

Spring 2001

The Western Scholar

Editors

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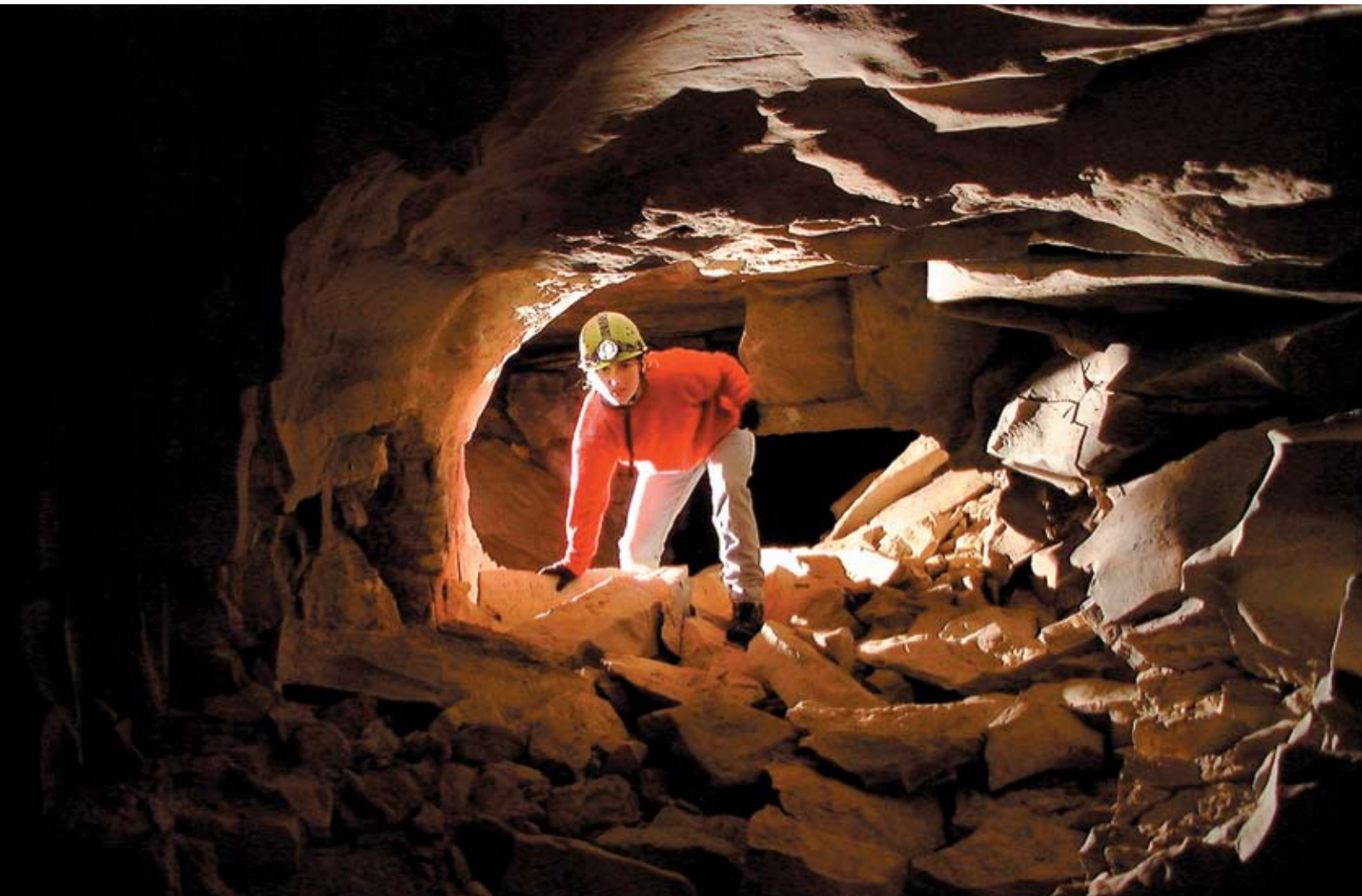
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THE WESTERN

SCHOLAR

The Spirit of Scholarship & Research at Western Kentucky University





In this issue of **The Western Scholar** you will find examples of the scholarly activities of Western's faculty and students. Your thinking and vision will be magnified by sharing the personalities of the scholars and their enthusiasm about their chosen disciplines. Essence of the scholar's work often results from the coalescence of the personal and professional curiosity.

Graduate student Alan Glennon is willing to rappel down a 60-foot deep, 24-inch diameter well-like opening to obtain water quality samples. His research results will be invaluable to people who live in karst regions from Kentucky to China.

Dr. Blaine Ferrell coordinates science research projects that involve 12 different centers, most departments in Ogden College of Science, Technology and Health, other universities, and state agencies. In these studies, several professors and numerous students collaborate on basic science and environmental impact studies. Ogden College Chemistry Professor Dr. Wei-Ping Pan is a major contributor to science research. He secures sponsored pro-

gram funding for support of undergraduate and graduate students to work in his Coal Combustion, Thermal Analysis, and other laboratories. He emphasizes the group approach and student participation.

Our community college faculty have secured grants to improve instruction and help the larger community. Dr. Karen Powell's hefty Department of Education grant to increase student interest in science and to improve science instruction in elementary schools will serve as a national model for science education. Ms. Jennie Brown's research on women, who have overcome tragedy to become successful with their lives, identified educational opportunities as the common denominator in their success.

Quality of life issues are of major concern today. The Library's Dr. Charles Smith has devoted his scholarly activities to such diverse areas as natural and social sciences and music — but all areas focus on making life more productive and enjoyable. Folklorist Dr. Michael Ann Williams makes life more interesting by relating art and humanities to our everyday life experiences. Finally, the article on Dr. Brian Goff, Professor of Economics, addresses the effects of growing affluence on Americans.

This second edition of **The Western Scholar** will better inform our readers of the diversity of scholarly activities being pursued by faculty and students at Western Kentucky University.

Elmer Gray, Dean
*Graduate Studies, Research
and Extended Programs*

The Western Scholar is published semi-annually for members of the public interested in Western Kentucky University scholarship and research.

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THE WESTERN SCHOLAR

The Spirit of Scholarship & Research at Western Kentucky University

Underworld Explorer

By Mattias Karén

For Alan Glennon, strapping on rappelling gear and climbing into the largest cave system in the world is just another day at the office.

Empathy

Based on an interview by Erica Walsh

Jennie Brown collects the experiences of Kentucky women who have overcome tragedy, misfortune, and seemingly insurmountable obstacles to make positive transitions in their lives.

World Class Chemistry

By Andrea Uhde

Dr. Wei-Ping Pan's Thermal Analysis Laboratory has been called the best in the United States, if not the world.

Information Liaison

By Jacob Bennett

The projects of Dr. Charles H. Smith cover subjects like history of science, classical music education, and biological science.

Generation Excess

By Bob Skipper

The title of his book says it all: Dr. Brian Goff suggests that we are "Spoiled Rotten in America."

In the Vernacular

By Tommy Newton

"Vernacular architecture" is one of Dr. Michael Ann Williams' main folklore pursuits.

Centering on Science

By Tommy Newton

Getting students interested in science is what Dr. Karen Powell and the Community College Regional Science Resource Center are all about.

Distinctive Programs

By Caroline Lynch

Dr. Blaine Ferrell's Applied Research and Technology Program was the first to qualify for a \$1.2 million state matching grant.



IT'S A THURSDAY NIGHT AND THE RED JEEP CHEROKEE SLOWLY MAKES ITS WAY DOWN A WINDING, LEAF-COVERED PATH HARDLY VISIBLE IN THE DARK WOODS RIGHT OUTSIDE MAMMOTH CAVE NATIONAL PARK, SITE OF THE LONGEST CAVE NETWORK IN THE WORLD AND ABOUT 30 MILES NORTH OF WESTERN'S CAMPUS. THE JEEP'S HEADLIGHTS SEARCH THEIR WAY DOWN TO WHAT LOOKS LIKE A SMALL CONCRETE SHED IN THE MIDDLE OF NOWHERE, CLOSE TO KENTUCKY'S LARGEST TOURIST ATTRACTION BUT IN A SPOT WHERE NO TOURISTS ARE ALLOWED TO GO.

and who almost seems to talk enthusiastically about the aching back and legs one gets after a 13-hour caving trip, what better job is there?

"It's hard to tell when I'm working and when I'm playing," he said. "At Western, you're at the Mecca of karst science." Karst is the term for landscapes where underground streams create caves and sinkholes.

But Glennon's research is serious business and could bring invaluable help to countless Kentuckians. Glennon is currently working on a master's thesis mapping the locations and properties of underground rivers and streams in the Mammoth Cave area. Through his research, Glennon hopes to be able to better explain how underground

UNDERWORLD explorer

BY MATTIAS KARÉN

Alan Glennon gets out of the Jeep, along with Gary Berdeaux, general manager of the nearby Diamond Caverns. In a few minutes, the two will strap on headgear and their caving outfits and rappel down a 60-foot deep, 24-inch wide manmade hole that sticks up like a well inside the shed. The hole leads to a small cave, from which Glennon and Berdeaux will trek across muddy rocks, slide down slippery slopes, and jump across small underground streams on their way to a small waterfall. There, Glennon is to take water samples to analyze for water quality research.

