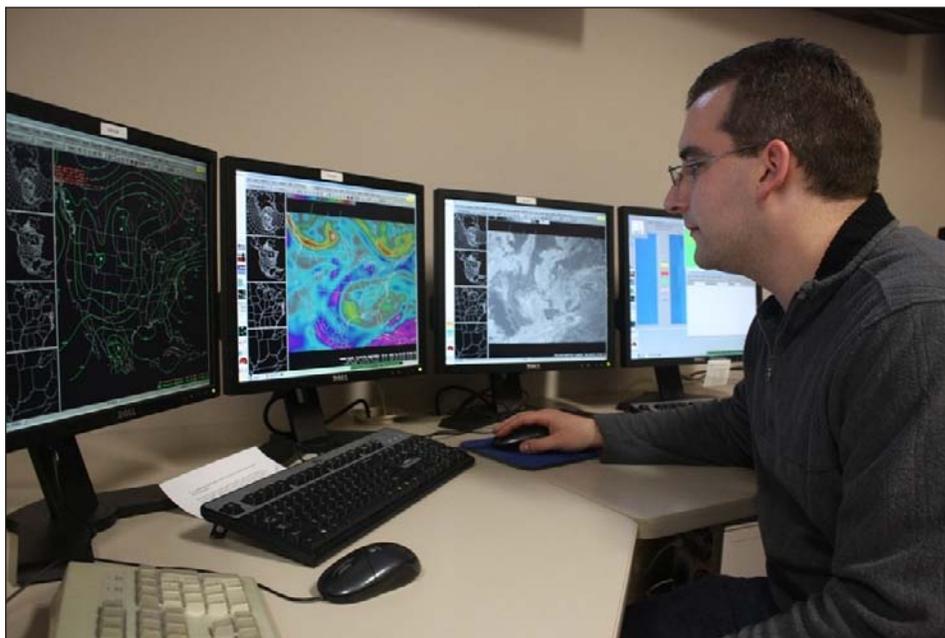


Innovative Weather Celebrates Successes

In my own life, I've observed that I don't often take time to really note certain accomplishments or celebrations. These days, the pace of life tends to dictate that, when one thing is wrapped up, we quickly turn to the many other things that still need to be done. The moment for celebrating an accomplishment comes and goes with little fanfare.

These thoughts came to mind with the anniversary of Innovative Weather (IW), which began in March 2007. IW, a weather-forecasting service, was established to create an entity that would serve the students, the atmospheric sciences program and the local community. With the involvement of 21 students to date and under the direction of Paul Roebber, professor, Mathematical Sciences/Atmospheric Sciences, Innovative Weather has become a unique vehicle for achieving our mission.

We developed a 24/7 operation with real world clients, such as We Energies and a number of others, who rely on weather forecasts for their operational planning. We created an internship program that would develop students through the degree process and promote them into the operational internship where they would be able to put their education to direct use. Employing atmospheric sciences students as staff has been beneficial because, in addition to their studies, many of our students work outside of school, and there are few hands-on meteorology internships available in the community. The students earn their way into a paid position



Mike Kurz, a former Innovative Weather (IW) student meteorologist and a UWM alumnus, works for the National Weather Service in Ohio. Under the direction of UWM Atmospheric Sciences, IW provides opportunities for students to work as weather forecasters in a 24/7 environment serving real world clients.

working in the field of meteorology, and through professional relationships we now can open up an opportunity to share our research and resources with the community. This past year, leadership from the several National Weather Service offices remarked how important an opportunity like this was to the educational experience of the students.

Most recently, three of our student staff members moved into full-time employment in operational meteorology: one with the National Weather Service, two with private forecasting firms. All three students were competing with 50, and at times up to 100 other applicants in this very tight job market, yet they were offered the jobs. Each employer praised their UWM education along with the

expertise and maturity our graduates gained through their IW experience.

This is precisely what we anticipated IW would give to our students. And we also hoped our students would leave a legacy of excellence so strong that the next generation would want to be a part of it. Today, we have six new student staff members coming into the operation, and we continue to field e-mails from other students moving up into the program.

The entire Innovative Weather staff wants to thank the many people who have helped make this possible and encourages all of us to take a moment to celebrate this year's successes.

–Mike Westendorf

Director of Operations

Innovative Weather at UWM

www.innovativeweather.com

Biophysics Ever-Widening Collaborative Research Network

Last January, a workshop was held in Milwaukee to review the work being accomplished in Structural Biophysics at UWM and among its research collaborators around the world. The work of this ever-widening research network continues to lead to important discoveries with potential “game-changing” applications, such as ultralow-dose CT scans, efficient machine learning, and even understanding the way we perceive objects.

