

**THE COLLEGE OF
Natural & Applied Sciences**
www.science.smsu.edu.edu

Dean
Larry Banks
larrybanks@smsu.edu

Associate Dean
William Cheek
billcheek@smsu.edu

**Director of
Development**
Faith Giedd
faithgiedd@smsu.edu

Agriculture
Anson Elliott
ansonelliott@smsu.edu

Biology
Steven Jensen
stevejensen@smsu.edu

Chemistry
Tamera Jahnke
tamerajahnke@smsu.edu

Computer Science
Lloyd Smith
lloydsmith@smsu.edu

Fruit Science
James Moore, Jr.
jamesmoorej@smsu.edu

**Geography, Geology, &
Planning**
James Skinner
jameskinner@smsu.edu

Mathematics
Yungchen Cheng
yungchencheng@smsu.edu

**Physics, Astronomy, &
Materials Science**
Ryan Giedd
ryangiedd@smsu.edu

**CNAS Centers:
Center for Applied Science
& Engineering**
Ryan Giedd, Director
ryangiedd@smsu.edu

**Center for Resource Planning
& Management**
Diane May
dianemay@smsu.edu

Missouri Virtual School
James Puckett, Director
jamespuckett@smsu.edu

**Mid America Center for
Viticulture & Enology**
Murli Dharmadhikari
murlidharmadhikari@smsu.edu

CNAS HOUSTON, TEXAS RECEPTION
May 1, 2003



On May 1st, 2003, the College of Natural & Applied Sciences held a reception at the Brian Club in Houston, Texas, with the help of Bonnalie Oetting Campbell, for alumni and friends residing in the Houston, Texas area. Larry Banks, Dean of the College, pictured front row, left, presented an update on Southwest Missouri State University and the College of Natural & Applied Sciences. Attending the reception with Dean Banks was Mrs. Faith Giedd, the College of Natural & Applied Sciences' Director of Development.

Those attending and pictured above were Bonnalie Oetting Campbell, a 1953 Biology graduate and previous SMSU Outstanding Alumni Award Recipient; Charlie Armstrong, a 1979 Mathematics and Physics graduate and also a previous SMSU Outstanding Young Alumni Award recipient. Harold and Beth Boone, Harold, a 1992 Chemistry graduate, and Beth, a 1990 Marketing graduate; Frank Riusech, a 1999 Biology graduate; John Hays, a 1987 Mathematics and Physics graduate; Jim Crews, a 1980 Geology graduate; Wayne Campbell, a 1953 Biology graduate; Raymond Budde, a 1979 Biology & Chemistry graduate; Melanie Pilkenton, a 2001 Chemistry graduate, and her husband Mark Pilkenton, a 2001 Computer Information Systems graduate.

THANKS FOR THE TEXAS HOSPITALITY!

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CNAS SPOTLIGHT ON ALUMNI

FROM THE STATE OF TEXAS!



Robert & Ruth Breuer



Charlie & Karen Armstrong

During their visit Larry Banks and Faith Giedd were given a tour of NASA by Charlie Armstrong, a former 1979 SMS graduate earning an MS from the University of Houston and a vital member of the Space Shuttle mission operations team at the NASA Mission Control Center in Houston, Texas.





DIRECTLY FROM THE DEAN

by Larry Banks

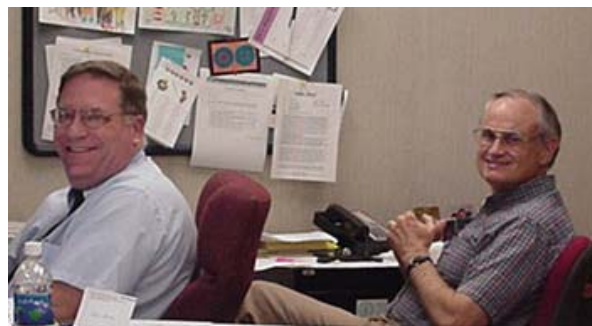
Welcome to the fall, 2003 issue of the College of Natural and Applied Science's News Watch. No matter how things change at SMSU, our job will always be about students. Since alumni are just our more mature students, we don't ever want to forget about them. In this issue you will see several of the efforts we have been making to maintain and/or reestablish relations with our alumni. Our Director of Development, Faith Giedd, and I continue to make trips to various cities for this purpose. Cities visited this past year included Washington, D.C.; Houston, Texas; Wichita, Kansas; and San Diego, California. A number of our Houston, Texas alums are featured on the front page of this issue. My thanks again to Bonnalie Oetting Campbell, who enabled us to meet with a great group of folks in a very nice facility, renew many old acquaintances, and make a few new ones. The highlight of my visit to Houston was provided by Charlie Armstrong who took me on a great tour through NASA-Houston. As I dangled (virtually) off the space station via their computer simulation, I realized yet another reason why I am not an astronaut.

