Team turns theory into observable science

A method of differentiating two similar chemical systems that once only a theoretical concept has been directly observed through experiments conducted by an international team of physicists led by Nora Berrah, physics.

The publication Phys.Org.com recently reported the breakthrough, reviewing published results of work conducted at the 2-year-old Linac Coherent Light Source, at the SLAC National Laboratory at Stanford University in Menlo Park, Calif.

The experiments at the Stanford facility are providing a new way to explore atomic structure and dynamics and giving the scientific community more evidence of what the world’s most powerful hard X-ray laser can do.

The article, reviewed by Phys.Org.com, appeared in an October issue of the Proceedings of the National Academy of Sciences. It represents the first published piece that reveals a favor-able comparison with earlier theoretical modeling on how molecules can be differentiated by using free-electron lasers to create a double-core hole by ejecting two electrons from their positions.
Student scholarships available for study abroad

WMU students are invited to apply for scholarships that offer awards of up to $2,500 to offset the cost of participating in a select group of short-term study abroad programs. The Dean’s Scholarship for Summer Study Abroad supports enrollment in 20 short-term programs that will be taught by WMU faculty members late in the spring semester or during the summer I and II sessions.

The 2011-12 Dean’s Scholarships, which are administered by the Haenicke Institute, allow WMU students to apply for need-based awards of up to $1,500. In addition, those with a 3.0 grade point average also may apply for merit-based awards worth $1,000.

Visit the WMU Study Abroad website at www.wmich.edu/ssa for a Dean’s Scholarship for Summer Study Abroad application. Informational brochures for all WMU-offered study abroad programs are available at http://bronnosabroad.international.wmich.edu through the recently launched Broncos Abroad system.

Correction

The employment status for Robert J. Bensley was incorrectly reported in the Nov. 17 issue of Western News. Bensley, professor of human performance and health education, is a full-time faculty member.

Jobs

Current job opportunities at WMU are announced daily on the Human Resources Web site at www.wmich.edu/hr/careers-at-wmu.html. Please note that applications must be submitted online by the stated deadline. Complete application procedures are included with each posting.

Coconut clearance in book

H. Byron Earhart, emeritus in comparative religion, has a new book out that is the first comprehensive English-language study of the evolving religious and aesthetic symbolism of the world’s most famous mountain, Mount Fuji.

“Mount Fuji: Icon of Japan” was published in October by the University of South Carolina Press. Illustrated with color and black-and-white images and maps, it provides an overview of the imagery of Mount Fuji from prehistoric to modern times.

In addition to firsthand descriptions of religious practices of pilgrims climbing the peak and pilgrimage organization meetings, the work provides a link to the author’s streaming 28-minute video documentary of Fuji pilgrimage and practice.

Earhart, a WMU Distinguished Faculty Scholar, retired in 2000. He is an expert in world religions and continues to teach online courses in Japanese and world religions.

Economist edits forecasting text

Matthew L. Higgins has edited a book assessing economic forecasting methods in the wake of one of the greatest recent economic downturns—the “Great Recession.”

“Advances in Economic Forecasting,” published in November by the Upjohn Institute for Employment Research, features six papers presented for WMU’s 2009-10 Werner Selich Lecture-Seminar Series.

Higgins “Advances in Economic Forecasting” argues that the economics profession can better exploit data through model and forecast combination, and advocates for models that are adaptive and perform well in the presence of nonlinearity and structural change.

Higgins has been a faculty member for 16 years. An associate professor, he focuses his research on econometric methods for understanding how uncertainty about the future affects the economy.
Walking around campus these days is like going on an environmental field trip.

Six interpretive signs have been installed near the University’s most prominent stormwater management areas. The signs show the locations of vegetative strips, rock-filled detention basins, rain gardens and other examples of best management systems for slowing and filtering stormwater before it leaves WMU property and enters surrounding watersheds. They also explain how the various treatment systems employed at those locations work.

“Many of these treatment areas are underground and therefore go unnoticed,” says Cari Delong, WMU Facilities Management natural areas manager and coordinator of campus stormwater initiatives. “The University felt the addition of signage would be a great way to educate the community while also advertising WMU’s commitment to sustainability.”

