

BIOrhythms

Washington University Biology Department Newsletter

March 2013

“Don’t judge each day by the harvest you reap but by the seeds that you plant”

—Robert Louis Stevenson

Helpful Links

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BIOrhythms is a publication of the Washington University Biology Department for Undergraduate Majors

Contact Erin Gerrity to submit articles/info:

Erin Gerrity
Editor-BIOrhythms
Biology Department
Washington University
Plant Growth 105
Campus Box 1137
St. Louis, MO 63130-4899
314 935-5064
gerrity@biology2.wustl.edu

Featured in this issue:

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Calendar: Biology Events and links to event listings



Faculty Spotlight: Dr. Scott Mangan, Assistant Professor



You could say that Scott Mangan began his ecology field work as a child, exploring the forest in his own back yard in rural Wisconsin. As a child, he was always fascinated by the multitude of species interactions that occurred in the small woodlot near his home. His early interests led him to complete undergraduate and master’s degrees in Biology at the University of Wisconsin-Oshkosh. It was there where community ecologist, Dr. Gregory Adler, first introduced him to the extreme diversity of tropical forests of Central America and Southeast Asia. He completed his PhD at Indiana University in Bloomington, Indiana with Dr. James Bever. For both his Masters and doctoral research, he focused on determining the ecological importance of soil-borne fungi to tropical forest regeneration. Most tropical trees are dependent on the symbiotic relationship with mycorrhizal fungi. These below-ground fungi colonize tree roots and effectively

increase the surface area of the tree’s root system. The fungus provides the tree with the ability access scarce nutrients, whereas the tree provides the fungus with sugars.

Much of Dr. Mangan’s field work has been conducted at the Smithsonian Tropical Research Institute in Panama. The Institute contains several research sites. Mangan studied at the oldest and most famous of these sites, Barro Colorado Island, located in the Panama Canal. This field station, complete with labs and dorms, provides him with infrastructure and logistical support to build upon his early studies, allowing him to experimentally address the importance of interaction formed

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Career Center Spring Events

Career Center Locations:

Danforth University Center, Suite 110 with satellite offices in Lopata Hall, Brauer Hall and Steinberg Hall

Main Office Hours in the Danforth University Center: Monday-Friday: 8:30 a.m. - 5:00 p.m.

Upcoming Career Center Events

Etiquette Dinner: March 19

(Registration ends March 15) Educate yourself on the basics of fine dining around a lunch or dinner interview. A three course meal is provided. To register, visit the Career Center in the DUC. For more information, visit CAREERlink.

Making Your Mark on the World—Service Programs to Explore: March 20

Join us for a panel event featuring CityYear, Peace Corps, Teach for America and Coro! Learn more about the application process and goals of each program, along with information on how you can have a positive impact in areas like education and healthcare, both in America and overseas. RSVP in CAREERlink.

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BIO 4170: Population Ecology

This course examines the ecological factors that cause fluctuation and regulation of natural populations and emphasizes the utility of mathematical models to assess the dynamics of populations. The course includes lecture, discussions and computer labs using the programming language MATLAB. Emphasis is placed on principles as applied to conservation and management. Topics include assessing extinction risk of rare species, invasion dynamics of exotic species, demographic and environmental stochasticity, metapopulation dynamics, structured populations, the role of species interactions, and microevolutionary processes. Prerequisites: Calculus (Math 131 and 132), and at least one of the following: Bio 2970, EnSt 295. Offered every other fall.

Faculty Spotlight Cont'd—between plants and the surrounding soil, specifically the biotic agents as well as fungal and bacterial pathogens contained in the soil.

His early studies built the foundation for his current research which suggests that plant-soil interactions provide answers to two fundamental ecological questions: What dynamics maintain species richness? What processes determine why some species are rare and others more common? The three major areas of study in the Mangan Lab are: the role of plant-soil feedbacks in determining plant-species composition; community ecology of arbuscular mycorrhizal fungi; and ecological and evolutionary implications of animal-fungal interactions.

Dr. Mangan joined Wash U's Biology Department as Assistant Professor in September 2012. He will be teaching Bio 4193: Experimental Ecology Laboratory at Tyson Research Center. The course is being moved from fall to spring semester, beginning in spring 2014. Bio 4193 provides an overview of the design and interpretation of ecological research, with an emphasis on hypothesis testing, sampling methods, and data analyses. The course addresses how fundamental ecological knowledge is acquired through the use of observational studies, natural experiments, and field and laboratory manipulative experiments. In addition, he will be a mentor for Bio 200/500 and for the Tyson Summer Research Program, an active undergraduate research program in ecology, evolutionary biology, and related environmental sciences. Dr. Mangan will also be able to provide undergrads with opportunities for hands-on summer internships in Panama at the same field station where he studied with the Smithsonian Tropical Institute.