Times continue to be tough for us financially, and there is no end in sight. So far, our budget is down by another 10% this year, and even that amount is not guaranteed as the year progresses. The state put this year's budget together with a lot of one-time money, so we don't even want to think about next year - yet. In spite of this dilemma, we continue to have a great group of faculty members who are willing to go out and seek dollars for research that will help their students. Fortunately, many of them continue to be successful in this endeavor. Actually, the amount of grant dollars received this past year was almost double that of the previous year. Almost all this enormous increase came from only one grant, namely Dr. Ryan Giedd's biodetector grant that I mentioned in our last NewsWatch. But, he will be able to use a portion of his grant to help fund several activities for other faculty and their students.

We are certainly not ignoring the potential gains for SMS and our students provided through the ties to industry. I want to thank the many companies who helped us a bit this past year with student scholarship dollars, including Boeing Aircraft, 3M Foundation Inc., Sprint, Shell Oil, Rockwell, American Home Products Corporation, Dow Corning Corporation, H & R Block Foundation, Honeywell Foundation, Lucent Technologies Foundation, RLI Insurance Co., Spring Foundation, State Farm Companies Foundation, T Rowe Price Associates Foundation, Inc., The Delta Air Lines Foundation, and The Northrop Grumman Litton Foundation, among others.

As you can see from the photo below, we are pleased to see that Microsoft has a new program to work with those universities that lie just below the country's top 50 Research I universities. Richard Conn from Microsoft visited us for three days in September. Thanks again for introducing us to this new program Rick.

You are going to be hearing more and more about our plans to celebrate SMSU's 100th birthday, and I hope you will be making plans to participate in that celebration with us. In the meantime, don't forget Homecoming 2003!



Microsoft Representative, Richard Conn, left and Larry Banks, right

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CNAS SPOTLIGHT ON ALUMNI



What Might an SMSU Graduate Do? by Larry Banks

We tell our students that they are preparing for a lifetime of work that may take them in any number of directions and positions over the years. Here is one of our best real-life examples: Dr. John Bledsoe, pictured above, graduated from Southwest Missouri State Teachers College in **1938** with a major in mathematics. After teaching for a year each at Bunker, Missouri and Northview, Missouri, he decided it was time to continue his own education. He then attended the University of Chicago where he did graduate work in meteorology until joining the Cadet Program in the U.S. Army Air Corp. He served as a weather reconnaissance pilot in the Air Corp from 1942-45. After the war, he joined the U.S. Weather Bureau and worked in thunderstorm research in Chicago, Illinois and Orlando, Florida, and helped initiate the Severe Storm Warning Program in Norman, Oklahoma. After that time, he journeyed to Saint Louis University where he completed both his M.S. and Ph.D. degrees in Geophysics and Engineering in 1954. He paid for his education during this period by teaching engineering, physics, and meteorology at Park College, and then working on ballistic analyses for McDonnell Aircraft.

Upon completing his Ph.D., John embarked on a series of interesting jobs at (giving a few highlights only!!!):