The new signs can be found near the Chemistry Building, Goldsworth Valley Pond, Miller Auditorium, across Western Avenue from the Gilmore Theatre Complex (Parking Lot 23), the Engineering and Applied Sciences Building, and the Business Technology and Research Park Pond.

They should clear up some confusion concerning areas of campus, such as the rock basin near the Chemistry Building. That space is one of the major stormwater detention basins on campus.

The basin collects stormwater and filters it slowly through rocks and sand, a process that naturally filters out pollutants and reduces flooding and erosion.

The goal is to slowly release stormwater back into the ground reserves, keeping the water on University property.

WMU has been implementing such treatment systems since 1998 to better manage stormwater on campus.

Bioalcohol from algae is Bronco Biodiesel’s next frontier

Bronco Biodiesel first made a splash five years ago by converting waste vegetable oil into renewable alternative biodiesel fuel. Now it’s going underwater.

The Bronco Biodiesel collaboration team has expanded its sustainable energy research to include producing bioalcohols from algae grown in over-nutritated surface waters and municipal wastewater. As with the original Bronco Biodiesel project, algal energy products use materials recovered from existing urban waste streams and do not compete with food production.

In their research, team members John Miller and Steve Bertman, chemistry, and Sarah Hill, anthropology, are converting carbohydrates from wastewater algae to ethanol, an alcohol commonly added to gasoline. In addition to creating new alternative energy sources, the process could help to rectify the significant water quality problems associated with high nutrient levels in surface waters, including harmful algal blooms.

According to Miller, WMU research quickly revealed that carbohydrates in the algae were the most promising energy source and could be used as a feedstock for bioalcohols.

“We believe the technology is there, but there are obviously many other factors involved,” he notes. “This means that for now, we’re operating on a small scale. As such, we’re able to work closely with a number of undergraduate and graduate students who are engaged in the research, which we certainly see as a positive thing.”

The Bronco Biodiesel team is involved in algal projects in several locations, including WMU’s Goldsworth Valley Pond and, through a partnership with Muskegon Country Wastewater Management Systems, upgrade wastewater treatment lagoons.

The following faculty and staff members are recognized for 30, 25, 20, 15, 10 and five years of service during December.

30 Years—Gaylene Luhman, information technology, and Bruce L. Pamanen, information technology.
25 Years—Deborah M. Code, maintenance services; Duane R. Hampton, geosciences; Lonnie L. Page, maintenance services; and Cindy A. Walton, building custodial and support services.
20 Years—Deborah L. Cronkright, Bernhard Center Dining Service; Murthiban Shankmugam, University Libraries; and Carol Sundberg, disability services center.
15 Years—Sondra Y. Brooks, Online Education; William W. Liu, mechanical and aeronautical engineering; Anna Marie Murphy, building custodial and support services; and Juben Zhang, human performance and health education.
10 Years—Vernon Nathaniel Chambers, building custodial and support services; William J. Cubit, intercollegiate athletics; Susan K. Davis, Sondusce Health Center; Douglas Robert Gray, landscape services; Tetyana S. Koshmanova, teaching, learning and educational studies; Michael G. Miller, human performance and health education; Angela M. Penney, West Hills Athletic Club; David Schuster, physics; Wunei Shen, computer science; Stephen M. Tasko, speech pathology and audiology; and Teri Lynn Wagner, building custodial and support services.
Five Years—Barbara Banks, Bronco Express Services; Shona L. Drake, Haenicke Institute for Global Education; Jennifer L. Johnson, paper engineering, chemical engineering and imaging and Pilot Plants; and Brenda Pietrykowski, Valley I Dining Service.

Outstanding faculty and staff members who have reached milestones of service.

