Microbes on Earth may be key to identifying life on other planets

By James E. Kloepfil
News Bureau Staff Writer

Evidence of life on Martian meteorites or future rock samples from the Red Planet may be easier to identify thanks to microbes living in hot springs at Yellowstone National Park.

“The existence of life itself can change the physical and chemical attributes in an environment of deposition,” said Bruce Fouke, a geologist at the UI. “By studying the effects of microbial metabolism on the chemistry of the water and on the way minerals are deposited in Earth environments, we can better interpret samples from other planets for signs of life.”

For example, various carbonate features occurring in hot springs at Angel Terrace at Mammoth Hot Springs.

“Travertine is a crystalline form of calcite that forms where subsurface waters erupt, cool, de-gas and precipitate calcium-carbonate minerals with a variety of crystal morphologies and chemical compositions,” Fouke said.

“In this setting, we are examining the environmental feedback mechanisms that exist between water, microbes and the precipitation of travertine.”

Mammoth Hot Springs, near the northern boundary of Yellowstone National Park, is one of the world’s largest sites of travertine accumulation. The travertine deposits at Mammoth Hot Springs are approximately 8,000 years old, 73 meters thick and cover more than 4 square kilometers.

“Yellowstone is an ideal laboratory because of the high precipitation rates and the abundance of microbes,” Fouke said. “By documenting where we find certain calcite shapes in the spring system, we can link those shapes with a particular water flow, chemistry and microbe. With that environmental context, we can start to decipher the geological record and to reconstruct ancient environments.”

Geochemical evaluation of the spring water and underlying travertine has suggested that inorganic processes such as carbon dioxide de-gassing, temperature decreases and possibly evaporation are the primary environmental controls on travertine mineralogy, Fouke said. “So the environmental context could be the key to determining whether or not a particular feature is an enigmatic microbe.”

On Earth, microbes also can be found trapped in fluid inclusions in ancient calcite crystals. Fouke is working with UI microbiologist Abigail Salyers to develop techniques to liberate the microbes and isolate, extract, amplify and sequence their DNA.

“The genetic analysis will provide additional information about the microbes’ metabolism,” he said. “We will incorporate this information into our depositional model to help link the presence of ancient life with suspect, calcium-carbonate depositional features and chemical compositions.”

Fouke published his findings in the May issue of the Journal of Sedimentary Research. Funding was provided by NASA, the National Research Council and the UI Critical Research Initiative.

Communications Library features new ‘Newsroom’

By Becky Matry
Assistant Editor

The lower floor of the Communications Library in Gregory Hall has a new look and sound.

For the first time, television sets carrying cable news, Internet news and the Web sites for major daily newspapers are available to library patrons. The three new 27-inch television sets sit on the shelves among a large collection of daily newspapers from around the country.

In addition, Communications librarian Lisa Romero has turned the area with the TVs and newspapers into a casual sitting area with couches and chairs. The Newsroom, as it is called, also has outlets in the lamps that allow students to plug in their laptop computers. Six clocks across one wall provide times for cities around the world.

The Newsroom has been finished about three weeks, and already students have been using it a lot, Romero said.

“They are using it primarily to read the papers and to listen to cable news,” she said. “I was surprised, but it really has caught on. A lot of people will come down here with their laptops and listen to the cable news and take notes. Many of the journalism students have an ongoing current events project in their classes.”

And the access to cable news and Internet news allows the students to watch an event as it occurs.

“They say they don’t always have time to watch the 6 or 10 o’clock news so they like being able to see the news as it happens,” she said.

Libraries are traditionally built on their print collections – books, newspapers and magazines – so this kind of information source is relatively new for libraries.

Romero received approval for the Newsroom last fall from UI Librarian Paula Kaufman. Romero projected it would cost $6,000. One way she saved money was to purchase the upholstered furniture from a unique source – Illinois Correctional Industries.

“The furniture they manufacture is very sturdy, attractive and not really expensive,” Romero said.

The Newsroom also has another unique feature – a Web cam that provides live coverage of Newsroom activities on the Communications Library Web site at www.library.uiuc.edu/cmx.

“Now someone can log in and watch people interact and study,” she said. “And parents of campus can see what it looks like. It’s just one step further – a bit of technology that’s kind of neat.”

The Newsroom and the access it provides expands the services of the library, she said.