“This work is at the forefront of imaging biomolecules and has been the subject of numerous invited presentations in the U.S., Europe and Australia,” according to Abbas Ourmazd, distinguished

professor, Physics and Electrical Engineering. Ourmazd leads one of two teams that have made significant contributions to improving how proteins are “seen.” Valerica Raicu, associate professor, Physics, leads the other team.

Other participating institutions include the University of Wisconsin-Madison, UCLA, the University of Chicago, the Courant Institute (New York), Baylor College of Medicine (Texas), the Center for Free Electron Laser Science (Hamburg, Germany), Syracuse University (New York), University of Toronto (Canada) and Johns Hopkins University (Baltimore).

The research is expected to lead to many practical applications. This is because our bodies contain about 100,000 different proteins, which carry out much of the work necessary for life. In fact, the root cause of many diseases is protein malfunction. Scientists don’t know much about

as many scientists now begin to appreciate its exquisite ability to probe structural details in living cells,” says Raicu.

Ourmazd’s lab is developing new algorithms for imaging proteins by X-rays or electrons. Using this approach and a first-of-its-kind, ultra

brilliant X-ray free electron laser at the Stanford Linear Accelerator Laboratory, he is part of a team shooting femtosecond bursts of a trillion X-ray photons at individual proteins.

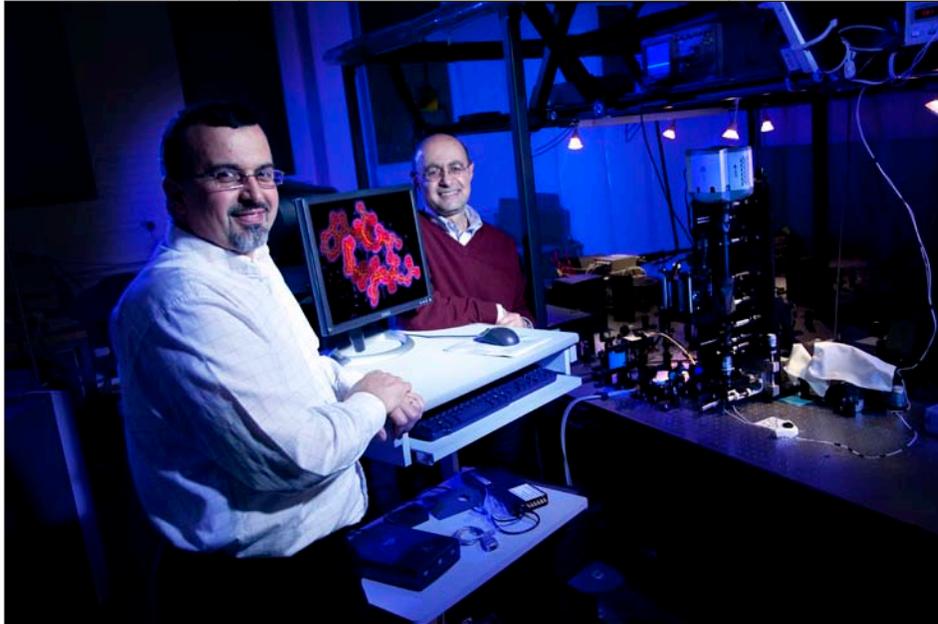
“We have assembled a rare mix of backgrounds and talents, and developed the language to communicate across disciplines,” Ourmazd

explains. “The collaboration in each multidisciplinary team is now so intense and seamless that we often wonder who made which suggestion when.”

(With thanks to Laura Hunt, University Communications and Media Relations)

WUWM Presents

RadioLab, public radio’s award-winning show about wonder, discovery and big ideas, is airing on WUWM 89.7 FM on Sundays and Fridays during April and May. The one-hour episodes air Sundays at 10 p.m., and Fridays at 1 p.m.



Valerica Raicu (left) and Abbas Ourmazd lead teams of researchers who collaborate with colleagues around the world, creating an ever-widening multidisciplinary network of scientists. The research is expected to lead to many practical applications.

the structure of important classes of proteins because they are very difficult to image, and structure determines function.

Ourmazd’s team has focused on a new way of reconstructing the molecular structure of a single protein. Raicu’s team is the first group of scientists to determine the molecular structure of a group of proteins (a “complex”) interacting with a living cell. With a new type of two-photon microscope, Raicu’s lab can view the distribution of proteins and their complexes inside a cell.

