



MILLSAPS COLLEGE

BIOLOGY NOTES



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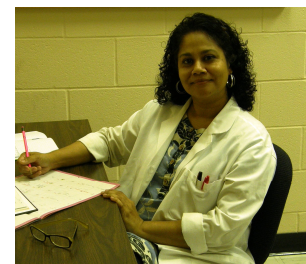
Welcome Dr. Naila Mamoon

We are pleased to welcome Dr. Naila Mamoon as our newest member of the Biology faculty. In addition to teaching in the Biology Department, Dr. Mamoon assumes the newly created position as Director of the Pre-Health Program at Millsaps. She earned Bachelor degrees in Medicine and Surgery from the University of Dhaka in Bangladesh, and she holds a Ph.D. in Pharmacology and Toxicology from the University of Mississippi Medical Center. She will teach human anatomy and human physiology as well as introductory cell biology and other courses.

Dr. Mamoon's research focuses on the contribution of epigenetics to the pathogenesis of disease. Epigenetics refers to stable but reversible changes in gene ex-

pression that are not due to changes in the coding sequence of a gene but rather to modifications such as the methylation of DNA or changes in DNA-binding histone proteins. She is investigating epigenetic modifications associated with the differentiation of promyelocytic leukemia precursor cells into macrophages or neutrophils in cell culture. Using rats exposed to chronic stress as a model of depression in humans, she is also investigating whether epigenetic changes of genes associated with the serotonergic system lead to serotonergic dysfunction and thus depression.

As Pre-Health Director, Dr. Mamoon joins the Health Science Pre-Professional Committee, including Professors Robert Nevins, Asif Khandker, Kristy Stensaas, Kurt Thaw, Lee Lewis Maggio, and Tim Ward



in helping Millsaps students prepare for health-related professions. The Committee continues those Friday afternoon interviews that many of you alums remember, while Dr. Mamoon advises current students, speaks with prospective students, and handles various administrative duties.

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Join us at Homecoming

The Biology Department is hosting an informal drop-in on the Olin breezeway over-looking the Bowl on Homecoming Saturday, October 9 from 11:30 to 1 pm. Please stop by for some refreshments and a chat with your old profs – and meet the new ones. Left to right → Prof Hogue, Prof Nevins, Dr McKeown, Dr Mann, Dr McGuire, Dr Hendrixson, Dr Tellkamp, and Dr Mamoon



Professor Nevins gives the (but not his) Last Lecture

The traditional “Last Lecture” was presented April 22 by Prof. Nevins. This tradition (now in its 4th year) is based on “The Last Lecture”, a prize-winning book (& lecture) by Randy Pausch at Carnegie-Mellon University in 2007. The illustrious series at Millsaps has featured Sandy Zale, James Bowley, Ted Ammon, & now Prof. Nevins.

The title was “Science – the Liberal Art”. Many people equate the liberal arts with the humanities. However, the concept of the liberal arts may be traced to the fall of Rome. In about AD 420 Martianus Capella summarized Roman knowledge in “The Seven Liberal Arts”. Four of these (astronomy, arithmetic, geometry, and harmony) may be considered as the foundations of the sciences. The other three

(grammar, rhetoric, and dialectic) comprise the trivium, and may be considered as the basis of the humanities.

This, however, was actually a last lecture. The last surviving interdisciplinary non-majors’ science course has for several years been “Natural & Human Disasters” jointly taught by Dr. Galicki & Prof. Nevins. YHVH smiled on this course, & delivered disaster after disaster. Stan dealt with earthquakes, volcanoes, & tsunamis, while goodol’ Bob scurried around trying to find biological disasters. Whereas Stan’s disasters dealt with one or two thousand deaths almost instantaneously, the biological disasters may occur over several months to years – but may involve a million or so people. But alas! This course is no more. It has

fallen prey to the need to conserve faculty for departmental functions – hence the poignant literal Last Lecture.

Unfortunately, the loss of this general science course comes at a time when there seems to be an increasing segment of the population who refuse to accept evidence (ie. demonstrable facts), preferring instead articles of political or religious faith. Their rejection of science leads to problems in public health, conflicts in our educational process, and does nothing to elevate Mississippi’s place in the pantheon of states.

Rather than end the lecture with “taps,” it ended with “retreat.”



Prof Robert Nevins
Associate Professor
Courses: *General Botany, Bacteriology, Immunology and Virology, Systematics and Evolution, and Human Evolution*

Millsaps Student Research Symposium

Beta Beta Beta will sponsor the 21st Annual Millsaps Student Research Symposium on Friday, January 28th, 2011. Posters will be displayed in the Olin Atrium at noon, followed by oral presentations at 12:30 p.m. in Olin 100. As always, you are welcome to attend. And if you know of a prospective student who is interested in science, please extend the invitation.

The symposium is a great way to find out about the impressive research that Millsaps students are doing in all of the sciences.

