Stockton Team Publishes Interdisciplinary Early Mammal Movement Research

A Stockton team of faculty and students is using a 3-D imaging technique called XROMM (X-ray Reconstruction of Moving Morphology) to model dinosaur movement by studying modern day reptiles and mammals.

Matthew Bonnan, associate professor of Biology; Jason Shulman, assistant professor of Physics; Mary Wilkes, adjunct instructor of Biology; Radha Varadharajan, a graduate; and Corey Gilbert, a senior, all of Stockton, collaborated with Angela Horner, of California State University, San Bernardino, and Elizabeth Brainerd, of Brown University, to write an academic paper.

Their work, “Forelimb Kinematics of Rats Using XROMM, with Implications for Small Eutherians and Their Fossil Relatives,” was recently published in PLOS ONE, the world’s first multidisciplinary, open-access journal for scientific research.

The XROMM animations show how the bones move in three-dimensional space and allow the researchers to calculate the range of movements capable at each joint. A thorough understanding of modern rat movement through scientific visualization can help recreate movement in extinct fossil specimens.

Shulman has been instrumental in analyzing the data, Bonnan said.

“Without him, interpreting the data would be difficult at best,” he explained. “This sort of research naturally lends itself to collaboration. You can’t understand all of this on your own, and it takes a team to make it possible. This is a lesson we are trying to impart to our undergraduates.”

“The lines between disciplines are blurred. The next generation of scientists will need expertise in multiple fields. This project allows our students to take steps in that direction,” Shulman said.

Bonnan and Shulman have now brought XROMM to Stockton, so that more students can learn on state-of-the-art technology in-house. Stockton’s Unified Science Center expansion will house a custom-built XROMM laboratory, one of the only undergraduate-focused XROMM labs in the world.

The equipment and lab were made possible by an Equipment Leasing Fund (ELF) state grant awarded to the School of Natural Sciences & Mathematics in 2013 through the efforts of Justine Ciraolo, director of Academic Laboratories & Field Facilities.
Sustainability Adds Conservation and Agroecology Concentration

The Sustainability program now offers a concentration in Conservation and Agroecology in response to students’ growing interest in farming and food security. Agroecology, the study of sustainable food production, goes beyond traditional agriculture by taking a whole-systems approach to include economic, ecological, cultural and social perspectives.

Course topics within the concentration include aquaculture, economic botany, green finance, forest management, fisheries science and regional planning.

“I’ve been at Stockton now for 18 years. For the first 14 of those, I never had a student come into my office or lab and say, ‘I want to be a farmer.’ Never happened. Now it happens about once a month,” said Patrick Hossay, associate professor of Sustainability.

“It’s important for students to know how food is grown and to begin to be a part of the healthy foods, healthy choices movement,” said Joseph Rubenstein, professor of Anthropology, who coordinates local school and community gardens. Rubenstein is working with students in the Agroecology concentration to enhance the Campus Kitchens Project in Atlantic City.

In addition to the new concentration, Hossay and Sustainability students in his “Energy Practicum” course tested the indoor air quality as part of a complete, investment-grade building energy audit at Absegami High School on April 13. The group also recently installed a solar array at the Campus Farm, which will help power the farm’s drip irrigation system and to heat a greenhouse over the winter months.

Hossay and students in his “Green Vehicles” course converted a Go-kart to run on vegetable oil. View photos here.

Stockton Recognized for Success in Employee Charitable Campaign

Stockton received three awards for the University’s participation in the 2015 New Jersey Employees Charitable Campaign (NJECC), which raised a total of $52,450, a 27 percent increase over 2014 donations.

Peter Baratta, chief planning officer, and Michelle McDonald, interim assistant provost, attended the NJECC recognition event on April 11 to accept the awards on behalf of the University.

Stockton received this year’s Chairperson’s Award for exceeding the fundraising goal, and the Governor’s Award for exceeding the previous year’s goal by 10 percent or greater.

Co-chairs Baratta; Cynthia Gove, project coordinator; and Brian Jackson, chief of staff, received the Campaign Manager Award for their “team leadership, dedication, and going above and beyond to promote the ECC.”

“This year’s campaign was a successful combination of dedication and fun. On behalf of Stockton’s ECC planning team, I would like to thank the entire Stockton community for supporting this worthy cause,” Baratta said.

Members of the planning committee included: McDonald; Tom Chester, director of Human Resources; Dawn Hans, manager of Special Events; Lydia Fecteau, adjunct instructor in General Studies; Ayisha Lee, program assistant in Development & Alumni Affairs; Carole LoBue, administrative assistant in Student Affairs; and Lolita Treadwell, executive assistant to the provost.
Pittenger Presents, Stockton Dance Ensemble Performs at ACDA

Caitlin Quinn Pittenger, assistant professor of Dance, recently presented two master classes in movement technique at the American College Dance Association conference at the College at Brockport, State University of New York.

Pittenger’s presentation included a class in “Advanced Modern Dance” and a class in “Advanced Contemporary Jazz Dance Technique.” She also served as the faculty representative for the Stockton team of 14 student dancers who attended the conference.