James F. Burns, a staff member since 2000, died Nov. 25. He was 54. Burns was a supervisor in Facilities Management—maintenance services.
Edward T. Callan, internationally known scholar and emeritus in English, died Nov. 17. He was 93. Callan came to WMU in 1957 and retired in 1983 after 26 years of service. One of WMU’s most venerated faculty members, he was appointed a Distinguished Faculty Professor, the University’s highest faculty honor, in 1983 and received the Distinguished Faculty Scholar Award, the University’s highest scholarly honor, in 1989.
Memorial donations may be made to Hospice Care of Southwest Michigan or St. Joseph Catholic Church.
Edward H. Holloway, a former staff member, died Nov. 25. He was 58. Holloway came to WMU in 1994 and retired in 2008 as a systems support specialist in University Libraries after 14 years of service.
Frona “Toni” Ward, a former staff member, died Nov. 11. She was 101. Ward came to WMU in 1966 and retired in 1978 as a biology department secretary after 11 years of service. Memorial contributions may be made to the Kalamazoo Humane Society.
Howard Wolpe, a former faculty member and U.S. representative, will be honored during two public memorial events. Locally, there will be a celebration and reception starting at 4 p.m. Tuesday, Dec. 13, in Miller Auditorium. Nationally, an event has been planned for 11 a.m. Thursday, Jan. 19, in the Ronald Reagan Building in Washington, D.C.
Memorial donations may be made to the Woodrow Wilson Center’s Africa Program.
Fall staff award winners to be feted at reception

Ten staff members have been selected to receive semiannual Make a Difference awards for fall 2011. The awards will be presented during a reception at 2 p.m. Monday, Dec. 5, in 157 Bernhard Center.

Members of the University community are invited to attend the reception, during which each award recipient will receive a before-tax prize of $300 and a commemorative certificate.

The fall 2011-12 recipients are:

- Christin Fawley-Zehner, Valley I Dining Service
- David Florida, electrical and computer engineering
- Margaret Hamilton, College of Fine Arts
- Anthony Helms, College of Education and Human Development
- M'Myia Hughes, College of Education and Human Development
- Lori Krum, physics
- Rainer Liebert, Sindecuse Health Center
- Jessica Parker, Extended University Programs
- Scott Puckett, enrollment management
- Roxann Swank, College of Education and Human Development
- Jessica Holsinger, College of Education and Human Development
- Rainer Liebert, Sindecuse Health Center

The awards will be presented during a semiannual Make a Difference awards program that recognizes University staff members for their outstanding accomplishments and daily investment of energy and creativity. Up to 15 staff members may receive the award in each of two semiannual award periods every academic year.

Team turns theory into observable science ___________ continued from page 1

Berrah, who is on sabbatical this year and doing research at the SOLEIL light source facility in Paris, is the lead author on the published results.

Working on her team were researchers from Japan’s Institute for Molecular Science and Tohoku and Hiroshima universities, Finland’s University of Turku, Sweden’s Stockholm and Uppsala universities, the Stanford Linear Accelerator Center, and the Sincrotrone Trieste free-electron laser facility in Italy.

Successful observation of the concept and evidence of how the observed results match the theoretical modeling, Berrah says, will help researchers fingerprint molecules that are similar and lead to a rebirth of electron spectroscopy for chemical analysis—the detection of particles and measurement of their energies.


December is great time to hear free classical music at WMU

University musicians are staging a variety of free concerts this month in honor of the holiday season.

• Two concerts are set for today in the Dalton Center Recital Hall. The Percussion Ensemble will perform global percussion grooves at 6 p.m. The Western Horn Choir, which is composed of French horn artists, will perform with special guest Michael Wood at 8:15 p.m.

• Friday, Dec. 2, the Symphony Orchestra will perform popular compositions by Russian masters at 8:15 p.m. in the Dalton Center Recital Hall.

• Monday, Dec. 5, student and faculty soloists will feature the music of Franz Liszt when they present “Lisztomania” at 7 p.m. in the Dalton Center Recital Hall. Visit www.wmich.edu/wmu/music/arts for stories about some of the upcoming free concerts and www.wmich.edu/events for a complete list of holiday-related events.

WMU named among ‘Best for Vets’ ___________ continued from page 1

WMU has made veterans a priority over the past five years with a number of initiatives that reach out to both veterans returning from deployment and National Guard members who might be called to serve at any time.

The University has the largest population of Iraq and Afghanistan veterans among all of Michigan’s 15 public universities.