21st Annual Millsaps
Research Symposium

Kaxil Kiuc Biocultural Reserve

During the month of July 2010, Dr. Tellkamp took a field biology class to the Kaxil Kiuc Biocultural Reserve in the Yucatan, Mexico. The group stayed at the Millsaps College Research and Learning Center. The class left the reserve only once to visit the eastern portion of the peninsula near Tulum and Coba to learn about coastal ecosystems and spider monkeys. On the reserve, students learned to use a variety of field

techniques, such as drift fences, mist-nets, and digital trail cameras for the study of reptiles, birds, and large mammals, respectively. One of the highlights was a trail camera recording a female jaguar, providing the final proof that this majestic cat uses the reserve, probably to search for deer and peccaries (also photographed).

Prof Tellkamp and Thomas Martin →



Galápagos Islands

Students Kristen Andrus, Nate Davis, Elizabeth Meyer, Aubin St. Clair, Miranda Tucker, and Ward Coker traveled with Dr. Debora Mann and zoologist Tom Mann to Quito and the Galápagos Islands, Ecuador in June as part of their Galápagos Field Biology course. The class spent a week aboard the *M/Y Floreana* in the Galápagos visiting the islands of Baltra, Santa Cruz, Genovesa, Santiago, Bartolomé, Sombrero Chino, Isabela, Fernandina, and Rabida. They observed many of the species for which the Galápagos Islands are known, including giant tortoises, land iguanas, marine iguanas, Galápagos fur seals, Galápagos sea lions, Galápagos penguins, flightless cormorants, flamingos, green sea turtles, red-footed, blue-footed and

Nazca boobies, and, of course, Darwin's finches.

Four of the students, Kristen, Nate, Elizabeth, and Ward, received scholarships for the course from the Judy and E. B. Robinson, Jr. International Fellows Program, made possible through a generous gift to Millsaps College from Bud and Judy Robinson.



Ward Coker, Nate Davis, Miranda Tucker, Tom Mann, Debora Mann, and Aubin St. Clair. Seated: Elizabeth Meyer and Kristen Andrus

Darwin Exhibit

A traveling exhibit, "Rewriting the Book of Nature: Charles Darwin and the Rise of Evolutionary Theory" will be on display in the Millsaps Wilson Library January 7- 28, 2011. The four-banner exhibit comes to Millsaps on loan from the National Library of Medicine. Also to be displayed in the library in January is a photo essay, "In Darwin's Footsteps," featuring photos from Dr. Debora Mann's Galápagos Field Biology class.

In conjunction with the Darwin exhibit, the Millsaps Forum for Friday, January 21, will feature Professors Amy Forbes (History) and Patrick Hopkins (Philosophy), who will discuss Darwin and the history of science.

Photo—Rewriting the Book of Nature: Charles Darwin and the Rise of Evolutionary Theory Exhibition Installation image Courtesy National Library of Medicine



Samantha Hill in the Philippines

Millsaps Grad in Peace Corps

Samantha Hill (B.S. Biology 2010) packed her SCUBA gear and, on August 19th, flew to Manila in the Philippines to where she is serving in the Peace Corps. After her initial training, Sam will begin her job as Coastal Resource Management Extension Worker focusing on coral reef conservation and restoration.



Summer Research Trip Southwestern USA



Millsaps biology majors, Nate Davis (jr.) and Brendon Barnes (so.), accompanied Dr. Brent E. Hendrixson on a two-week expedition into the American Southwest July 21-August 4, 2010. The trio trekked 4500 miles across Texas, New Mexico, Arizona, California, and Nevada while searching for arthropods in the Chihuahuan, Sonoran, and Mojave Deserts. While exploring the Mojave Desert, the crew entered the Badwater region of Death Valley National Park (the lowest elevation in the United States, 282 feet below sea level); temperatures hovered near 120°F at 7:30 PM. Significant findings of the trip included the discovery of a brand new species of tarantula still unknown to science and the collection of several different scorpion populations from sky island habitats (i.e., “islands” of moist montane forest habitat separated by “seas” of harsh desert habitat). In total, the trip yielded over 60 tarantulas, dozens of scorpions, several vinegaroons and large centipedes, and an impressive insect collection. The group also visited unique eateries such as El Guero Canelo (featured on the Travel Channel’s *Man vs. Food*) in Tucson, AZ and Heart Attack Grill (featured on CBS News) in Chandler, AZ. While attending the American Tarantula Society Conference in Tucson, Hendrixson filmed a short segment for a show entitled *Bugging Out* that will appear on the Discovery Science Channel later in the fall.

On the top left—Brendon holding a Sonoran mud turtle (Coronado National Forest, Peloncillo Mountains, NM).

On the bottom left— Nate holding a male tarantula in one hand and a giant Sonoran toad in the other (Catalina State Park, Tucson, AZ).

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