“Our technology is being adopted by research labs across the world,

Certificate Program Focuses on Teaching and Learning

A new Graduate Certificate in Teaching and Learning in Higher Education, sponsored by our Department of Communication and the School of Education Department of Administrative Leadership, was launched last fall to encourage graduate students in various disciplines “to learn more about teaching and learning theory and practice before they go out to teach in higher education,” explains Renee Meyers, professor, Communication, and coordinator, University of Wisconsin System Leadership Site for the Scholarship of Teaching and



Renee Meyers

Learning. Meyers and Simone Conceição, associate professor, School of Education, worked together to

develop this program. Meyers says, “Providing instruction in teaching and learning for graduate students is not just happening at UWM. Many universities in the United States now have programs aimed at developing graduate students’ teaching knowledge and skills.”

She adds, “Students in most graduate programs learn how to do research. Although this focus is certainly important, it reflects only part of the work that most faculty members in higher education undertake. Teaching is also a central part of their jobs. Yet few MA and PhD students receive any background in theory and research on teaching and learning.” Students undertaking study for the certificate complete 15 credits that includes coursework in Communication, the



UWM’s new Graduate Certificate in Teaching and Learning in Higher Education was established to give graduate students a firmer foundation in teaching and learning theory and practice.

School of Education and disciplinary teaching-related courses.

The benefits of earning this certificate are threefold, Meyers explains. It contributes to more expert teachers and, potentially, improved student learning on college campuses. It makes the transition to the first teaching job easier because certificate graduates are equipped to handle both the

research and teaching parts of their jobs. And, hopefully, it improves graduate students’ chances in the job market, while providing them with the knowledge and skills to evaluate and improve their own teaching.

For more information, please visit: www.teachhe.uwm.edu.

It is expected that students completing the certificate will be able to:

- Assess theory and research on teaching and learning in higher education, and understand how it applies to their teaching practice;
- Identify and critically analyze the important teaching and learning issues in their own discipline;
- Perform the core elements of the teaching process, including planning, design, communication in the classroom, assessment and evaluation;
- Explain the role of technology in the college classroom environment; and
- Identify and apply professional values appropriate to teaching in higher education.

Summer Research on Tanzania's Serengeti Plain



Last summer, Lindsay McHenry led a National Science Foundation-funded international team of geologists and anthropologists to Olduvai Gorge, Tanzania, where she has been doing research since 1999. This project looks at the origins of the Acheulean stone tool technology.

For six weeks last summer, I traded my comfortable bedroom in Wisconsin for a comfortable tent on the Serengeti Plain of northern Tanzania. Our camp directly overlooked Olduvai Gorge, one of the most famous sites in paleoanthropology. Each day, we would set out to explore the geology and archaeology of this rich site.

The “gorge” itself is a 20-km long canyon, with steep walls up to 80 meters high in places. These walls expose layers of sediment and volcanic ash deposited over the last two million years. Stone tools and fossils litter the walls and the floor of the gorge. Wildlife is abundant. And, during my first years there, I frequently saw giraffes, elephants, hyenas, baboons, gazelle, zebra and an occasional cheetah. I saw leopard prints and heard lions.

I began my work at Olduvai Gorge in 1999, as the most junior member of an international team of geologists,

paleoanthropologists and ecologists. I now direct the Olduvai Geochronology and Acheulean Paleoanthropology Project (OGAPP) along with my colleague Ignacio de la Torre from University College London. Our team currently consists of students and

“Collaborative projects like this help to raise the profile of the University of Wisconsin–Milwaukee at the national and international level.”

– Lindsay McHenry

senior scientists from the U.S., U.K., and Tanzania, and collaborates with researchers from Germany, Spain and South Africa.

Our focus is on a narrow interval about 1.6 million years ago where

two stone tool technologies, the more “primitive” Oldowan and the more “advanced” Acheulean, appear to co-exist. This time period also corresponds with the drying out of the landscape and the first appearance of *Homo erectus*: two major transitions within the story of human origins.

Collaborative projects like this help to raise the profile of the University of Wisconsin–Milwaukee at the national and international level. They also allow “world experts” to congregate in the field for a few weeks a year, discussing, arguing, brainstorming and challenging each other in a context where ideas are often immediately testable through close examination of the rocks, fossils and tools around us. Researchers from different universities, countries and continents work together, sharing knowledge, experience and enthusiasm, and building future collaborations.