- Universal Match Corporation's armament division;
- Aerojet-General Corporation in the design of mines;
- Rockwell International working in the area of pattern recognition;
- Teledyne, Inc. on lunar and planetary geophysical studies and seismic nuclear blast detection;
- Northrip Corporation on investigations of igneous rock rheology and geophysical methods for intrusion detection as applied to jungle warfare;
- Northrip Services, Inc. managing support activities for the Lunar Receiving Laboratory at Johnson Space Flight Center;
- Computer Sciences Corporation investigating the development of computerized coal mine operations;
- A.A. Matthews, Inc including the design and preparation of contract documents for emergency shut-down water tunnels of the Perry Nuclear Power Plant, prepared specifications for the rehabilitation of a collapsed tunnel in New York City, did the design review for the Park River diversion storms tunnel in Hartford, Conn., developed guidelines for improved safety and environmental impacts in urban transit tunnel construction for the U.S. Department of Transportation, performed a cost-benefit study comparing traditional vs. a futuristic rock melting tunnel construction system for the National Science Foundation;
- Ralph M. Parsons Corp. to design section 9-B of the Washington Metro, and evaluate the Boston South Station for the Northeast Corridor Railway Improvement Program;
- UTD, Inc. to analyze construction claims on City Tunnel No. 3 under Manhattan for the City of New York's Board of Water Supply;
- Raytheon Service Company to manage the company's support services for the Department of Energy's Wind Energy Program;
- CRS Group Engineers, Inc. including the design and contract preparation for a 2.5 mile tunnel section of Crosstown Watermain in the District of Columbia, investigations and documentation of construction problems/solutions for the Cuyahoga Valley Interceptor System of the Northeast Ohio Regional Sewer District in Cleveland, evaluation of construction claims including one for the State of Delaware, investigation of relief of structural distress in Allegheny Tunnel No. 2 and Tuscarora Tunnel No. 2 of the Pennsylvania Turnpike, and determined specifications and coordinated the final design for the Intrenchment Creek Compound Sewer Overflow System for the Three Rivers Water Quality Management Program for the City of Atlanta, Georgia.
- CH2M-Hill, Inc. operating the Milwaukee Pollution Abatement Program and revising all master specifications for underground construction, and reviewing the Geotechnical Program for deep shaft and tunnel construction in downtown Milwaukee;
- Fairfax County Virginia to supervise county in-house construction, to prepare cost estimates and funding levels for all county projects, and as a cost estimator and expert witness for the County Attorney's Office;
- General Consulting Experience on highway tunnel lining methods for the Cumberland Gap highway tunnels, safety analyses and cost implications for client's contracts with OSHA, reviews of A&E drawings and specifications including the Trident Submarine Training and Simulation Facility at Kings Bay, GA

John has continued to work with UTD, Inc., since 1989. And, if all the above is not enough to impress you, from 1982 until 2002, John served as an Adjunct (teaching) Faculty member for Northern Virginia Community College. He basically did all their training on cost estimating, critical path method scheduling, and planning courses in construction management. When Faith Giedd, our CNAS Director of Development, and I talked to him last year (2002), he was in the middle of getting the latest construction management software up and running at the college – **that was 64 years after his matriculation from this university!** John, what a tremendous career you have had! We are very proud of the fact that you got a small part of your broad education at SMSU.

OUTSTANDING GRADUATING SENIORS 2002-2003



Pictured sitting, left to right, Joni Wait, Agriculture; Stephanie Love, Biology; and Melissa Morris, Physics, Astronomoy, & Materials Science; second row standing, left to right, Dr. Larry Banks, Dean, CNAS; Nasser al'Ahmad, Computer Science; Jay Staiger, Chemistry; Kyle Fitzpatrick, Geography; and Dr. William Check, Associate Dean, CNAS. Blake Boldon, Mathematics absent from picture.

Pictured above are the College of Natural and Applied Sciences 2002-2003 Outstanding Graduating Seniors who were honored on May 16th, along with their parents and friends, with a brunch before commencement ceremonies. These students were nominated by the department faculty in their majors and were selected as recipients by the College of Natural & Applied Sciences Student Awards Committee consisting of a faculty member from each of the college's 7 academic departments. A portion of the criteria used for the selection process other than grade point averages included academic honors, outside activities, research projects, evidence of leadership, interests, and hobbies.

The College of Natural & Applied Sciences again CONGRATULATES these exceptional students for their hard work and perserverence and wish them the very best in their chosen fields.

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Center for Applied Science and Research (CASE) Receives 1.9 Million Dollar Grant from Office of Naval Research

The new SMSU Center for Applied Science and Research (CASE) has received a \$1.9 M dollar grant from the Office of Naval Research to develop a new technology to quickly detect biological threats such as anthrax. CASE is using facilities and expertise in the Department of Physics, Astronomy and Materials Science, and Brewer Science Inc. to develop this unique technology that will improve the safety of our military personnel. Our security depends on technology that will quickly detect a variety of biological threats with a minimum of false alarms. The new CASE technology effectively couples the inherent sensitivity of biological systems with the fabrication methods used in the microelectronics industry.