It may seem like a lot to go through for some water, but for the 30-year-old Glennon, it's just another day at the office; because it is here, in the largest cave system in the world, that the Western graduate student and research hydrologist does a lot of his work. And for a man who loves every part of the mud and the darkness and the rappelling,

streams, which are in many ways mysteries to scientists, react to different situations and environments, which could help predict floods and produce cleaner drinking water — among other things.

Scientists have for a long time studied rivers and streams above ground, mapping certain relationships that are true for all those rivers and streams, Glennon said. But for water running under ground, few such relationships have been found — yet.

"If you look at a map of the Mississippi or the Nile, there's a certain order to it," Glennon said. "I'm trying to describe the order of karst."

Glennon's research is receiving international attention. Some of the world's premier cave scientists have asked him about his research when they've visited the area, and last year Glennon traveled to China, along with geography associate professor Chris Groves, his graduate advisor.

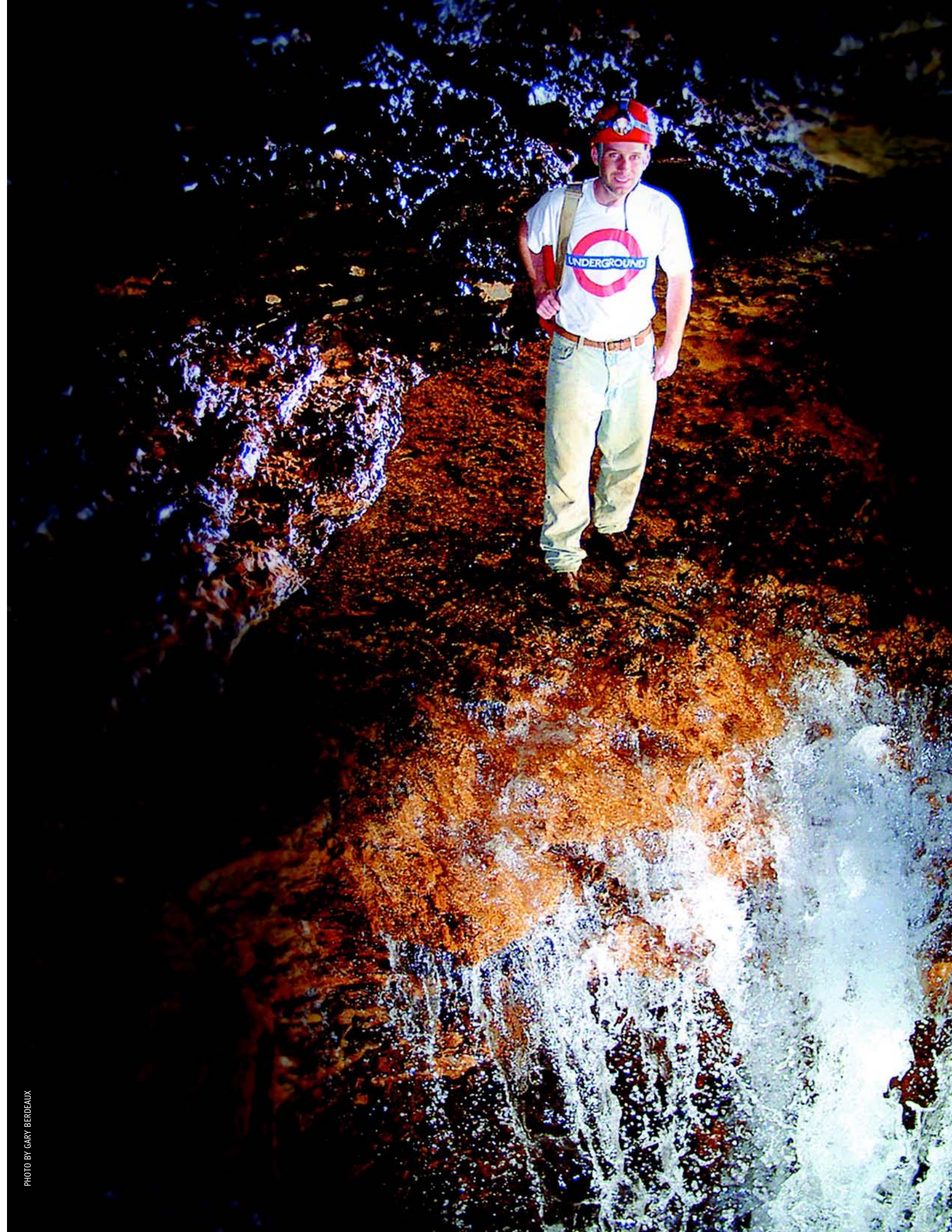


PHOTO BY GARY BERDEAUX

During their two weeks there, they taught the Chinese different techniques for mapping underground rivers.

Glennon's three-day workshop demonstrated a computer mapping technique that he has developed himself. That knowledge is crucial because about 250 million people depend on the water that runs through the country's karst area, which is also one of the largest in the world.

But the trip was beneficial for both parties, Glennon said.

"They're developing things based on what I taught them, and I'm developing things based on what they taught me," he said.

They were most interested in how to integrate their cave maps and underground stream data into computer mapping software. After all, once the caves are in the computer, the data can be examined in increasingly powerful ways.

The Chinese scientists showed Glennon and Groves their computer techniques for analyzing and modeling sinkhole collapse and flooding. These are problems both Kentuckians and the Chinese share. The Chinese have developed sophisticated capabilities in analyzing surface karst features, such as sinkholes. By combining their surface expertise with our subsurface techniques, opportunities for future cooperation are very exciting.

And the thought of someone else using what he has discovered is one of the biggest rewards of his research, Glennon said.

No matter how successful his research will be, Glennon has already made a discovery that will leave a legacy for coming generations. In April 1996, he discovered what has now been mapped out to be the third longest cave system in Kentucky.

The discovery was something straight out of an adventure movie. Glennon and a fellow grad student, Jon Jasper,

'WALKING THROUGH A CAVE WHERE NO ONE HAS SET FOOT FOR OVER THOUSANDS OF YEARS, IF EVER, IS A THRILL TO SAY THE LEAST.'

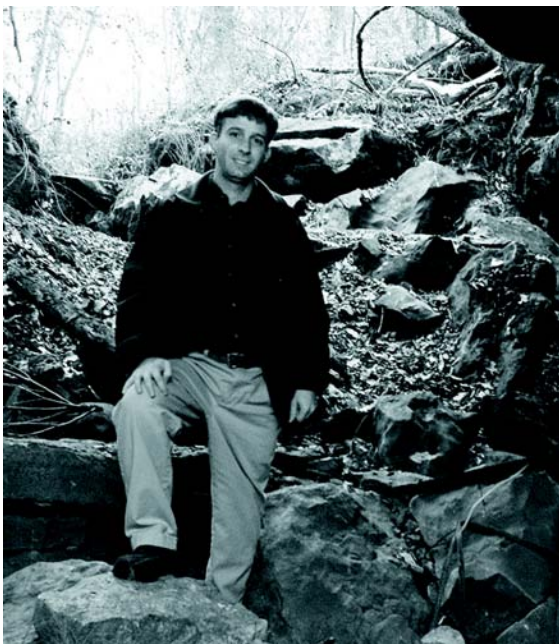


PHOTO BY SHERYL HAGAN-BOOTH

were searching the area just south of Mammoth Cave, looking for new caves. This was a common practice for the two, but they had never made any major discoveries until Glennon one day fell into a sinkhole.

Together they started exploring the hole and found a small crawlway leading to a larger cave, and on further. Today, the Martin Ridge Cave System stretches over 32 miles and is still being explored. Glennon said the cave, like many others in the area, was named after the ridge where it was found.

"We just followed the tradition instead of calling it Alan Glennon cave," he said.

Walking through a cave where no one has set foot for over thousands of years, if ever, is a thrill to say the least. Since everything above ground in America has already been explored, finding caves is a person's chance to "be an explorer like Christopher Columbus, kind of," Glennon remarked.

"It's kind of like exploring a continent or something."

Glennon came to Kentucky after graduating from Texas A&M with an agriculture degree, and got a job as a park ranger at Mammoth Cave. But with one of the nation's top karst research programs just a short drive away, he couldn't resist coming to Western for graduate studies. Which is something Groves is thankful for.

"He's an excellent student," Groves said. "His energy, his self-motivation set him apart."

In fact, Groves liked Glennon so much he hired the student to work with him at Western's Hoffman Environmental Research Institute. At the institute, Glennon has made contributions that "really transcend what most graduate students are doing," Groves said.

"Here's this guy who did well in school and all, but because of his self-motivation went out and made discoveries," he said. "I just really feel lucky to have run into him."

And Glennon is feeling lucky being at Western. After all, here he has the chance to conduct research and help people by doing what he's loved ever since he was a kid. Glennon's father always went caving and often brought the family along.

"I have no idea when I visited my first cave," Glennon said. "I've been going to caves as long as I can remember. I remember one family vacation when we spent all of spring break going into cave after cave after cave."