The Olduvai landscape has changed dramatically over the last 10 years. Herds of gazelle and zebra have been replaced by herds of goats and cattle, tended by the local Maasai tribespeople. The effects of overgrazing are evident, with loose sand in places that used to host grass, and much more dust. Herds of goats trample the archaeological sites on their way to the few water holes on the floor of the gorge. It has been years since I’ve heard a lion roar at night. A serious effort at conservation, with the cooperation and involvement of the local people, is needed to preserve this archaeological site for posterity.

Our project provides some employment for local people as guides, excavators and camp support, and we help with school fees for local teenagers

(Cont. on page 5)



Why Give to New Directions?

There are many ways to ask for your support for our New Directions scholarship fund and just as many reasons to give, but often the best case is made by the recipients themselves.

The following statement comes from a freshman New Directions recipient as part of her application for a New Directions-Next Generation renewal scholarship next year. She was the very first applicant last year, had a 3.9 GPA in high school, and is carrying a 4.0 this year.

From the moment I stepped onto the UWM campus, I knew this was where I wanted to graduate from college. Not only did I love the layout of the campus and welcoming staff and students, but I was amazed at the opportunities available in the College of Letters & Science. I plan to double major in Journalism/Media Communication and Film Studies in order to provide myself with many possible career paths in the future. My dream job is to be a film critic, but with both of these degrees, I have the options of working on the advertising campaigns of films, writing articles for an entertainment magazine, helping catalogue salvaged film stock, or possibly being a vital part of making films.

With the global economy and job market in a slump, I feel that it is best to keep my options open and immerse myself in many areas of the College of Letters & Science to ensure that I have a plethora of career options when I graduate from UWM. Ideally, I would like to graduate in four years, and so far, it seems that I'm right on track. I regularly meet with advisors in both of my majors to discuss possible classes and deadlines that I need to meet. In addition, I would like to study abroad for a semester during my third year or during that summer to further advance my knowledge of culture and to expand my social network.

Winning this scholarship has helped me to better focus not only on my academic goals but on my volunteering aspirations as well. Thank you for assisting me in achieving my dreams while I'm enrolled here at UWM.

This young woman is just one of the many outstanding students we support with our gifts. Use the UWM Gives to UWM packet you received recently to designate your gift to New Directions. Or, you can give anytime by arranging a payroll deduction (contact Christina Makal at cmmakal@uwm.edu), or sending a check (payable to the UWM Foundation) to the L&S Development Office (Holton 253).

UWM Scholar Named City's Poet Laureate

Brenda Cárdenas, assistant professor, English, will be inducted on April 20 as the next Milwaukee Poet Laureate. Cárdenas



is the latest laureate with present or past UWM ties. Past appointees are: John Koethe, distinguished professor, Philosophy; Susan Firer, senior lecturer, English; Marilyn Taylor, assistant professor emeriti, English; and Antler, former associate lecturer, English.

Cárdenas' most recent book, *Boomerang*, was published last November. Her poetry is widely-published in anthologies, and she also has participated in interdisciplinary collaborative performance art and installation projects in the United States and Great Britain.

The poet laureate serves a two-year term, promoting poetry at library and community events. The program is sponsored by Friends of the Milwaukee Public Library.

(From page 4)

Serengeti Research

who help us out in the field. We hope that their involvement will translate into a greater appreciation for Olduvai as a cultural heritage site (and perhaps a lucrative tourist destination) that is worth preserving.

This summer we will have our biggest team ever and will begin our first large-scale archaeological excavations. Who knows what we will find?

—Lindsay McHenry
Assistant Professor
Geosciences

L & S Graduate to Receive Alumni Association GOLD Award

A College of Letters & Science alumna will receive a UWM Alumni Association Award on May 15 in the Union Wisconsin Room.

Graduate of the Last Decade (GOLD) Award winner Perfecta Lacenski (BA Political Science, Philosophy '03) served for two years as a Peace Corps volunteer in Niger, West Africa. She developed and managed a variety of projects including construction of a village well – something desperately needed by the residents; acquiring loans for a village women's group; participating in AIDS awareness and prevention activities; supervising a girl's scholarship program; and helping to organize village gardens and tree nurseries.

After leaving the Peace Corps, Lacenski was primary client manager trainer and special projects coordinator, Congreso de Latinos Unidos in Philadelphia. Congreso is a nationally-recognized, community based non-profit organization which aims to strengthen Latino

communities through social, economic, education, education and health services; leadership development and advocacy.

