



# BIOrhythms

Washington University Biology Department Newsletter

February 2014

*“Support bacteria,  
it’s the only culture  
some people have.”*

— *Bumper sticker*

## Helpful Links

[Biology Home Page](#)  
[Biology Course Listings](#)  
[Faculty Listings](#)

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

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## *Featured in this issue:*

**Faculty Spotlight:** Dr. Craig Smith, Biology Lecturer

**Course Spotlight:** BIO 2960: Principles of Biology I

**History & Philosophy of Science & Medicine Seminar Series**

**Career Center:** Spring Events

**Calendar:** Biology Events and links to event listings



## Faculty Spotlight: Dr. Craig Smith, Biology Lecturer



*Dr. Smith sitting at his desk looking at the crystal structure of protein that he talks about in one of the classes he teaches.*

Craig Smith was born and raised in Indianapolis, IN. He received his undergraduate degree at Purdue University, and pursued a PhD in Biological Chemistry at University of Michigan-Ann Arbor. His postdoc work was completed at Wash U’s med school in Scott Hulgren’s Lab in the Molecular Microbiology Department, followed by work as a research scientist in Tom Ellenberger’s Lab.

Dr. Smith has always been a teacher in some capacity throughout his career. In the past, he has been a teaching assistant for various labs as an undergrad and grad student, as well as a tutor at University of Michigan’s Dental School. He’s also been involved in the Young Scientist Program at Wash U. During his free time, another St. Louis community-based program called Byteworks, had him refurbishing old computers to be given to middle school students who were then taught how to use them. He has built computers in the past and taught organic chemistry labs and other biology courses as an adjunct professor at UMSL, Forest Park Community College and Lindenwood College. Dr. Smith has always enjoyed teaching and decided to leave the field of research to begin teaching full-time here on the Danforth campus in fall 2010. —*cont’d on page 2*

## 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.

#### Contact Us:

Phone: 314.935.5930

Fax: 314.935.5905

E-mail: [careers@wustl.edu](mailto:careers@wustl.edu)

Website: [careercenter.wustl.edu](http://careercenter.wustl.edu)

### Upcoming Career Center Events

#### FRESHstart: Feb. 12

The Class of 2017 can hear from a panel of upperclassmen and Career Advisors and start thinking in a fresh way for the summer. RSVP in CAREERlink.

#### Etiquette Dinner: February 18 (Registration ends February 14)

What menu items should you steer away from when you're out to lunch with your boss? Learn the rules of fine dining around a lunch or dinner interview at this three-course meal. To register, visit the Career Center in the DUC. For more information, visit CAREERlink.

*CONT'D on next page*

**Faculty Spotlight cont'd**— As a full time instructor at Wash U, Dr. Smith teaches both day school and University College courses. He teaches U29 Bio 305: Microbiology in spring and summer, and U43 IS 210: Bugs, Drugs and Global Society: Topics in Global Health in spring. He also teaches Bio 2960 and 2970 labs for the day school in spring and fall along with instructors Kathy Hafer, Patrick Viguera, April Bednarski and Wil Cruz. This spring, he will also be teaching a few of the lectures for Bio 2960 for the first time (see general course description below).

Dr. Smith enjoys teaching labs because they provide an opportunity to interact with students on a level that can't be achieved in large lecture halls. One on one teaching helps the instructor gauge what students think about the course and lab, and identify areas where students may need more help or modified instruction. His job is to make sure the lab is run efficiently and reinforce the principles taught in the lecture. He designs labs that both match the lectures and measure the students' grasp of the material. The lab sessions begin with 15-20 minutes of teaching the "why", followed by experimentation and questions.