“We’re hoping that because it’s a comfortable area … when they have some time to kill between classes, that the students and faculty both will use it and interact with each other more,” she said. “We want to focus more on services, thinking of the library as something other than a place to study and check out books.”

Inside Illinois
For Faculty and Staff, University of Illinois at Urbana-Champaign
The Office of Academic Human Resources, Suite 420, 107 S. William Street, maintains listings for faculty and staff positions at the university. Application and opportunity information is updated weekly and can be found at www.admin.uiuc.edu/hr/jobs/index.asp. The Employment Center lists the academic professional positions available on all campus units at www.uihr.uillinois.edu/jobs. More information about the listings below may be obtained from the person in the listing.

New commission
William Carlson
Elected sculpture by

insideillinois.com
May 18, 2000

job market

The Goldman Sachs Book Prize recently was awarded to Robert McCann, a distinguished research fessor in the Institute of Communications Research and of library and information sciences, for his book Academic Freedom in a Poor Democracy.” The monetary award is presented annually for the book that “best contributes to the improvement of the quality of government or politics through an examination of the press or the intersection of press and politics in the formation of public policy.” McCann received his first flavor of 58 state universities and land-grant colleges.

academic professional

A report on honors, awards and offices and other outstanding achievements of faculty and staff members.

achieved

agricultural, consumer and environmental sciences
Andrea H. Beller, professor of agricultural and consumer economics, has been awarded the distinguished Alumni Award from her alma mater, Case Western Reserve University in Cleveland. The award will be presented during Alumni Weekend in June. Her accomplishments will be featured in an article in an issue of the alumni magazine.

commerce and business administration
Paul Lunsing, professor of business ad ministration, was a recipient of a Fulbright Scholar grant to lecture at the Portuguese Catholic University in Lisbon.

communications
The 1999 Goldsmith Book Prize recently was awarded to Robert McCann, a distinguished research fessor in the Institute of Communications Research and of library and information sciences, for his book Academic Freedom in a Poor Democracy.” The monetary award is presented annually for the book that “best contributes to the improvement of the quality of government or politics through an examination of the press or the intersection of press and politics in the formation of public policy.” McCann received his first flavor of 58 state universities and land-grant colleges.

engineering
Gholamrez A. Mesi, professor of civil and environmental engineering, recently was recognized by his department as the first Ralph B. Peck Professor of Civil Engineer ing. Mesi is regarded as an authority on consolidation of clay, secondary compres sion of soil and shearing behavior of clay soils. The professorship was created by Peck, who started the geotechnical engi neering department, D. Scott Stewart, professor of theoretical and applied mechanics, was elected a fel low of the Institute of Physics.

Dan Roth, professor of computer science and in the Beckman Institute, and James J. Storl and Leslie Phinney, both pro fessors of me chanical and industrial engineering, received a National Science Foundation Career award, which helps promising scientists and engineers de velop early in their careers. NSF awards the grants that range from $200,000 to $500,000 each to junior level faculty members for four to five years.

fine and applied arts
A monumental limestone and granite sculp ture by art and design professor William Carlson will be dedicated in Kansas City, Mo., June 5. The untenured piece, sits near the Truman Sports Complex, was com misioned as a memorial by the family of William Carlson, whose husband helped to design the school's architecture.

Inside Illinois
Inside Illinois is an employee publication of the Urbana-Champaign campus of the Univer sity of Illinois. It is published on the first and third Thursday of each month by the News Bureau of the University of Illinois at Urbana-Champaign. For information about membership in the campus Office of Public Affairs, adminis tered by the associate chancellor for public re lations, distribution is by campus mail. News is solicited from all areas of the campus and should be sent to the editor at least 10 days before publication. Entries for the calendar are due 15 days before publication. Items may be sent to Inside Illinois’ electronic mail address: inside@uiuc.edu. The campus mail add ress is Inside Illinois, University of Illinois at 520 East, Champaign, IL 61821. The far number is 824-0414. The electronic mail address is inside@uiuc.edu.

Send us your news and comments at the above e-mail address. To post on our website, please visit www.admin.uiuc.edu/NB/iicurrent.html.
On the job Linda Bauer

**Job:** Linda Bauer is in charge of the interior design department for the UI Housing Division. She selects furnishings and furniture for the 5,000 student rooms, 1,000 apartments, and common area spaces, such as main lounges, the floor lounges, libraries, computer labs, fitness centers and dining rooms. She's been in her position for 10 years; previously she worked in residential and commercial interior design.