For his 10th birthday, Glennon's mother bought him a 102-foot rope to practice going down the steep cliffs and pits within caves. Today, climbing down a steep cliff on a rope is "almost second nature" to him.

And while most serious cavers can brag if they've been in more than 50 caves, Glennon is "highly entertained by the fact that I don't know how many I've been in."

Whatever that number is, it's sure to keep growing.



PHOTO BY GARY BERDEAUX



EMPATHY

BASED ON AN INTERVIEW BY ERICA WALSH

JENNIE BROWN SAT IN HER MODEST OFFICE. ON THE DESK WAS A PRESS RELEASE FOR BROWN'S LATEST TRIUMPH, HER SOON TO BE PUBLISHED BOOK, *BLUE MOON RISING: KENTUCKY WOMEN IN TRANSITION*. THE PRESS RELEASE FOR *BLUE MOON RISING* ADVERTISES THE BOOK AS THE INSPIRING STORIES OF 21 WOMEN. FOR BROWN, IT WAS THE CULMINATION OF A YEAR'S WORK. "I WAS TRULY AWED BY THEIR COURAGE AND PERSEVERANCE" SHE SAID.

Brown said the inspiration for her book came from a student in a literature class Brown taught at the Community College. Brown said, "She asked me if I would read her story because it was the reason she was in college at her age (45). She said she was pursuing a degree in criminal justice because her grandson had been murdered by her daughter's new husband, just six months after the wedding." During the same semester, another student shared her story with Brown. "She was faced with many challenges," Brown said, "including being the adopted child of illiterate parents, an early marriage, two children, and periods of poverty."

One morning, while talking with the two women, Brown conceived the idea of collecting other stories that would inspire women to seek an education. Her objective was to generate a book detailing the experiences of women in Kentucky who had overcome tragedy, misfortune, and seemingly insurmountable obstacles to not only survive but to make positive transitions in their lives. Brown applied for a sabbatical leave and it was granted for the 1999/2000 school year. She said, "I am grateful to Western for granting me a sabbatical leave. The nature of the project required me to not only find the subjects I interviewed but to give them time to know and trust me. That required spending several days in various locations. The process was too time consuming, and required too much travel to accomplish it during a normal teaching year. I interviewed over thirty women, and wrote their stories before choosing the 21 that are included in the book.

"Additionally," Brown said, "I was fortunate to be able to partially cover my costs through assistance I received from the Faculty Scholarship Council."

In June of 1999, Brown began traveling around Ken-

tucky, searching for women with stories to tell. She didn't have any trouble finding them. The women Brown talked with were eager to share their experiences. Nearly all of them indicated that not only did they want to be heard, but they wanted their story to inspire other women. The most common response was, 'If I can just help one other woman who reads my story and knows she isn't alone, knows she can change her life, then it will be worth it.'

Brown met with each of the subjects and audiotaped



their stories. In some cases, she collected and edited the narratives of women who chose to write their own accounts. After the stories were written, edited, and in final form, the women were contacted again so they could give final approval. Brown says, "It was important that the women told their stories in their own words, that it was their voice that came through. These are messages from courageous and caring women. These are not stories of what happened to these women as much as they are stories of what these women made happen in their own lives. They made positive changes to create a better future for themselves and their families. That, and the fact that the common denominator was education, is where the emphasis should be placed."

She profiles women who have survived abusive relationships, women who have lived in abandoned buses, women who have overcome illness and injury. Some fought sexual or racial harassment; others struggled as single mothers without the support of family or friends. One woman went into the ministry in mid-life; another woman left the ministry in mid-life. Several decided to fulfill their dream of a college education after a lifetime of hard work and dedication to raising a family. None of them had it easy.

Brown said, "I've gone through a lot of difficult times but nothing compares to what they've been through. I've never been hit, never been homeless, never encountered the prejudice or violence that they have. It takes raw courage to speak out like they did."

Brown was born in South Dakota but grew up in Wyoming. She spent her early years on a sheep ranch, and lived briefly on a cattle ranch before her family settled in Casper, Wyoming, where she attended school. "Growing up in Wyoming, the first virtue you're taught is self-reliance," she said. "You grow up a different person there." Brown learned the advantages of growing up around strong women like her mother and others in the community. "I never labeled myself as a feminist, or as liberated,

because I never knew any women who weren't" she said. "The women I knew were equal partners with their husbands and respected as individuals. It took me a while to grasp that in other areas and in other cultures many women are expected to serve and submit, but otherwise keep their mouths shut."

Prior to entering college, she worked at various jobs, usually bookkeeping or secretarial in nature. For two years, she was employed with the U.S. Geological Survey, first in Oil and Gas Leasing, then in the Mineral Classification Branch. Her favorite experience was the two and a

half years she worked with the police department in Casper, Wyoming, where she served as Clerk of Municipal Court, frequently acting as bailiff.

Brown attended the University of Colorado and received a bachelor's degree in English and the Broad Field of Social Studies, then a master's degree in English Education with an emphasis on Reading Instruction and Bicultural Education. Since coming to Western, she has acquired fifteen additional hours in English.

Brown began her teaching career in Denver, Colorado. Next, she taught English composition part time at Colorado State University in Fort Collins, Colorado. In 1982, she moved to the

west coast, where she taught in community colleges in Santa Barbara, California, and Seattle, Washington, before coming to the Hill in 1991.

She was originally hired to teach English and coordinate a Reading and Study Skills program for the Community College at Western. Currently, she is an assistant professor of English and teaches creative writing. In 1997, she was the first member of the Bowling Green Community College faculty to receive a teaching award from the university.

Jean Nehm, one of Brown's colleagues, said she wasn't surprised by Brown's achievement.

"It's easy to see why she won," Nehm said. "She loves

"I'VE GONE THROUGH A LOT OF DIFFICULT TIMES BUT NOTHING COMPARES TO WHAT THEY'VE BEEN THROUGH."



PHOTO BY SHERYL HAGAN-BOOTH



PHOTO BY SHERYL HAGAN-BOOTH

to walk in the classroom, but more than just that, she cares about her students and their accomplishments."

After completing her sabbatical, and the book, Brown came back to the Hill ready to do more. She is establishing the WIT (Women in Transition) center at the Community College. "It has been a very successful and supportive organization on the main campus for a long time," she said, "but now it is needed at the South Campus as well. Many women entering school are coping with working, going to school, and raising a family. WIT eases the way." Brown said the program is a great asset, especially to nontraditional students.

Brown believes a key part of the support is having a place where the members can share their concerns with their peers. Additionally, something as small as a refrigerator or coffee maker can make a big impact in making women feel comfortable. "Nontraditional women students are often pressed for time. Having information available on campus services, a telephone with an answering machine where they can receive or leave messages, and a quiet place to maximize their limited study time can make a significant difference."

The women are the ones that really make the program work, Brown indicated, and she is impressed with each of the women she meets.

"They're so motivated," she said.

"I can tell she has a special empathy for women in transition," Nehm said of her friend. "She's very passionate about getting their voices heard."

Now that Brown is back at Western, she's concentrat-

ing on her teaching. "She's really focused," Nehm said.

For three years, Brown not only taught but held the position of Interim Head of Academic Support. Next, she served as Head of Liberal Arts and Sciences at the Community College, but she chose to return to full time teaching. "In administrative work, you spend so much time on clerical work," she said, "it leaves little time for the students."

Nehm said Brown was involved in her teaching because of the students she gets to meet and teach. "She's willing to share any amount of time," she said. "She is very concerned about the student as a person, not just their work."

Brown shares many of her own experiences with her students, hoping that they will learn from them. She has traveled extensively and endeavors to provide her students with a global vision as well as a greater understanding of their own potential and options. She said that many of her students show a lot of promise.

"Many of them are better writers than I am," she said, grinning.