His new protein structures lab will be integrated into the lecture portion of 2960 this spring. The lab uses a new software visualization program called PyMOL. This innovative technology paired with Dr. Smith's background in crystallography, computational biology, and structural biology makes it possible to show proteins to the students in a way that is more interactive and visually understandable. Dr. Smith's coding expertise allows him to embed interactive molecular structures into a PowerPoint slide that in the past was a static picture or diagram. Each protein has an ID in the RCSB Protein Databank (PDB). Dr. Smith takes images from the Bio 2960 textbook, looks them up by their official code in the PDB and PyMOL pulls the data. He codes it, tells it what to show, in order to teach the aspect he wants to teach. Now the instructor can zoom in, show amino acids, turn the image around in 3D, and illustrate interesting features of a protein structure. He believes that it adds more value and a deeper understanding to be able to look at it in real time; it's actual learning vs memorizing. Applying concepts provides a strong foundation and depth of knowledge for more specific and complex courses down the road. Dr. Smith has an "open door" policy. Please feel free to stop his office to talk about anything from biology to your future career goals.



## BIO 2960: Principles of Biology I

The course provides an introduction to biochemistry, cell biology, and molecular biology. An understanding of cellular architecture and mechanism, and the properties of biological macromolecules are integrated with a discussion of the flow of genetic information within cells. The course ends with the application of this understanding to selected areas in modern biology. Weekly labs reinforce concepts from lecture and explore common laboratory techniques and computer-based resources. Prereq: Chem 111A and Chem 112A (concurrently). Three hours of lecture and 2 hours of lab per week, 4 units. Offered every spring semester.

## Spring 2014 Opportunity for Undergrad Research

Ph.D. candidate Claudia Henriquez of the Schaal lab has announced an opportunity for undergrads to participate in her research: *Class 1 knox genes in Anthurium—Are there signatures of selection in simple vs. dissected leaves?*

Research methods include DNA sequencing, cloning, statistical tests to detect molecular signatures of natural selection. Research could potentially lead to authorship in future publications. For more information contact Claudia Henriquez at [chenriquez@wustl.edu](mailto:chenriquez@wustl.edu), Evolution, Ecology & Population Biology Program.

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## History & Philosophy of Science & Medicine Seminar Series Spring 2014

Wednesdays (Unless otherwise noted)  
Noon – 1:30 pm, Life Sciences Building, Room 202

### Wednesday, February 5

James Tabery (Adjunct Associate Professor, Pediatrics, University of Utah, Associate Professor, Philosophy, University of Utah) "Of Dogs, Daycare, and Discipline: A "Genetic Guide to Parenting"?"

### Wednesday, February 26

Maria Kronfeldner (Junior Professor for Philosophy of Science, Bielefeld University) "How norms make causes"

### Wednesday, April 2: Thomas Hall Seminar

Marsha Richmond (Associate Professor, History of Science, Wayne State University) "What can the history of biology tell us about women's participation in science?"

### Monday, April 28

Charles T. Wolfe (Research Fellow, Centre for History of Science, Department of Philosophy and Moral Sciences, Ghent University) "The organism as ontological go-between"

For further information email Carl Craver, Department of Philosophy ([ccraver@wustl.edu](mailto:crcraver@wustl.edu)) or Anya Plutynski, Department of Philosophy ([aplutyns@artsci.wustl.edu](mailto:aplutyns@artsci.wustl.edu))

*This series is generously supported by the Office of the Dean of Students in Arts and Sciences; Soft drinks are provided courtesy of the Department of Biology*

### 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](mailto:gerrity@biology2.wustl.edu)

### CAREER CENTER CONT'D—

#### National Geographic Young Explorers Grants Workshop: February 22

National Geographic Young Explorers Grants support students ages 18 to 25 in their pursuit of research-, exploration- and conservation-based field projects. Join National Geographic staff and grant committee members in Lab Sci 300 for a day of presentations and discussion, as well as break-out groups to pitch your field project ideas. Details and registration at [national-geographic.com/yeg-workshop](http://national-geographic.com/yeg-workshop).

For more upcoming events, go to:

[careers.wustl.edu/events](http://careers.wustl.edu/events)

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>

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](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 Tuesdays 9:00-10:00 in McDonnell 362:  
<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>

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## February 2014

26th Annual Viktor Hamburger Lecture: Dr. Chris Q. Doe, 4:00pm, location TBA

## March 2014

9th Spring Break: March 9-15

31st Advising Period Begins

## April 2014

15th Registration Begins

25th Last Day of Spring classes

## May 2014

15th Arts & Sciences Recognition Ceremony

16th Commencement