**How do you go about being an interior designer for the Housing Division?**

In a typical year, the Housing Division identifies and budgets for $3 million to $6 million in capital improvement projects. I am involved one way or another with the majority of this work. On the projects I am directly responsible for, I try to design functional, attractive spaces for students and staff members. I specify the finishes and furnishings that will best suit their needs. I keep in mind all the life-safety codes. And I also have to consider longevity. My ultimate goal is to create an area that is residential in appearance but that will last 10 years or more.

Contrary to popular belief, we do not just pick out colors and carpeting. A lot of technical knowledge is required to correctly specify finishes, furnishings and carpeting. And when we can’t find the furniture we need, we design it.

**There must be a lengthy list of projects to be completed.**

When you house 10,000 students and 1,000 families, you never run out of projects. I also oversee a quarter of a million dollars’ worth of furniture refinishing and repair each year.

**How many are on your staff?**

There is another interior designer in addition to an administrative assistant and myself. The three of us work closely with the Housing Division architect.

**What’s your background? How did you get into interior design?**

I started my studies in graphic design and was lured into interior because of its blending of lines, textures and colors. I graduated with a degree in design and am a licensed interior designer. I’ve been doing this work for 30 years.

**Do you try to avoid the current decorating trends?**

To some degree. Because it’s going to be there so long, it’s likely to be out of fashion longer than it’s going to be in. You can do the architectural thing, which is basically to keep everything neutral so it’s never out of taste. But that can be boring when trying to make a residence hall appealing to the students. We try to keep good basic colors going with a trendy color for accent.

**Your own house must be just stunning.**

It’s like the shoemaker having no shoes. Stunning! Not. But I think it’s well designed. I live in a home that’s 100 years old. It’s a bungalow-type design that’s been reconfigured over the years. I enjoy the Frank Lloyd Wright influence, so my lines are simple and contemporary.

**Do you frequently have friends who ask you to come over and help them decorate their houses?**

Yes. It’s like the computer people who have friends who call and ask what kind of computer they should buy. But I try to explain that I’m really out of touch with residential work. I enjoy my free time so I don’t spend a lot of time trying to keep up with residential design.

**What do you do with your free time?**

I love my flower gardens. And I enjoy golfing, skiing, traveling and spending time with family and friends. I have three children – two daughters and a son. One daughter is a veterinarian and one has a master’s degree in special education and is director of an early learning center. My son has a passion for farming and is a technician for John Deere. I have two grandchildren.

**Were you raised in this area?**


You drive that far every day?

I sure do. My family’s roots are in Cisowa and in agriculture. You can’t move the family farm to Champaign. It would be nice to be closer, but it’s very doable.

You must like working at the UI to make that kind of drive.

Very much. I love my job. I enjoy the people, the team I work with and the whole residential service staff. And I like the accessibility of the university and the things that it offers, whether it’s the library or Krannert. And I enjoy the enthusiasm of the students. I miss them in the summer when they’re not around.

**As an interior designer, what do you think of Martha Stewart?**

She has far too much energy and too much staffing I think. (She laughed.) If I had the time she has to do one or two of her projects, it would be great. She is a great inspiration and she makes it fun.

Interview by Becky Mabry

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**brief notes**

**Use it or lose it**

Use floating holiday by June 30

Remember that this year’s floating holiday (replacing the traditional spring break holiday) must be taken before June 30. The floating holiday may not be forwarded to the next fiscal year.

Staff employees (civil service) in a status, trainee, apprentice, provisional or learner appointment and academic staff on contract for at least 50 percent time are eligible for the holiday.

Questions concerning the floating holiday for staff employees should be directed to Labor and Employee Relations, Personnel Services Office, at 333-3105. Questions concerning academic staff members should be directed to the Office of Academic Human Resources at 333-6747.

**Free service**

Summer Cleanup program offered

The Building Operation Section of the Division of Operation and Maintenance is planning its summer custodial project work. Customers may sign up for free summer cleanup projects on the Web at www.ouandm.uiuc.edu. To request a hard copy of the form or to ask questions, contact Randy Kornegay at 333-6417. Requests should be submitted as soon as possible.