A field experiment designed to evaluate whether negative plant-soil feedbacks are common in tropical forests. Negative feedbacks are predicted to maintain tree diversity if soil pathogens associated with roots of adult trees inflicted greater damage on their own seedlings than seedlings of other species.

In his free time, Dr. Mangan continues to explore his lifelong interests in nature and hobby aviation. For more information about the Mangan Lab, go to: <http://manganlab.weebly.com/index.html>.

Student Announcements

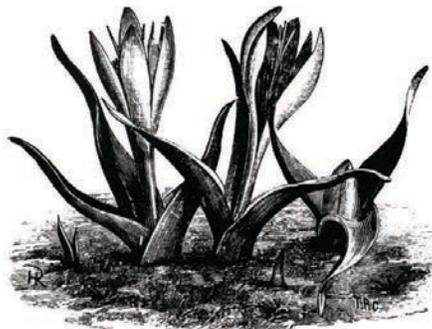
Einstein Explorers

Want to perform awesome science demos at the Children's Hospital to BRIGHTEN a child's day? Want teaching, clinical and volunteer experience? Come as many times as you want! No additional training or experience is required. Email einsteinexplorers.wucy@gmail.com for more information.

STATS (Students Teaching AIDS To Students) Volunteer Opportunity!

STATS (Students Teaching AIDS to Students) is a program through WashU HOPE in the Campus Y that partners with WashU medical students. We travel to local high schools to teach a curriculum focused on the biology of HIV/AIDS as well as prevention. We are currently working with two high schools and have set up days to go and teach the STATS curriculum in March and April. This is a great way to spread awareness and HIV/AIDS education, practice presentation skills, and work with Washington University Medical students. If you are interested in teaching, be sure to sign up for a slot on this google doc: <https://docs.google.com/spreadsheet/ccc?key=0Aki6oxkUk0WtdFVVY3FVNVRCYTdkbkFkdzMxYIF4Mmc>. The dates are March 5-8 and April 16, 19, 23, and 24.

If you sign up for a slot, we will contact you about going through a short training session to go over the curriculum. If you have any questions, feel free to email us at wuhope.wucy@gmail.com.



Do You Have...

An announcement you'd like to make?

An interesting story or fun fact you'd like to share?

A professor or course you'd like to suggest for a spotlight?

We want your input! Send ideas and information to:

gerrity@biology2.wustl.edu

CAREER CENTER CONT'D—

Exploring Healthcare Careers: March 27

Pre-Health freshmen and sophomores! Now is the time to explore your options in healthcare and understand how to apply to the programs available to you. Join us at this event where representatives from WUSTL's physical therapy, occupational therapy, and Goldfarb School of Nursing will discuss their programs, requirements, and application processes! RSVP in CAREERlink.

For more spring events, go to careers.wustl.edu/events.

Contact Us:

Phone: 314.935.5930

Fax: 314.935.5905

E-mail: careers@wustl.edu

Website: careercenter.wustl.edu

Have a Quick Question? You can always stop by the Career Center's Quick Question hours in the main office Monday-Friday, 11am-5pm for assistance with CAREERlink, writing your resume and cover letters, or for quick guidance.

Biology Department Calendar



Links to General Calendars and Regular Events:

Washington University Record Calendar: <http://news.wustl.edu/Pages/Calendar.aspx>

Biology Department Seminars, Mondays, 4:00pm, Rebstock 322, check the website for topics/schedule: http://wubio.wustl.edu/events?field_event_tags_tid=19

Evolution, Ecology, & Population Biology Seminars, Thursdays, 4:00pm, Rebstock 322, check the website for topics/schedule: http://wubio.wustl.edu/events?field_event_tags_tid=18

History & Philosophy of Science Seminar Series: <http://pages.wustl.edu/hpbm/events>

Plant Lunches: most Tuesdays at noon (1st Tuesday of month @ DDSPC, others @ McDonnell 212): <http://wubio.wustl.edu/events/plant-lunch>

Donald Danforth Plant Science Center (DDPSC), Weekly Seminar Series—Wednesdays, 3:45pm, AT&T Auditorium, check the website for topics: http://www.danforthcenter.org/the_center/events/seminars_symposia/

Division of Biology and Biomedical Sciences (DBBS), all lectures and seminars: <http://dbbs.wustl.edu/Pages/index.aspx>

March 2013

11th Spring Break Begins

27th Summer School Registration begins

April 2013

1st Advising Period begins (4/1-4/12)

16th Fall Registration begins, April 16th—19th

May 2013

2nd Final Exams begin

16th College of Arts & Sciences Recognition Ceremony

17th Commencement