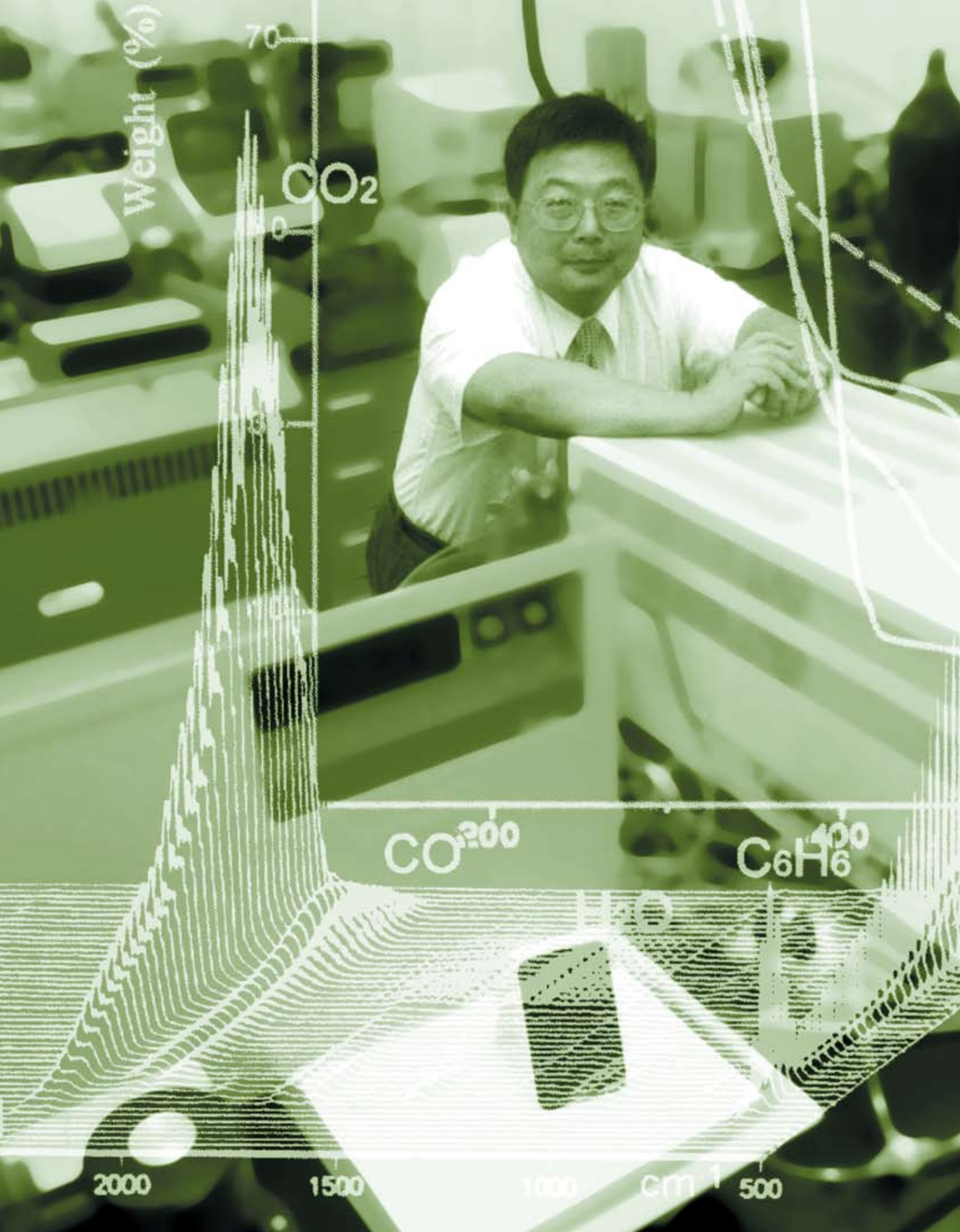
Spending so much time with her students doesn't allow Brown much time to work on her own writing. "I don't get much writing done during the teaching year," she said.

Still, Brown has managed to complete two other non-fiction books. One, set in Montana in 1899, recounts a murder, a patricide, a double execution, and frontier justice. Brown says she is still revising it.

Before beginning her sabbatical, she finished another manuscript that she is hoping to place with a publishing house soon. Titled *A Chance of Today*, it is a limited biography of her parent's life during a fifteen-year period. Set primarily on a sheep ranch near Aladdin, Wyoming, and an army ordnance depot in South Dakota (near the Pineridge Indian Reservation), the book recounts their struggle for survival during a period when they took in two feral children and had two children of their own. The story chronicles not only their daily life and their son's tragic illness, but, on a larger scale, the climate of the Great Depression and the constraints and sorrows of World War II. Their life during that fifteen years was one of adventure, tragedy, comedy, and great love, although at time that love was strained to the breaking point.

Brown is a member of IWWG (International Women's Writing Guild) and will speak in April 2001 at a "Meet the Authors" weekend in New York City. She credits her involvement with the guild to a former professor at Western, Dr. Pat Carr, who is active in the IWWG. Brown says that Carr has been both a friend and a writing mentor. "Her encouragement has been very valuable."

She also said she is planning her next literary project. "I'm very interested in the big novel," she said laughing. "It's there and I'm eager to start writing it."



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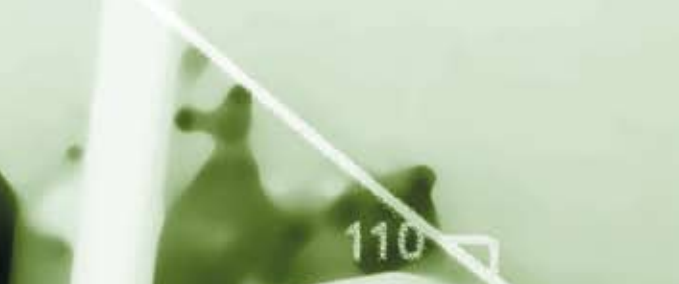
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World-Class Chemistry

BY ANDREA UHDE

DR. WEI-PING PAN SITS BEHIND HIS LARGE WOODEN DESK IN HIS OFFICE AT THE OGDEN COLLEGE OF SCIENCE, TECHNOLOGY AND HEALTH WITH A GRIN ACROSS HIS FACE. HIS OFFICE IS DECORATED WITH PICTURES OF HIS FAMILY, AND A BOOKSHELF OF MASTER'S THESES HIS STUDENTS HAVE WRITTEN IS JUST OVER HIS RIGHT SHOULDER.

It's no wonder Pan has a grin on his face. He was elected president of the North American Thermal Analysis Society earlier this year, and is developing the fourth laboratory to be added to his other three successful physical chemistry laboratories in the Department of Chemistry's Materials Characterization Center. One of the laboratories, the Thermal Analysis Laboratory, has been called the best in the United States, if not the world. At the recent Grand Opening of the Materials Characterization Center, the president of a major international instrumentation company referred to the Center and laboratories as a "world class facility."

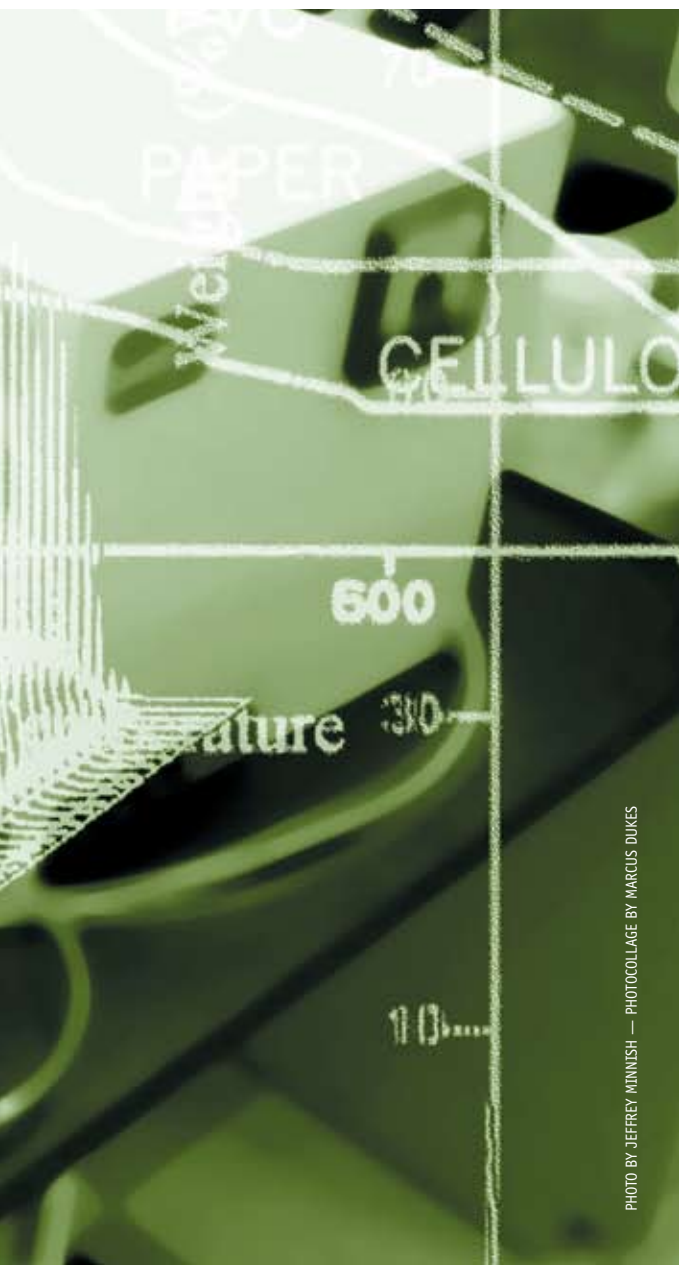


PHOTO BY JEFFREY MINNISH — PHOTOCOLLAGE BY MARCUS DUKES



PHOTO BY JEFFREY MINNISH

Even with all these accomplishments, Dr. Pan finds his main satisfaction in his interactions with students. Students are constantly in Dr. Pan's office, getting advice and joking around with the chemistry professor, who is originally from Taiwan. An empty candy jar sits at the corner of his desk. "See, the students ate all the candy," Pan said with a laugh.

Fourteen students are now working in Pan's labs at Western. He uses a multidisciplinary approach to getting the work done in the labs. The students are undergraduates in chemistry, biology, geology, and engineering technology. After the first semester, each student is paid from external federal grants and works under Pan's direction.