**Allerton Park Nature Explorers**

Allerton Park is offering an environmental day camp for children in grades 4 through 8. The program is designed to provide children with experiences that will enhance their appreciation of the environment and respect for living things.

The weeklong program for children entering grades 4 and 5 will be offered from 8:30 to 11:30 a.m. and the program for children in grades 6 through 8 will be offered from 1:30 to 4:30 p.m. Two sessions will be offered: July 24-28 and July 31-Aug. 4.

Registration is $35. Enrollment in each session is limited to 15 and registration is limited to one session per child. For more information, call the Visitor Center at 562-2721 or 244-1035. Registration forms are available at the Monticello Municipal Building. The program is partially funded by a grant from the Lumpkin Foundation of Mattoon.

**Youth and adults**

Summer swim lessons offered

UI Campus Recreation is hosting community swim lessons for the summer beginning June 12. Sessions are offered in June and July both in the mornings and evenings for infant/toddlers, youth and adults in beginning through intermediate categories. All lessons are at indoor pools. For more information, call 333-3510 or visit the Intramural-Physical Education Building or download a registration form at www.campusrrec.uiuc.edu.

**Rape Aggression Defense for women**

UI police offer self-defense courses

The UI Police Department will host several Rape Aggression Defense courses on campus with two sessions scheduled for summer. R.A.D. is a comprehensive self-defense course for women.

All courses will meet from 6 to 9 p.m. on four consecutive Wednesday evenings. Officer Joan Fiesta will teach the first summer course June 14, 21, 28 and July 5. Officer Tony Correa will teach the second course July 12, 19, 26 and Aug. 2. These courses will be held in 120 Intramural-Physical Education Building.

The R.A.D. System is a program of realistic self-defense tactics and techniques. The cost of the course is $12, which covers instruction and the course manual. To register, contact Crime Prevention Coordinator Tony Orna at the UI Police Department at 333-1835 or jaorin@uiuc.edu. More information is available at www.dps.uiuc.edu/police/rad.htm.
Black women
An upcoming conference and exhibition at the UI will focus on a variety of topics pertaining to black women in Africa and the African diaspora.

Black Women in Africa & the African Diaspora: Identity, Culture and Politics
is the theme of the conference June 1-3 at the Illini Union. It is being hosted by the UI’s Afro-American Studies and Research Program and Center for African Studies, with co-sponsorship provided by several campus units.

In addition to plenary speakers, panels and the presentation of academic papers on topics such as art and culture, education, health, politics, religion and technology, the conference will feature an exhibition of art by black women. The exhibition, Rivers of Spirit: ArtWomen in the African Diaspora, will be on view June 2-Aug. 6 at the Krannert Art Museum. The conference registration fee is $150. The fee for students is $90. To register, or for more information, call 333-2050 or visit the Web site, www.aasrp.uiuc.edu/bwaad.html.

University Archives

The University Payables Office, including Payroll and the Faculty/Staff Disbursement Center, has just completed a long-awaited move to newly renovated space in the Henry Administration Building. Both the Payroll and Disbursement Offices are located in 100a, across from the cashier windows on the east side of Room 100. University Payables is located in the same area, with entrance through 177 Henry Administration Building.

The Payroll and Disbursement Offices are open to customers weekdays from 9 a.m. to 4 p.m. University Payables office hours are weekdays from 8:30 a.m. to noon and 1 to 5 p.m. Phone numbers and mail code addresses remain unchanged for these offices.

Surplus Equipment Redistribution Facility

The equipment redistribution warehouse, also known as the “surplus room,” will be closed from May 15-19 to move from the Stockton Building to the Horticulture Field Lab Annex at 1707 S. Orchard Drive. It will reopen May 22 with hours weekdays from 10 a.m. to noon and from 1 to 4 p.m. Parking will be available on site for customers.

The facility, operated by the Accounting Division, receives used, functional equipment, furniture and supplies from campus units and makes them available to other units. Staff members also process equipment no longer needed and prepare it for transportation to the state of Illinois Surplus Warehouse.

Questions regarding the facility or special surplus equipment needs during the week of May 15 may be directed to Dick Elliott at 333-6011 or rellott@uiuc.edu.

May 18 to June 4

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