Sensors needed by the military and civil defense agencies to detect biological agents must be selective and provide immediate information regarding the specific nature of the biological threat. Current technology for sensing biological agents are light-based (i.e. either fluorescence or enzyme-based), and therefore expensive and delicate. Our polymer-based pixel array biological detection sensors are much more rugged, sensitive, selective, and, inexpensive. In this system, the 'freestanding sensor bridges' are derivatized with binding molecules that will selectively bind biological agents from complex mixtures. This binding phenomenon will change the electrical characteristics on the surface of each pixel and will enable a direct electrical qualitative or quantitative measurement of the biological agent present and the concentration.

The project will involve faculty, staff, and students with different areas of expertise working together in a research group. This is necessary since the research will involve many different areas of science and applied science. Specifically, the students will greatly benefit from this approach that emphasizes the application of theory to practice, including, "hands-on" instruction on industry standard equipment, and, activities beyond the traditional lecture/laboratory classroom.



Recipients of student awards and scholarships in Chemistry, are pictured above. Moa Park, Jamie Heidtbrink, Scott Jones, Andrew Netzer, Amanda Barger, Christopher Kabonic, Jessica Byrd, Matt Hulvey, Jennifer Snyder, Matthew Markum, Elena Janevska, David Dupy, Matthew Messick, Dave Joeckel, Julien Duxin were honored during the Chemistry Department's first Recognition Banquet held on April 24th.

The banquet was underwritten by Clariant LSM (Missouri), Inc., also awarded scholarships to the top analytical and organic students. Dr. Olga Gerasimchuk, representative of Clariant, presented the students with the scholarship awards.

Chemistry Advisory Board 2003-2004

A Chemistry Advisory Board has been formed which will be comprised of chemistry alumni. They will meet for the first time on campus October 16 and 17, in coordination with Homecoming weekend. The purpose of the Advisory Board is to serve as an external advisory and consulting body to the SMSU Department of Chemistry. Those serving are:

Dr. Wyman Grindstaff
Dr. James Wilbur, Jr.
Ms. Harriett Ford
Dr. Matthew Harthcock
Ms. Alice Presley Bodnar
Ms. Gayle Presley
Dr. James O'Brien
Ms. Doris Lorz
Mr. Guy Mace
Ms. Anna Crabtree
Ms. Martha Young
Dr. David Osborne
Dr. Robert Ernst
Ms. Tracy Clark-Stovall
Dr. Frank Hoggard
Mr. Arthur Hurtado

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Local Undergraduates Contribute to Gene Discovery Research at SMSU-Mountain Grove.

Photo by Marilyn Odneal



First row, from right: Xueyan Zhong (grad student), Amanda Harris (laboratory technician), Kayla Buchholz (UM-Rolla undergrad), Tabitha Todd (grad student and former undergrad intern from William Jewels), and Shawna Deeds (SMSU-West Plains undergrad); second row, from right: Wenping Qiu (assistant professor), Hesheng Hou (research associate), Stuart Webb (UM-Columbia undergraduate), Ping-Lu Hou (University of Alberta undergraduate), Phanikanth Turlapati (graduate student), and Laszlo Kovacs (associate professor).

The Vitis Gene Discovery Program at the Fruit Science Department provides first-hand research experience for local undergraduate students during the summer months. This summer, they had a particularly good crop of students which made their lab personnel swell to a sizeable team. The students always contribute significantly to the program, and this time they were particularly productive.

Southern Missouri is underserved in life science educational opportunities and, therefore, the involvement of local students in the program is important. Working with Wenping Qiu, Laszlo Kovacs, and their graduate students, interested young people receive a direct exposure to the enticing new developments in plant molecular biology and genomics.

The Vitis Gene Discovery Program aims to explore the valuable genetic resources in the wild North American grapevines (*Vitis* species) that thrive in the Ozark woodlands. Contact with local students also gives SMSU research a higher visibility and fosters the public's appreciation of the native flora.