His influences go further than the classroom, though. According to Dr. Pan, the production of 85 percent of the carpeting in cars has a connection with the Thermal Analysis Lab. Lear, a company that makes automobile carpeting, sent samples to the lab, where students tested the carpet to improve it. Now, the improved carpet, manufactured according to the suggestions made by Dr. Pan, is available in most cars.

The first lab Dr. Pan developed was the Thermal Analysis Laboratory, which completes about 10 projects a month for various companies, including Procter & Gamble, Hewlett-Packard, Millipore Corporation, 3M Environmental Laboratory, Carpenter Company, and many others. Dr. Pan said that this lab testing brings in about \$15,000 each month. This money is used for student salaries and lab supplies.

The Thermal Analysis Lab began with \$25,000 worth of equipment. Through the years, though, more than \$1 million in laboratory equipment has been funded by federal grants, contracts, and private sponsors.

Other labs developed by Pan include the Coal Combustion Laboratory, which has just completed a project studying the effects of chlorine on combustion, emissions, and corrosion. This project included seven 1,000-hour continuous combustion runs with the 0.1 MW fluidized bed combustion (FBC) system built by Dr. Pan and colleagues. The FBC system has a 12 inch diameter combustion chamber, stands nearly 20 feet tall, can monitor 14 different combustion gases, and is computer-controlled from a neigh-

boring room. It burns about 20 lbs of solid fuel per hour. The goal of two current projects is to find an efficient way to burn processed municipal solid waste and to burn fuels in such a way that minimizes mercury emissions.

A third lab, the Trace Organics Testing Laboratory, is used to test for trace organics in drinking and wastewater. The newest lab Dr. Pan is developing is for research and development work with polymer nanocomposites.

Dr. Pan came to America in 1980 and obtained his Ph.D. in Physical Chemistry from Michigan Technological University. In 1986, he joined the WKU Chemistry Department as an assistant professor. His teaching philosophy is to teach students about “real world chemistry,” he said, “and join the university with industry to apply chemical techniques and principles to solve industrial problems.” Through the new labs, Pan has made that objective a reality.

He also takes students to national conferences. In this way, they can talk with professionals in the field. “It is a good experience for them and they get some suggestions on how to modify their papers and in setting career goals,” he said.

Pan recruits students from all over the world, hoping to give others a chance to apply their knowledge of chemistry by working in the labs. Five of his current students have been recruited from China. “I invite them to come to Western. They need hands-on experience and we need the talent,” he said.

Last month, Pan was in Colombia, South America, to deliver a plenary lecture on coal combustion at Colombia’s National Coal Conference and to teach a thermal analysis short course. He recruited students at the same time.

Of his many accomplishments, Professor Pan recognizes the success of his students and the laboratories as

His teaching philosophy is to teach students about ‘real world chemistry... and join the university with industry to apply chemical techniques and principles to solve industrial problems.’

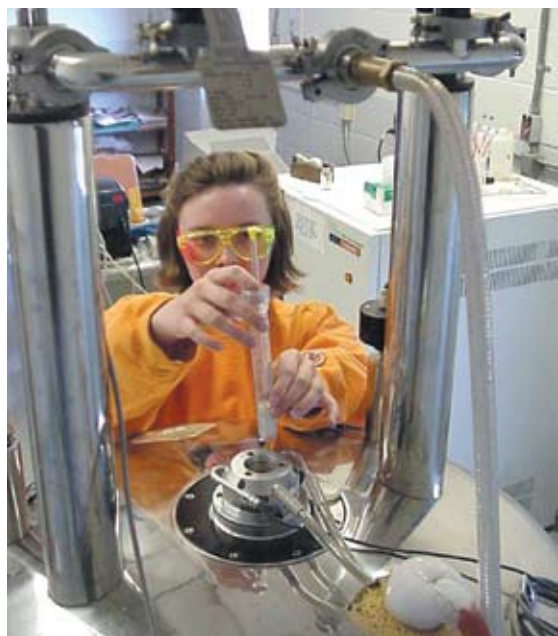


PHOTO BY YING GAO

the most fulfilling. “One person cannot do all this,” he said. His students have played the major role in his accomplishments in chemistry.

Dr. Pan continues to add projects for the department and the college. “We are on the cutting edge of research in thermal analysis and coal combustion,” he said. Dr. Pan and his students have published 175 articles in 20 different professional journals and have presented 212 papers at professional meetings since he came to Western. These papers, along with “good instrumentation, student skills, and a good reputation,” are what Dr. Pan believes has made the Department of Chemistry so great.

The professor said he spends around 60 hours a week in the laboratories. He gets to the office at 4:30 each morning, then goes back home two hours later to send his kids to school. While the schedule may sound exhausting, Pan still finds time to be with his kids. “I never miss any of my kid’s soccer games,” he said.

Information Liaison

BY JACOB BENNETT

CHARLES H. SMITH, THE SCIENCE LIBRARIAN AT WESTERN, ISN'T SHORT OF IDEAS. HE'S JUST COMPLETED THREE LARGE PROJECTS HE HAS BEEN WORKING ON FOR "YEARS AND YEARS." THESE EFFORTS FOCUS NOT ONLY ON SCIENCE, HIS MAJOR INTEREST AND PH.D. AREA, BUT ALSO ON MUSIC AND THE SOCIAL SCIENCES.

Dr. Smith completed these studies while also carrying out his more regular duties, which include serving as the library liaison for nine Ogden College departments and providing general reference services in the Helm Library. The projects cover quite a range of subjects like history of science, classical music education, and biological science, and have resulted in two large World Wide Web sites and a book.

"I've always liked keeping involved in a variety of subjects," he said. "I have a pretty broad educational background, and I enjoy using that experience to identify new kinds of approaches to old subjects. Some of these subjects I have more initial knowledge of than others, of course, but I've found that one can always manage to discover new angles even when working within your limitations."



PHOTO BY SHERYL HAGAN-BOOTH

Smith gathers source material on Alfred Russel Wallace, an influential biologist and social critic of the late 19th-early 20th century, at <http://www.wku.edu/%7Esmithch/index1.htm>.

Smith's history of science work has produced a website concerning the thought of Victorian polymath Alfred Russel Wallace (1823-1913), a person who especially interests him. Wallace worked independently of Charles Darwin to develop the theory of evolution by natural selection and is also considered the father of biogeography, Smith's main academic field of study. Further, he

was a significant social theorist and critic. Smith spent years searching for material by Wallace, especially in hundreds of magazines, journals, and newspapers, and in 1991 published an anthology and bibliography of his writings for Oxford University Press.

"A closer examination of his work was long overdue," Smith said. "I found three or four hundred items that had been lost, that people no longer knew about."

Many of the works were found in the journal *Nature*, a bimonthly magazine. Smith went through every page that was published between 1869 and 1913, and located dozens of lost writings. He also searched through all the issues of a weekly socialist newspaper that came out over a nearly twenty-five-year period ending in 1913, the year Wallace died, and

PHOTO BY SHERYL HAGAN-BOOTH



SMITH'S

BIODIVERSITY

**BIODIVERSITY
STUDIES**

A Bibliographic Review

CHARLES H. SMITH



PHOTO BY SHERYL HAGAN-BOOTH

“Librarians are in the main facilitators — information liaisons. People are genuinely pleased when you can help them find something they want or need — and this is true whether you are sitting at a reference desk and entertaining a relatively routine class assignment-related question, or helping people explore new horizons through a World Wide Web service.”

found another fifteen new writings.

“That second search was a real pain, believe me, because it was all on microfilm,” Dr. Smith said.

The work paid off though, according to many of Smith’s colleagues from around the world. The book received universally excellent reviews after it came out, and now the website has built on that foundation.

“Charles Smith does everyone a great service by providing online information and publications for Wallace,” said Jim Mallet, a biologist and expert on protective mimicry (one of Wallace’s special interests) working at University College in London. “So now Wallace’s as well as Darwin’s works are available to everyone. I think that this is a very useful service for the evolutionary and history of science community.”

Martin Fichman, a humanities professor at York University in Ontario, Canada, agrees. He said he considered Smith’s book to be the authoritative introduction to Wallace’s shorter writings and that he also finds the website useful.

“I regard Prof. Smith’s website on Wallace as one of the best scholarly websites on the Internet,” Fichman said.

Earlier this year Dr. Smith also published a book called *Biodiversity Studies: A Bibliographic Review*. Not only did Smith identify, list, and index nearly 6,000 items on the subject, he incorporated some novel features into these individual item entries that elevate them beyond being mere bibliographic citations. These enhancements (such as indicating the relative number of times the item was later cited elsewhere in the general literature) help give researchers some idea of how influential that particular work has been.

Why did Smith do that? He thought it would help make finding the best information easier.

“Let’s say you’re a biologist who has some graduate students who want to focus on some aspect of bio-diversity studies and who need to read up on the subject. You’re not going to just hand them a book and say, ‘here’s a list of 6,000 works, get to it,’” he said. “You want to give them some means of prioritizing the information, of getting some idea of which works are the most important.”

The book is an outgrowth of Smith’s education as a geographer and ongoing interest in bibliography and what is termed “bibliometrics,” the statistical analysis of literature citation and other bibliographic data.

