

BIOrhythms

Washington University Biology Department Newsletter

February 2017

“Never trust an atom...they make up everything”

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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

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Faculty Spotlight: Kathleen Hanes



Dr. Kate Hanes is originally from the St. Louis area. Growing up, she was always interested in aquaria, citing family vacations and road trips as her first introduction to public aquariums, marine life and exhibits. She became certified to dive in college and spent a semester abroad in the Turks and Caicos Islands, BWI, where she got to spend a lot of time underwater, driving her interest in marine biology. Throughout her own educational years, and later teaching experiences, Kate developed a special passion for environmental science, emphasizing the importance of understanding our relationship with the world around us as fundamental to all aspects of life and all fields of study.

She received her undergraduate degree at Swarthmore College in Pennsylvania, followed by a master's degree from the University of Florida at Gainesville. She completed her master's research in the lab of her advisor Karen Bjorndal, head of the Archie Carr Center for Sea Turtle Research. Kate's research involved sea turtle biology, specifically looking at temperature cues that loggerhead sea turtle hatchlings use to time their emergence from the nest. Kate stayed to complete her PhD, enjoying field work in the Bahamas where she studied community-wide impacts that green turtles have while grazing in seagrass beds.

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Career Center Events in Spring 2017

February 21: Etiquette Dinner: Students learn the basics of fine dining around a lunch/dinner interview. Sign up by Feb. 14! Information on how to sign up is in [CAREERlink](#).

March 7: Rush Medical College will host an information session for pre-med students. This is a great opportunity to learn about their program and ask questions from an admissions rep 12-1:00, DUC 234.

Stipend deadlines approaching: To make unpaid internships financially viable for students, the Career Center provides a limited number of stipends to qualified students. **Application deadlines are March 1 and April 1.**

Join the **Pre-Health Career Interest Group** for an inside scoop into careers in health.

You can always stop by the Career Center's Quick Question hours in the main office Monday-Friday, 10am-5pm for assistance with CAREERlink, writing your resume and cover letters, or for quick guidance or to set up an appointment. careercenter.wustl.edu

Locations:

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

Main Office Hours in the Danforth University Center:

Monday-Friday: 8:30-5:00

Contact Us:

Phone: 314.935.5930

Fax: 314.935.5905

E-mail: careers@wustl.edu

Website: careercenter.wustl.edu

Course Spotlight: Bio 4524: Structural Bioinformatics of Protein

In this investigative laboratory course, students will be given high-quality, experimentally determined, three-dimensional structural coordinates and will use cutting-edge bioinformatics tools and methods to evaluate and analyze these datasets. Some topics include: structural validation, protein-structure prediction, domain and motif recognition, secondary structure prediction, protein-protein and protein-ligand interactions, protein and structure-based sequence alignments, inferring protein function from structure, electrostatic interactions, and threading and homology modeling. Upon completing their analyses, students will be responsible for writing a manuscript that will be submitted to a scientific journal for publication. Prerequisites: Bio 2960 and Chem 262. Fulfills upper-level laboratory requirement for the biology major. 4.0 units. Credit. Craig Smith

JCUBES: The Journal Club for Undergraduates in Biological Engineering and Sciences

JCUBES is Washu's undergraduate science journal club, established with the goal of enabling students to bring the world of science and technology to their peers in an environment that fosters critical thinking and discussion. At each meeting, a student presents either their own research or current science of personal interest to the group, followed by an open Q&A session. Meetings with complimentary food will be held 2/9, 3/2, 3/23, 4/6, and 4/20 at 6 pm in Life Sciences 310. For more information, visit <https://wustljcubes.wordpress.com/> or email wustljcubes@gmail.com.

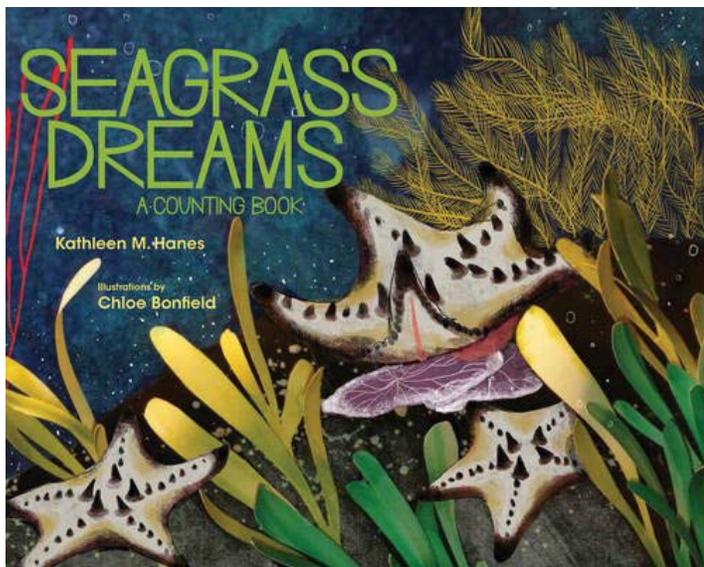
JCUBES is excited to be hosting Dr. Stuart Firestein, chair of the Biology Department at Columbia University, for a talk at 5:00pm in Rebstock 322 on 2/17. The title of his talk is "Ignorance, Doubt, Uncertainty, Failure: Why science is so successful". Following his talk, there will be a reception at which Dr. Firestein will be available for discussion. Please fill out **this form** if you are interested.