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Water Quality Monitoring Beaver Creek and Bull Shoals Lake



Dr. Lyndon Irwin, Professor, Department of Agriculture, was the speaker at the 1904 World's Fair Society meeting in St. Louis on August 12. His topic was "Horsin' Around at the Fair" and featured historical research about the horse shows at the huge 1904 fair. The 1904 World's Fair Society and other St. Louis groups have many projects underway in preparation for the centennial commemoration of the fair in 2004. Among those projects is a big-screen documentary. Irwin's participation as a writer and researcher for the documentary is possible due to his SMS Service Fellowship.

Dr. Irwin, will be the featured guest on the October 26th OzarksWatch Video Magazine on Ozarks Public Television. The subject of the program is "The Agricultural History of the Ozarks." The program airs at 1:30 p.m., Sunday, October 26th, and will be repeated Tuesday evening, October 28th, at 10:00 p.m. OzarksWatch Video Magazine is a series of programs that presents and preserves the unique heritage of the Ozarks. Produced through the SMSU Ozarks Studies Institute, the programs are comprised of in-studio interviews and location features. OzarksWatch Video Magazine airs on Ozarks Public Television, KOZK and is hosted by SMS Assistant to the President, Dr. Jim Baker. For more information visit the magazine's web site: ozarksstudies.smsu.edu.

SMSU, the Bull Shoals Field Station, and the Upper White River Basin Foundation (UWRBF), have entered into an agreement to conduct water quality monitoring of Beaver Creek and Bull Shoals Lake. Five sites, three on Beaver Creek and two on Bull Shoals Lake, will be monitored 32 times a year for five years. Rich Biagioni, Chemistry, and Jack Steiert, Biology, will be assisting a graduate student and the field station manager, Celeste Prussia, with the procedures. They will be monitoring phosphorus, nitrogen, and fecal coliform bacteria. This will give a picture of water quality trends seasonally and over time. We are excited to continue to develop the relationship between SMSU and the UWRBF. You can find more information about the Bull Shoals Field Station at <http://www.bullshoals.smsu.edu/> and about the UWRBF and their mission at <http://www.whiteriverbasin.org/index.shtml>.



A bit of sun, science and fun made the May 12th, Bull Shoals Field Station open house a success. Guided tours of the facility and surrounding Drury-Mincy Conservation Area gave guests an opportunity to explore Ozarks habitats, such as savannahs, glades and ponds. After a picnic lunch, guests chose from a variety of tours that offered lessons in pond ecology, lake water quality, mammal life and plankton. A nature walk and tour of the Frank Drury house, built in 1924, also were offered.

Creation of Missouri Viticulture (MVEC)

Pictured below, the new building for the Mid-America Viticulture and Enology Center at SMSU Mountain Grove campus, a new organization in the College of Natural and Applied Sciences. It represents a partnership between SMSU, Grape and Wine industry and the Missouri Department of Agriculture. The Center is a premier provider of grape and wine research, education and service to the Mid-America region.



Word Cooperage of Lebanon Missouri has made a generous donation of 30 new wine barrels to the Mid-America Viticulture and Enology Center. These American and French oak barrels will be used for wine and brandy research and production by the Center.

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Updates from the Department of Mathematics

The Mathematics Department would like to welcome Lecturers, Donna Sherrill and John Elliott as temporary replacements for Dr. Hoon Kim and Dr. Wenxiong Chen. Donna received her M.S. Ed degree from SMSU in 1986 and has been an adjunct faculty member in the Mathematics Department since 1995. John received his M.S. degree from SMSU in 2002. He subsequently taught at Buffalo High School for one year.

Mrs. Jane Franklin, Administrative Secretary, Department of Mathematics, retired in June, 2003. Jane began working for the University in August, 1984, and transferred to the Math Department in 2002 from Industrial Management. She and her husband Tom, who retired from the Computer Science Department, are building their retirement home in Everton, Arkansas and will be moving this fall.

Replacing Jane as Administrative Secretary is Helen Vance who moved to Springfield from Birmingham, Alabama in June of this year. She began working in the Department of Mathematics on August 1st. Helen lives with her cat Elvira, and enjoys painting with watercolor and acrylics.