Dr. Smith’s most recently completed effort is a service he calls *The Classical Music Navigator*, a website devoted to a new kind of treatment of classical music composers and their works, styles and influences. Smith’s approach, based on the “points of familiarity” model, stems from his belief that most people explore their musical horizons simply by first happening onto some piece of music they take a liking to and then trying to find other music that is similar to it.

“But when you are first introduced to a work that grabs your interest, you might very well not know what it is about that piece that attracts you to it,” he said. “Maybe it’s the sound of the piano, or the orchestra, or the general style of

music, or some peculiarity of the composer.”

By listing the influences and works for each composer and then providing several kinds of comprehensive indexing, the *Navigator* makes it easier for users to identify styles and genres that might appeal to them. “Let’s say you have just heard Ravel’s piano concerto for the left hand on some radio broadcast, been impressed, and wish to investigate. This service makes it possible for you to very quickly identify Ravel himself, other significant works by Ravel, other piano concerti, other works for piano in general, other concerti in general, other works by French composers, other works by composers sharing his general style (Impressionism), composers who influenced Ravel, and composers whom Ravel influenced. In short, it helps you identify new connections that you might not have stumbled upon otherwise,” Dr. Smith said.

While many of the 444 composers featured in the service are well known, most of them aren’t. Smith said he compiled the database by researching more than a thousand biographical, analytical, bibliographic and reference sources to determine which artists’ names and works came up the most — which were by consensus the “currently most relevant.” So, the results are based largely on statistical inference rather than subjective opinion.

“I wanted this to be a legitimate reference source as well as an education service, so using my personal likes and dislikes just wasn’t going to cut it. Besides, I have no formal training in music. When it comes to classical forms, I’m just a listener — and generally, I can’t tell one key from the next. When I started this project, moreover, I had never heard of a good number of the composers who ended up being treated in it.”

Dr. Smith said he hoped the service could be applied not only to individual use but in high school and college-level music appreciation classes where students might use it to help compare and contrast different styles of classical music or trace the influences on and from particular composers to other composers.

These three sets of results have come after years of work, six of them at Western. He started some of his projects between jobs and between degrees — the New Hartford, Connecticut native has four of them from four different universities. The projects occupied not only some of his regular work time but also a lot of his personal time. Smith said he works a pretty full workday most days, including taking work home. Further, he hardly ever takes a full day off — weekend days included.

“This is not only what I get paid to do, this is what I like to do,” he said.

Smith may not take much time off, but he gets his rewards in other ways. “Librarians are in the main facilitators — information liaisons. People are genuinely pleased when you can help them find something they want or need — and this is true whether you are sitting at a reference desk and entertaining a relatively routine class assignment-related question, or helping people explore new horizons through a World Wide Web service. Over the past year the maintenance of my two websites has led to several hundred email exchanges, and I’ve made a lot of good new acquaintances.”

Smith’s efforts have received both national and international attention. Apart from various positive reviews and website awards, some of the Wallace site is being incorporated into an English university-produced CD-ROM on historical research methodology, while the *Navigator* is being translated into Dutch for inclusion in a Belgian CD-ROM product.



Try out Dr. Smith's Classical Music Navigator at <http://www.wku.edu/~smithch/music/>

So what’s next for Dr. Smith now that the three main projects that have been occupying so much of his time are finished? “Well, actually, the Wallace work in particular is never really done,” he said. “Ever since the site went up in January, I’ve increased its size by nearly fifty percent, adding several new features and a lot more of Wallace’s writings in full-text. I’ve also begun another book on Wallace, this one analytical in nature. Perhaps I may even get back to some theoretical studies I had to shelve for the time being a number of years back.”

We trust that whatever the choice may be, Smith will manage to keep himself well occupied.

SPOILED ROTTEN

Affluence, Anxiety,

and Social Decay

in America

BRIAN GOFF & ARTHUR A. FLEISHER III

GENERATION EXCESS

BY BOB SKIPPER

MANY OF US HAVE HEARD THE STORIES FROM PARENTS OR GRANDPARENTS: "WHEN I WAS YOUR AGE, I HAD TO WALK FIVE MILES IN THREE FEET OF SNOW TO GET TO SCHOOL EVERY DAY." THEY WERE QUICK TO SAY HOW MUCH BETTER OFF THE CURRENT GENERATION IS COMPARED TO WHAT THEY HAD GROWING UP.

But are we really better off?

In the early 1990s, Brian Goff, an economics professor at Western Kentucky University, began to notice a trend in the popular press: "I kept seeing where people were saying they were worse off than their parents," he said. Reports in newspapers and opinion polls touted the belief that stagnating wages and personal incomes were causing flat living standards for the masses.

As Dr. Goff began thinking back to his own childhood, he said he noticed "something's not stacking up here." Families were living in nicer and larger houses, owning nicer and more cars, and taking nicer vacations than he or his friends had while growing up.

"The more research I conducted, the more I found a gap between this perception and reality," he said.

Thus was born "Spoiled Rotten: Affluence, Anxiety, and Social Decay in America," which Goff co-authored with Arthur A. Fleisher III at Metro State University in Denver. Both authors have doctorates in economics from George Mason University while Goff has a bachelor's degree in economics from Western.

"Maybe we're not only misperceiving our living standards, but maybe this is a reflection of, as the title of the book suggests, being spoiled," Dr. Goff said. "Maybe we have so much that we don't even recognize what we

"Maybe we have so much that we don't even recognize what we have, and maybe that has had effects in other ways, too."

have, and maybe that has had effects in other ways, too."

In the book's preface, Goff and Fleisher note that the combination of flat living standards for the masses and rising standards for a privileged few has been blamed for a variety of social ills.

"The pessimism about American living standards struck us as odd," they wrote. "When looking at the things that average people own and use, drastic improvements over the 1960s and 1970s seemed apparent."

Their research led them to develop the theses that the fantastic growth in material well-being for most U.S. residents since 1970 "is responsible for many of the negative social consequences usually attributed to economic stagnation and disparity in wealth." The book underscores how the "swell of material living standards for most Americans has muddled and altered both thinking and behavior," Dr. Goff wrote.

This growing affluence and the resulting benefits "have reached such enormous levels that the United States has become a nation full of poorly motivated, self-obsessed individuals who have enough money and leisure time to create imaginary problems, indulge fanciful whims, and outsource important responsibilities – in short, to behave like overindulged children," they wrote.

Dr. Goff said the first half of the book is a refutation of

the notion that living standards have suffered. Social commentators from across the political spectrum have underplayed the tremendous economic growth of the past 30 years, he said, and their conclusions have shared a common problem: "a misunderstanding of the role that rapidly improving living standards has played in contributing to these social problems."

Drs. Goff and Fleisher said they looked for grassroots-level explanations. "The problems we attribute to the growth in wealth include employment issues such as job selection and security, family issues such as illegitimacy and divorce, rising crime trends and tepid punishment, educational issues such as sluggish SAT scores, and others," they wrote. "Further, we discuss how wealth has allowed Americans to create problems out of thin air or turn molehills into mountains."

Higher living standards are not all bad, and the book also outlines the many positive social outcomes that have resulted. "In fact, the many benefits of wealth led to our analysis of the final question posed in the book: What can we do about wealth's negative effects without destroying its positive impacts?" they wrote.

The book was the result of three years' work and brought together "a potpourri of different interests that I've had," Dr. Goff said.

"This was kind of a crossover book, not a straight academic book," he said. "It didn't make me famous, but in a lot of ways, it was one of the most enjoyable projects I've done."

Dr. Goff describes his two main research fields as "political economy" and the "economics of sports." He has authored or coauthored four other books and about thirty journal articles, covering a variety of topics in these fields including federal budget deficits, federal regulation, Federal Reserve Board decision making, the designated hitter rule in Major League Baseball, and the NCAA.

Among these works, Dr. Goff says that two have had the biggest impact. One is "The National Collegiate Athletic Association: A Study in Cartel Behavior," published in 1992 by the University of Chicago Press and coauthored with Fleisher and Robert Tollison of the University of Mississippi. He noted, "The 7th Circuit Court of Appeals cited it in an opinion, it's used in several sports economics classes across the country, and I've been interviewed by several newspaper writers over the years because of it." The other is a journal article he coauthored with Tollison and another University of Mississippi professor showing that the adoption of the DH rule in the American League led to more hit batters than in the National League. "Business Week summarized our findings, and later reported on our communication with two

groups who commented on our article. Articles like that may not change the world, but they're fun."

His current project again ventures into the sports world. He, Tollison, and Robert McCormick of Clemson University are investigating the progression of racial integration among teams in Major League Baseball and Atlantic Coast Conference basketball.