Stockton’s piece, “Fall Recover Recover,” was selected to open the Gala Concert during the conference. Pittenger described the dance as a modern piece with “expansive, physical movement.”

The dance was choreographed by Andrea Miller of Gallim Dance during the dance company’s residency at Stockton in Fall 2015. Pittenger, who served as rehearsal director and stage manager, planned the lighting for the performance with Professor of Theatre Arts Mark Mallett.

This was the second year in a row that a Stockton dance ensemble was selected to open the conference’s Gala Concert.

“We were so honored to be selected to perform again out of the 37 schools that attended,” Pittenger said. “Eleven pieces were selected for excellence and we were one of them.”

The guest artist work, “Fall Recover Recover,” choreographed during the Gallim Dance residency at Stockton, was made possible by support from Presidential Initiative Funds and Academic Affairs through the Dance Company Residency.

Janice Joseph Invited to Leuven Institute of Criminology in Belgium

Distinguished Professor of Criminal Justice Janice Joseph recently presented to students at the Leuven Institute of Criminology (LINC) at the University of Leuven, the largest research university in Belgium with over 55,000 students.

Joseph lectured to 300 undergraduate and graduate students; met with the Restorative Justice research team; and served as a discussant at a Ph.D. seminar, “Truth Commissions: the cases of Sierra Leone and Ghana.”

One highlight of the visit was participating in an inaugural ceremony of the New Fund on Transitional Justice, Joseph explained.

LINC research focuses on human rights and transitional justice; serious and organized crime; youth criminology; restorative justice and victimology; police and the judiciary; policy and management in the criminological field; criminological assessment and behavioral interventions; and punishment and control.

“It is a privilege to work with international scholars who value and respect me as a colleague,” Joseph said.

Construction Update: Arts & Sciences Building Renovations

This spring, the Department of Facilities Planning & Construction has begun the investigation portion of restoration and renovation efforts of the Arts & Sciences Building. The project includes restoring the building’s exterior appearance and updating the building’s heating, ventilation and cooling equipment, or HVAC system.
Construction Update: Arts & Sciences Renovations

Dan B. Cordle, interim director of Facilities Management & Plant Operations, explained that proper measures will be taken to ensure that the original appearance of the building, which was built in 1996 and designed by the late renowned architect Michael Graves, will be maintained.

Exterior maintenance is necessary, explained Cordle. The building’s stone supports are starting to show signs of wear from water freezing and thawing during the winter months. Some of the glazing on the bricks on the back of the building are also falling off and will need to be replaced. “The structural integrity of the building will be compromised if we allow this wear and tear to continue,” he said.

The building utilizes Stockton’s geo-thermal energy system, which draws upon natural aquifers located underneath the campus. The project will replace the current HVAC system of water source heat pumps with an efficient, variable refrigeration system.

“Most current heat pumps are not accessible. The normal life of this equipment is 20 years. After 20 years, a mechanical system needs to be replaced. We are being proactive,” explained Cordle. “As we take the building offline, there will be less strain on other campus buildings utilizing the system.”

Stockton received a grant from the Construction Improvement Fund to support the project, which will cost $4.162 million. The University has hired Vanderweil Engineers to handle the mechanical design work of the HVAC system, and architects from Spiezle Architectural Group, to handle the repair work of the building’s exterior.

In February, the architects and engineers surveyed the building. The survey consisted of an inspection, above the corridor ceiling, of the building systems, such as ductwork, piping, etc.

Currently, specific locations of the building’s exterior are being worked on at various times to expose exterior wall conditions hidden to view. The work is expected to continue until the end of the work day on Friday, April 22, 2016. Please use caution when entering, exiting or walking around the perimeter of the building. Please stay clear of construction activity, equipment and blocked areas. Any questions or concerns regarding this work can be directed to Project Manager Mark Ciccotelli.

Computer Services is Now Information Technology Services

The Office of Computer & Telecommunication Services is now Information Technology Services (ITS).

“The change in name reflects a broader scope inclusive to all facets of Stockton technology,” said Bob Heinrich, chief information officer. “Information Technology Services oversees the University’s computer and Internet systems, as well as telephone and wireless systems and services, database maintenance, and the overall electronic communications infrastructure.”

Production Services will now function under ITS. Advances in digital audio and video technology have created an overlap of services between both offices. This realignment combines services, eliminating duplicate processes and thus, provides greater, more efficient support to the University community. All Production Services requests will now be handled by the central ITS Help Desk at helpdesk@stockton.edu or 609-652-4309. Information Technology Services looks forward to serving the community with the same level of commitment faculty and staff have come to expect while also providing enhanced services as the University grows together moving forward.

Send Us Your News!

We want to know about things going on in the Stockton community. Do you have an unusual hobby? Did one of your co-workers win an award or perform outstanding public service? Births, weddings, graduations and the like are all good things to submit to The Stockton Times. Contact the editor at 609-626-5521 (ext. 5521) or via email at StocktonTimes@stockton.edu.

News about distinguished students can now be found at Distinctive Stockton Students. To contribute a news item for the blog, please contact the editor by emailing distinctive@stockton.edu.