Dr. Paula Kemp, professor of mathematics, pictured above, has been awarded the title Distinguished Professor. The recognition is a status beyond professor that recognizes a professional career characterized by extraordinary accomplishment. Once received, Distinguished Professor is a permanent designation.

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2003 HOMECOMING OCTOBER 17TH AND 18TH CNAS FESTIVITIES

DEPARTMENT OF MATHEMATICS

Saturday, October 18th - 8:00 - 10:00am Continental breakfast in Math Office, Room 10M, Cheek Hall. Reservations Please (417)836-5112 by October 15th. There will also be a tour of the facilities.

For more info., contact Yungchen Cheng, Department Head, (yuc471f@smsu.edu.)

DEPARTMENT OF PHYSICS, ASTRONOMY, & MATERIALS SCIENCE

Friday, October 17th, 2:00 - 4:00pm Open House with light refreshments.

COLLEGE OF NATURAL & APPLIED SCIENCES

Join us under the tent at BearFest Village, Lot #24, 11:00 - 1:30, on Saturday before the game. Enjoy complimentary food and door prizes while visiting with deans, department heads, faculty, and staff from SMS! No RSVPs needed!

SEE YOU THERE!

If you would like to receive our newsletter via electronic mail in the future, please return page 11 with your current e-mail address. We will be glad to send our CNAS NewsWatch to you electronically in the future.

In order for the College of Natural and Applied Sciences to continue to excel, your help with scholarship and development funds would be greatly appreciated. A variety of giving opportunities are listed below. Please complete the area in which you wish your gift credited.

\$50 _____ \$100 _____ \$150 _____ Other _____

- Agriculture _____
- Biology _____
- Chemistry _____
- Computer Science _____
- Fruit Science _____
- Geography, Geology & Planning _____
- Mathematics _____
- Physics, Astronomy & Materials Science _____
- College of Natural and Applied Sciences _____

You may also make your contributions payable to the following scholarship fund:

College of Natural and Applied Sciences Scholarships

Your gift is tax deductible. Please make checks payable to Southwest Missouri State University Foundation and return with this form to Southwest Missouri State University, College of Natural and Applied Sciences, Temple 142, 901 S. National, Springfield, MO 65804.

Please feel free to use the enclosed postage free envelope for your contributions and news items.

We would like to hear from you about what you have been doing since attending SMS.

Name: _____

Major: _____

Degree/Year Granted: _____

Year/Years Attended SMS: _____



CALENDAR OF EVENTS

CALENDAR OF FALL 2003 SEMESTER

Thursday/Friday, Oct. 23 & 24	Fall break (No Classes/Offices Open)
Wednesday, November 26	Thanksgiving Holiday (No Classes/Offices Open)
Thursday, November 27	HAPPY THANKSGIVING! (No Classes/Offices Closed)
Friday, November 28	Thanksgiving Holiday (No Classes/Offices Closed)
Friday, December 12	Study Day (No Classes/Offices Open)
Saturday, December 13 - 18	Final Exams
Thursday, December 18	Senior Banquet
Friday, December 19	Commencement 12:30pm and 4:00pm - Hammons Student Center
Thursday, Dec. 25 - January 2	Holiday Break (No Classes/Offices Closed)

HAPPY HOLIDAYS 2003!

HOME COMING 2003 *SAVE THE DATE* OCTOBER 16-17-18

Southwest Missouri State University is a community of people with respect for diversity. The University emphasizes the dignity and equality common to all persons and adheres to a strict nondiscrimination policy regarding the treatment of individual faculty, staff, and students. In addition, in accord with federal law and applicable Missouri statutes, the University does not discriminate on the basis of race, color, religion, sex, national origin, ancestry, age, disability, or veteran status in employment or in any program or activity offered or sponsored by the University. The University maintains a grievance procedure incorporating due process available to any person who believes he or she has been discriminated against. Southwest Missouri State University is an Equal Opportunity/Affirmative Action employer. Inquiries concerning the grievance procedure, Affirmative Action Plan, or compliance with federal and state laws and guidelines should be addressed to Jana Estergard, Equal Opportunity Officer, Office of Human Resources, Carrington Hall 128, 901 South National, Springfield, Missouri 65804, (417)836-4252.