St. Louis Undergraduate Research Symposium (STLAURS)

Any student conducting research is invited to participate in this year's St. Louis Undergraduate Research Symposium (STLAURS). STLAURS brings together students from across the St. Louis region to share their work with peers and present to faculty and industry leaders. This year's event will take place on April 1st at St. Louis Union Station. Interested students may register here by March 1st. The event is free for students from sponsor schools and includes a light breakfast, box lunch, keynote address, and networking opportunities with industry leaders. The event will conclude with an awards ceremony with over \$1000 in prize money. For more information, visit www.stlaurs.org.



Kate Hanes cont'd—Post-graduation, Kate moved to California where she taught high school biology in both Los Angeles and Santa Cruz, before taking time off to raise two young children. She and her husband, Dan Hanes, eventually moved back to St. Louis where he became a professor at St. Louis University and she taught high school science at Mary Institute and St. Louis Country Day School (MICDS). Kate joined the Biology Department at Wash U in fall 2016, where she teaches lab sections for Biology 2960 and 2970. She has always enjoyed the teaching aspect of science more than the research. She finds the process of creating lesson plans and seeing her students' progress over the course of the semester very satisfying, and also participates in various educational outreach opportunities outside of the classroom.



illustrates the animals that dwell in seagrass and which is due to go on sale from Quarto Books in May 2017.

When Kate is not teaching, she spends time with her husband and two daughters, ages 7 and 9. They enjoy recreational activities including swimming, playing outside in parks, visiting the Science Center and MO Botanical Garden. In addition to her personal hobbies of knitting and reading fiction, she has completed a children's picture book about counting, called *Seagrass Dreams*, which



Student Volunteers Wanted for STEAM Event March 15, 2017

College & Career Consultants from the Missouri Department of Elementary and Secondary Education (DESE) are holding a STEAM (Science, Technology, Engineering, Arts & Math) Event for over 450 - 7th grade girls on the Danforth campus on March 15, 2017. The group is seeking graduate and undergraduate students to serve as panelists during lunch discussions. Come share your pathway to college story, your experience on college life and talk about your major & career goals. For more information, contact Chris Mohr, Institute for School Partnership, at mohr@wustl.edu.

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

College Office Introduces new major/minor tracking tool WUachieve

WUachieve is an online tool to help students track progress toward completing major/minor program requirements.

Top 5 things you need to know about WUachieve:
1. WUachieve is a tool for estimating your progress towards completing a program. Your department will make the final determination regarding program completion.

2. When you log in, WUachieve will display your most recently run audit. Information may have changed. Always run a fresh audit!

3. WUachieve assumes that any In Progress (IP) course will be completed with a satisfactory grade.

4. WUachieve uses real-time data. If you drop/add a course, this change should appear immediately after you run a fresh audit.

5. It is important to discuss your program progress with your advisor(s) on a regular basis.

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WUAchieve cont'd—

We invite you to run an audit and review how your course selections to date are fulfilling your major/minor program requirements.

1. Logon to WebSTAC and select WUachieve from the “Academics” tab.
2. Once WUachieve opens, click Audits on the red menu bar. Then select Request New.
3. Click Run Declared Programs.
4. Wait a few seconds for the audit to run, and click View Audit for the newly run audit that appears at the top of the list.

More information – including information on how to run a “What If” audit on a program you have not declared – can be found at the help site.

If you have questions about your program audit(s), consult your major/minor advisor.

WASH U Global Brigades Club: Service Learning Opportunities for Undergrad Experience



Over winter break, 36 undergraduate student volunteers traveled to a community in rural Honduras to provide access to quality health and dental care through the organization Global Brigades. Led by biology majors Caroline Davitt, Matt Agritelley and Sydney Woods, this medical brigade was able to treat more than 700 patients in the community of Los Terrones, El Paraíso in just 3 days. The

mobile medical clinic was run in the community’s elementary school and featured licensed general physician consultation (including one US board certified physician that accompanied the group), dental hygiene checks, often resulting in fillings and extractions, gynecology and ophthalmology specialized consultations, a comprehensive pharmacy, adult sexual education and a children’s dental hygiene “charla” education. The students created medical records for each patient that was seen and medications were prescribed and distributed entirely free of charge, in part thanks to grants from the Gephardt Institute’s Civic Engagement Fund and the Women’s Society of Washington University.



Global Medical Brigades develops sustainable health initiatives and provides relief where there is limited access to healthcare. Every year, hundreds of student volunteers and health professionals from all over the United States travel to Honduras to establish these mobile clinics in under resourced communities, which receive a brigade visit every 3 to 4 months. In addition to running the clinic, the Wash U medical brigade worked to establish a consistent higher level of health in different communities by empowering local leaders as certified community health workers, delivering public health workshops and building eco-stoves for 10 families to prevent lung disease. At the end of the week the Global Brigades staff honored the Wash U team by recognizing them as particularly genuine and compassionate in their service.

A student can get involved with the Wash U Global Brigades Club and the trips are advertised at activities fairs and online on Wash U Global Brigades Facebook page and website:

<http://washugb.com/>.

—By Caroline Davitt



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>

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>

PMB Super Group: most Wednesdays 12:00-1:00 in McDonnell 412:
<http://wubio.wustl.edu/events/pmb-supergroup-seminar-series>

Donald Danforth Plant Science Center (DDPSC), Weekly Seminar Series—check the website for event details and topics: <http://www.danforthcenter.org/events/scientific-seminars>

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

February 2017

17th JCUBES talk, Rebstock 322, 5pm

March 2017

13th Spring Break

29th Summer Registration Begins

April 2017

3rd Advising Begins

17th Fall 2017 Registration Begins

28th Last Day of Classes!