Dr. Brian Goff

PHOTO BY SHERYL HAGAN-BOOTH

IN THE VERNACULAR

BY TOMMY NEWTON

FOLKLORISTS MIGHT BE ACCUSED OF LIVING IN THE PAST, BUT THEY'RE ALSO LIVING IN THE PRESENT AND FUTURE, DR. MICHAEL ANN WILLIAMS COMMENTS. "I THINK FOLKLORE IS A WAY OF MAKING THE ARTS AND HUMANITIES MORE ACCESSIBLE TO MORE PEOPLE, NOT JUST A NARROW RANGE OF PEOPLE," SAID DR. WILLIAMS, PROFESSOR OF FOLK STUDIES AT WESTERN KENTUCKY UNIVERSITY. "WE'VE BEEN ABLE TO REACH OUT TO UNDERSERVED COMMUNITIES BY SAYING THERE IS AN ARTISTIC LIFE THERE THAT'S NOT JUST OPERA OR BALLET."

One of Dr. Williams' main folklore pursuits is "vernacular architecture," a term applied to traditional domestic and agricultural buildings, industrial and commercial structures, 20th century suburban houses, settlement patterns and cultural landscapes. She is vice president of the Vernacular Architecture Forum, the major North American group that studies traditional architecture. "I have a continuing interest in folk architecture which is centered on how buildings were used instead of how they were built," said Dr. Williams, who has been at Western since 1986.

But she remains interested in folklife and its connections with the past and the future. She's currently completing a book on Sarah Gertrude Knott, founder of the National Folk Festival, and John Lair, creator of the Renfro Valley Barn Dance. Knott, a native of Kevil in western Kentucky, knew folklife wasn't limited to the mountains of eastern Kentucky, Dr. Williams said. In the 1930s, Knott created the first multicultural folk festival and in later years helped include the folk arts in funding for the National Endowment for the Arts. "She was somebody who was influential but hasn't received her due," Dr. Williams said. At Renfro Valley, Lair's radio barn dance also showed that arts and music weren't limited to the urban regions. "One of the themes in folk studies is the creation



PHOTO BY SHERYL HAGAN-BOOTH

"I HAVE A CONTINUING INTEREST IN FOLK ARCHITECTURE WHICH IS CENTERED ON HOW BUILDINGS WERE USED INSTEAD OF HOW THEY WERE BUILT."



of nostalgia for the past," Dr. Williams said. "John Lair's Renfro Valley Barn Dance sold a nostalgia for the past. What he really tapped into was the longing of listeners for a mythical past."

Even today in the age of electronic mail and the Internet, that longing for the community is keeping folk studies alive and well. "Folklorists are interested in how people made these personal connections," she said. "I think it is about creating a feeling of community. Sometimes it is the new technology that does it." A half-century ago that new technology was the radio. Today it is the personal computer. But, as Dr. Williams cautions her folk studies students, the personal computer is simply one tool folklorists can use. The best way to gather information and historical data remains the personal touch.

When she was gathering information for her publication, *Homeplace: The Social Use and Meaning of the Folk Dwelling in Southwestern North Carolina*. Dr. Williams interviewed people who'd grown up in North Carolina around the turn of the century. "I think I've been really lucky. Southern Appalachia is the easiest place to do field work," said Dr. Williams, who received her master's and doctoral degrees from the University of Pennsylvania. In most cases, she's found rural people eager to tell their stories and willing to invite a stranger into their homes. A folklorist must have lots of patience and be willing to listen when they collect someone's life story. "The wonderful pieces of information are those things you didn't know to ask for and someone tells you," she observed.

In the folk studies courses she teaches — which include Vernacular Architecture, Folk Art and Technology, Cultural Conservation, Folklore Theory, Museum Procedures and Techniques, and Foodways — Dr. Williams often learns more than she expected from her students. Students in the folk art class are required to present a report on a single object that they can justify as folk art. In the fall 2000 semester, those works ranged from African American quilts to a jar of green beans. "That's a good lesson in thinking about art in everyday life," Dr. Williams said.

Dr. Williams encourages her students to conduct hands-on projects that have real world applications. In September 2000, the Shakerag Historic District on State Street was placed on the National Register of Historic Places. The area is Bowling Green's first National Register district recognized for its significance to African American heritage. The idea came from one of Dr. Williams' folk studies classes. The project was funded in part by a grant from the Kentucky Heritage Council. Dr. Williams also recently completed a multi-year Cemetery Management Study funded by Mammoth Cave National Park which also included the involvement of Western Kentucky graduate students in folk studies. Other class and research projects have been funded by the Kentucky Oral History Program, the Kentucky Folklife Program, and the Kentucky African American Heritage Commission. The Shakerag District now has a walking tour of historic sites and homes. A traveling exhibit called "Like a Family: Life on North State Street" also is available and will be on display at the Kentucky Building during Black History Month.

Dr. Williams is proud of Western's folk studies program and its emphasis on preservation of both heritage and structures. "The folklore field is a strong one," she said. "Western has the best master's program in the country." The program also is concerned about Kentucky's future, she said. "One thing people don't connect with folklore is economic development," Dr. Williams said.

In the next year, she hopes Western students can launch a project about the musical heritage of western Kentucky, which includes the development of bluegrass and the thumbpicking style of guitar playing. "A lot of great traditional musicians came out of this part of Kentucky," she said, adding that this region should be able to market its musical culture and heritage. "One of the things that we try to get out of the Folk Studies program is not just about nostalgia and preservation but about economic development and communicating cross-culturally," Dr. Williams said.



Not all log homes in Kentucky were "cabins." The Felts House, an enclosed dogtrot plan, represents relative prosperity, for the time in which it was built.

PHOTO BY SHERYL HAGAN-BOOTH

CENTERING ON SCIENCE

TOMMY NEWTON



FROM THE AIR WE BREATHE AND WATER WE DRINK TO THE CARS WE DRIVE AND HIGH-TECH GADGETS WE USE, SCIENCE IS A PART OF OUR EVERYDAY LIFE.

In the classroom, science is a part of the everyday curriculum from kindergarten through high school. Trying to get students or parents interested in science, however, is another story.

That's where Karen Powell, the Bowling Green Community College, and the Community College Regional Science Resource Center come in.

The community college at Western Kentucky University has received a \$295,410 Fund for the Improvement of Postsecondary Education (FIPSE) grant from the U.S. Department of Education. FIPSE is funding 75.7 percent of the three-year project. Western will contribute \$94,949 or 24.3 percent.

Dr. Powell is director of the project that aims to increase student interest in science, impact the science curriculum, boost science scores on standardized tests, im-

prove teacher education programs in science, reduce dropout rates, and increase access to postsecondary education.

The Community College Regional Science Resource Center could have an impact on the local, state and national levels. Locally, the center should increase student interest with hands-on learning. Statewide, the center should boost the number of people seeking postsecondary training. Nationally, the center should serve as a model for the concept of meeting the community of needs for science education.

"I came up with the idea," Dr. Powell said, "while working with local students on science fair projects and I realized what limited equipment they have. I thought it would be nice to have a facility for our community college students, middle school students and teachers."

The Community College Regional Science Resource Center "will give middle school teachers and students a well-equipped laboratory to visit for extensive experiments," she said.

Dr. Powell hopes the center's work with students and teachers will lead to improved scores on the Commonwealth Accountability Testing System exams. In Kentucky, fewer than 2 percent of middle school students score "proficient" on the standardized tests of science knowledge.

"We're having a problem getting students motivated and interested in science. If students aren't interested in science in middle school, they're less likely to be interested in science in high school or postsecondary schools," she said.

"Today you've got to have basic science knowledge," Dr. Powell said.

Waiting until students reach high school to implement innovative educational programs is often too late to impact academic success or failure, according to Dr. Powell's FIPSE grant application. Targeting middle school students, their parents and their teachers may be the key to improving Kentucky high school graduation rates and increasing levels of participation in postsecondary education programs.

Western has even committed to award scholarships of \$100 and \$250 to students who improve their science scores on the CATS tests. "We believe we must get the at-

said. "She was the catalyst," Dr. Powell said. "She was the bridge between Sponsored Programs and us."

Dr. Frank Conley, Dean of the Community College, said he was pleased that Dr. Powell and Ms. Johnston were successful in their application for the FIPSE grant.

"Grant supported activities will help the Community College achieve its strategic plan goals and the Council on Postsecondary Education Action Agenda items of improving students' readiness for college, increasing college enrollments and graduation rates, preparing graduates for life and work, and contributing to the economic development of the state," Dr. Conley said. "This project should help more students in our service area decide to pursue post-secondary educational opportunities and get them excited about pursuing science as a career."

The Bowling Green Community College is uniquely positioned to offer the services, Dr. Powell said. "We just feel like we have a lot to offer, having a Community College philosophy and being an integral part of Western and its tradition."

The Community College has a fully equipped science laboratory that is used for chemistry and biology courses, but faculty members determined that a significant amount

TODAY EVERY JOB REQUIRES SCIENCE KNOWLEDGE AND SKILLS. PARENTS AND CHILDREN MUST RECOGNIZE EDUCATION IS A NECESSITY FOR ECONOMIC GROWTH AND SURVIVAL.

tention of middle school students about the importance of good performance in school and getting them to at least focus on the possibilities of going to college before high school," said Dr. Luther Hughes, Associate Vice President for Enrollment Management.

Kentucky ranks 46th in the percentage of the adult population graduating from high school and has fewer than 53 percent of those with a high school diploma seeking any kind of post-secondary education. In the six-county region surrounding the Community College Regional Science Resource Center, less than 4 percent of the adult population has any education beyond the high school level.