She is now working towards a Master's of Governmental Administration and a Master's of Social Work at the University of Pennsylvania, and has internships at The Enterprise Center and The Youth Study Center in Philadelphia.



The Cinema Club

Films and Discussions at Oriental Theatre

The best film experience takes place in the darkness of a theater, projected on a large screen, in the company of a large audience. You'll find this at The Cinema Club gatherings in Milwaukee. The club gives community members the opportunity to see diverse and timely films that often times wouldn't otherwise make it to Milwaukee. Club members are a diverse and engaging group of cinephiles, and discussions are always lively.

The Cinema Club is the nation's new sneak preview film society. On select Sunday mornings in eight different cities, members can see and discuss the best American independent and foreign films of the season. Always a secret until the day of the screening, these movies are shown before their local release, letting our members view and respond to them with true spontaneity.

I am a Milwaukee moderator with Patrice Petro, professor, English/Cinema & Media Studies. After each screening at the Oriental Theatre

on Milwaukee's East Side, we lead a 45-minute discussion with club members. At many of the showings, film scholars, esteemed film critics and filmmakers join the discussion.

I am director of the Film Studies Program at UWM, and Professor Petro is president of the Society for Cinema and Media Studies, the largest scholarly association in the country devoted to the study of the moving image.

For over a decade, The Cinema Club's distinguished group of programmers has been guiding film societies, academic programs and popular film festivals. They attend dozens of leading festivals around the globe, always keeping their eyes open for the next gem.

Please join the club this coming fall for yet another spectacular season.

For more information, please visit the Web site: <http://cities.thecinemaclub.com/?city=MIL>.

–Gilberto Blasini
Associate Professor

English/Cinema & Media Studies

LET US KNOW

...if you have a story idea or professional news to share in a future issue of Collegium. Please contact Paula Orth, editor, at: phorth@uwm.edu or phone, 414-229-2947.

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College of Letters and Science

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International Year of Astronomy Big Success for Planetarium

With more than 10,000 visitors, 2009, the International Year of Astronomy, was fabulous for the UWM Manfred Olson Planetarium. In addition to our regular programs, several special events promoted the wonder of astronomy.

It was a particularly successful year thanks to the dedicated undergraduate students and interns who find new ways to get the word out that the UWM Planetarium offers fun, interesting and inexpensive programs for everyone.

The year began enthusiastically with large audiences enjoying the Kickoff Event on January 10 despite the cold temperatures. Other events included participation in “100 Hours of Astronomy,” a worldwide effort that offered live webcasts and lectures on



Photo courtesy of wisconsinastromy.org

astronomy; and a visit from bestselling author Dava Sobel, who participated in a special show about Galileo’s discoveries. The Planetarium also co-hosted and participated in “100 Telescopes in the Park,” a gathering of astronomy enthusiasts from southeast Wisconsin.

During Halloween weekend, “Creepy Constellations” featured scary stories

about monsters in the night sky, and we hosted two sold out shows on the Winter Solstice, which brought the total number of visitors to 10,177 people, up from 9,158 people in 2008—an increase of 10%.

To wrap up the year, “Astronomy Beyond 2009” (Jan. 23, 2010), featured planetarium shows on different topics. The UWM Planetarium staff plans to build on the legacy of

the International Year of Astronomy with more events this year. This spring, learn about “The Life of a Star” on Friday nights from April 2 to May 7.

All programs are on the Web site: www.planetarium.uwm.edu.

—Jean Creighton
Director

UWM Manfred Olson Planetarium

2009-2010 Retirements

At our annual Recognition Dinner on May 13, the College of Letters & Science will honor the following faculty and staff members who are retiring in 2009-10. We are grateful to them for their many years of dedicated service (in parentheses) and wish them long and fulfilling retirements. Watch for details on Dean Richard Meadows’ retirement event this summer.

Patrick Bellegarde-Smith, professor, Africology (24)

Gail Boviall, university services program associate, Mathematical Sciences (41)

Rosemary Brunetto, academic department associate, Economics (31)

Douglas Cherkauer, professor, Geosciences (36)

John Koethe, distinguished professor, Philosophy (36)

Franklin Laib, instrument innovator-research, Chemistry (33)

Mary Lynne Perille Collins, professor, Biological Sciences (30)

Susan Slater, administrative program manager II, L&S Administration (9)

F. Richard Toth, information processing consultant, Mathematical Sciences (15)

Frank Villareal, senior advisor, L&S Administration (20)