place by calling (785) 864-4900 or

emailing [doleinstitute@ku.edu](mailto:doleinstitute@ku.edu) by Nov. 9.

“There is no greater sacrifice than serving one’s country,” said Barbara Ballard, associate director of civic engagement at the Dole Institute of Politics. “Honoring those who have fought for the safety of our nation is one of our greatest joys at the Dole Institute. We’re very excited to present this tribute to veterans and to give them an evening of fun and friends.”

“‘A Tribute to Veterans: USO Style’ is inspired by the United Service Organization clubs that many service men and women frequented, especially during World War II. These clubs were friendly and comfortable, a home-away-from-home at times. We hope this event will inspire that same feeling,” said Ballard.

In addition to “A Tribute to Veterans: USO Style”, the Dole Institute honors Kansas World War II veterans year-round through its Memory Project. The Memory Project invites

submission of photographs of Kansas World War II veterans for inclusion in a digital kiosk that allows visitors to the Dole Institute to call up the photographs of more than 3,000 service men and women.

The digital kiosk was added in November 2003 to augment the Memory Wall, which hangs above the Dole Institute entrance and displays the photos of more than 900 Kansas veterans.

Photographs may be submitted via email to [doleinstitute@ku.edu](mailto:doleinstitute@ku.edu), via mail or in person. They should be sent to: Robert J. Dole Institute of Politics, University of Kansas, c/o Memory Wall, 2350 Petefish Drive, Lawrence, KS 66045.