Today every job requires science knowledge and skills. Parents and children must recognize education is a necessity for economic growth and survival, she said.

Barbara Johnston, Coordinator of Enrollment Services at the Community College, was instrumental in developing the grant proposal and obtaining the funding, Dr. Powell



PHOTO BY SHERYL HAGAN-BOOTH

of laboratory time could be made available for middle school students, teachers and parents in the evenings, Saturdays and during school breaks.

The hands-on, innovative approach should get middle school students and their parents excited about science, Dr. Powell said.

The project, however, goes beyond the middle school level. The center will be used by science education majors and their professors from Western, by kindergarten through high school teachers for in-service science education, by parents of middle school students during field trips and by students working on science fair projects.

"The center is pulling together a lot of resources and gives us all a good place to do science instruction," Dr. Powell said.

The partners in the Community College Regional Science Resource Center make this effort truly collaborative in nature. State and local administrative, academic and support units will benefit.

Several Western academic colleges, centers and programs within the colleges will assist with the grant. Western's College of Education and Behavioral Sciences will incorporate the center's program into the curriculum for middle school science education. Its Center for Gifted Studies will integrate the center into its summer educational programs and its winter Super Saturday program. A support unit in the college, the grant-funded Education Talent Search program to better prepare students for college, will use the center for field trips, after-school programs, and a two-week summer camp.

The Center for Science, Mathematics and Environmental Education (CSMEE) will benefit because its Eisenhower grant is science-based, and it works with public school teachers at the elementary and middle school levels to enhance their content knowledge, which is sorely needed in the state. The CSMEE serves both the education and science colleges. Therefore, teachers of science and in-service educators, and students enrolled in workshops

THE CENTER WILL BE USED BY SCIENCE EDUCATION MAJORS AND THEIR PROFESSORS FROM WESTERN, BY KINDERGARTEN THROUGH HIGH SCHOOL TEACHERS FOR IN-SERVICE SCIENCE EDUCATION, BY PARENTS OF MIDDLE SCHOOL STUDENTS DURING FIELD TRIPS AND BY STUDENTS WORKING ON SCIENCE FAIR PROJECTS.



PHOTO BY SHERYL HAGAN-BOOTH

offered by the CSMEE can use the center to enhance their content knowledge, teaching skills and general science learning with real experiments.

For Ogden College of Science, Technology and Health, the center will provide middle school and high school students with access to research facilities, professors, and University students working on science projects.

Campus-wide support units will also benefit from this center. The Office of Minority Student Support Services will expand the "Youth University" program to include the center's programs.

With all these partners to help and serve, work is already under way at the Community College Regional Science Resource Center. Programs will begin in the spring and summer of 2001 with services expanding over the three-year grant period.

"This lab is going to be busy all summer with students doing science projects in a science lab," Dr. Powell said.



PHOTO BY SHERYL HAGAN-BOOTH

Distinctive Programs

BY CAROLINE LYNCH

DR. BLAINE FERRELL SHIES AWAY FROM TALKING ABOUT HIMSELF. HOWEVER, AS THE DIRECTOR OF WESTERN'S FIRST PROGRAM OF DISTINCTION, THE APPLIED RESEARCH AND TECHNOLOGY PROGRAM, HE PROVIDES AN EARFUL.

The Council on Postsecondary Education in Kentucky sets aside money each year for Programs of Distinction. All state schools are eligible for the money, but the schools must match the \$1.2 million state funds with external funds or internal reallocations. Three years ago, Western's Applied Research and Technology Program (ARTP) was the first to qualify for the money, which must go to create educational opportunities for Kentucky students and have impact on the region's economic development and quality of life.

At Western, the program has twelve different centers, all of which work together to create hands-on applied re-

search opportunities for students. Dr. Ferrell describes one such example, a grant from the Environmental Protection Agency (EPA), which funds a technical assistance center for small drinking water systems. Five Centers and external agencies are collaborating on this project to provide safe drinking water for small rural communities in a cost-effective manner. Numerous students are applying classroom learning to solve a real-world problem. This project has recently been expanded to include wastewater. A sister grant from the EPA will fund the wastewater research.

The Council on Postsecondary Education has invited Western scholars to collaborate with the University of Louisville and the University of Kentucky on a project highlighting the Commonwealth's biotechnology infrastructure at a forthcoming conference. The goal of this Governor-directed effort is to attract biotechnology companies to increase employment opportunities in Kentucky. "It's hard

to entice students in Kentucky to go into science if they cannot get a job in the state," Dr. Ferrell said. "I want the Applied Research and Technology Program to generate more interest in science and engineering in the state and ultimately to lead to high-paying employment opportunities."

Another example of the power of collaboration is the Institute for Rural Health Development and Research. Faculty from three departments within Ogden College are working to provide health screening for citizens and offer continuing education for emergency medical personnel in disadvantaged counties. These activities should improve the quality of life for citizens in these counties. Money for this project is being obtained through a grant from the Department of Health and Human Services with assistance from Senator Mitch McConnell's office. "Students get involved in real-world applied projects and see that what they've learned in the classroom has a real application and they get excited," Ferrell mentioned. Dr. Ferrell said, "The Governor was correct when he stated that if institutions of higher education could forget about turf and work together for the common good, there will be more opportunities than they can handle." This concept has certainly held true for the Applied Research and Technology Program.

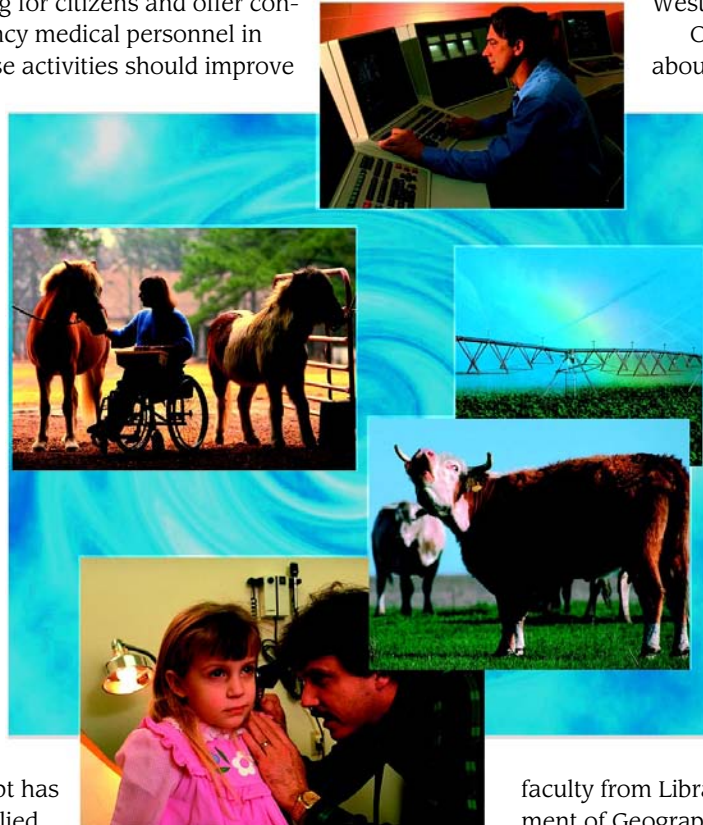
The Governor and Kentucky Science and Technology Corporation co-sponsored the Kentucky Science and Engineering Strategy. The General Assembly then enacted portions of this into law, and venture capital is now available for economic development in the Commonwealth. However, high-tech companies that want to take advantage of these funds must partner with a university. The Applied Research and Technology Program has placed Western in a strategic position to take advantage of these funds for regional economic development, as well as for hands-on applied re-

search for our students. The Program is working in concert with the Bowling Green Chamber of Commerce on three such partnership ventures at this time. Dr. Ferrell said that one of these ventures might create a large demand for computer programmers with salaries starting at \$45,000. Dr. Martin Houston, Dean of the College of Science, Technology & Health, says that better programs and better jobs after graduation mean more students for Western.

One of the things Ferrell touts about the program is the way it reaches into many different disciplines and departments, even beyond Ogden College, to tap expertise to solve problems. Grant proposals to the National Science Foundation and EPA to study watershed protection were developed by faculty associated with several Centers and faculty in sociology and business. The Biotechnology Center involves faculty and students from the Department of Psychology, and the Center for Biodiversity Studies involves computer programming students and

faculty from Library Sciences and the Department of Geography and Geology. "This is only our third year, and we want to continue to attract students to be involved in activities of our Program of Distinction."

And while the students are in classrooms or out in the field getting hands-on training, Dr. Ferrell isn't always in his office. Since he came to Western, Dr. Ferrell has been teaching the kind of classes, such as Comparative Anatomy, that some students wish they could avoid at all costs. Other student-related activities include Dr. Ferrell's role as academic advisor, and 13 years as advisor for Alpha Epsilon Delta, a pre-medicine honor society. Making time for classes and student activities remains an important part of Dr. Ferrell's busy schedule. He says, "I like interacting with students!"



"I want the Applied Research and Technology Program to generate more interest in science and engineering in the state and ultimately to lead to high-paying employment opportunities."