



# BIOrhythms

Washington University Biology Department Newsletter

October 2012

*“Success is the ability to go from one failure to another with no loss of enthusiasm.”*

—Winston Churchill

## 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:

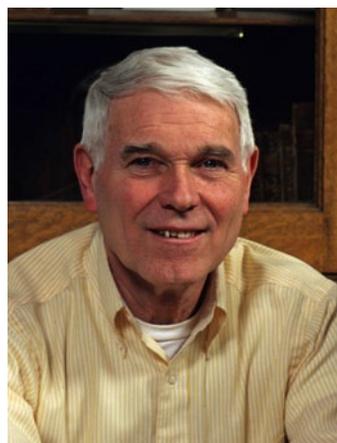
Faculty Spotlight: [Garland Allen](#)

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Calendar: [Biology Events & links to event listings](#)



## Faculty Spotlight: [Garland Allen](#)



Dr. Garland Allen is a bit different than most of the professors in the biology department. His research is focused on the history and philosophy of biology rather than on benchwork experiments. He grew up in Louisville, KY and received his undergraduate degree in biology at the University of Louisville, followed by attending graduate school for a year at Harvard to complete a Master of Arts in Teaching degree (MAT) in 1958. For the following three years he taught biology at the Northfield-Mount Hermon Schools in western Massachusetts. This is where he said he *really* learned a lot about the field of biology and became fascinated by the changes taking place in the field and in teaching at the time. This was just the time when biology was

becoming molecular and new courses were just beginning to incorporate this approach, replacing the old descriptive, “romp through the plant and animal phyla.” This experience led to his decision to finish his PhD in Harvard’s History of Science department, focused on the history of genetics and its relation to embryology and evolution in the twentieth century. He taught at Harvard for two years before joining Wash U as an Assistant Professor.

At that time, it was unusual for someone in the field of the history of science to get a position in a science department. However Wash U faculty members Tom Hall and Viktor Hamburger shared Gar’s interest in using a historical and philosophical approach to teach science more effectively, so he was hired to teach the combined majors-minors course (Bio 101-102, including labs), later a non-majors course (Bio 105-106) and later Bio 296A. Along with these assignments he taught a variety of history of biology courses as well as a course on the scientific revolution. During this period Gar co-authored a series of introductory biology texts that went through four editions, incorporating the historical approach, explaining how we know what we know. —*cont’d on page 2*

## Career Center Events: Fall

### Locations:

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

Main Office Hours in the Danforth University Center:

Mon-Fri: 8:30am - 5:00pm

### 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)

### 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.

### Upcoming Events

#### Sophomore GPS: 10/19

This event, designed exclusively for sophomores, will take place from 10 am – 3 pm in Seigle Hall. Sophomores will learn the tools necessary for internship and job searching and how best to enter the post-graduate world. Breakfast and lunch will be provided. Sign up in CAREERlink.

#### Gallus Bio Day: 10/26

Gallus BioPharmaceuticals is opening their doors to all students for an open house at their facilities in order to meet with their scientists and discover what Gallus does. Doors open from 9 – 11am. Refreshments provided. RSVP in CAREERlink.

#### Careers in Phys. Therapy: 10/29

This session will explore the physical therapy field and its different career paths from 12 – 1 pm in DUC Room 111. Register in CAREERlink.

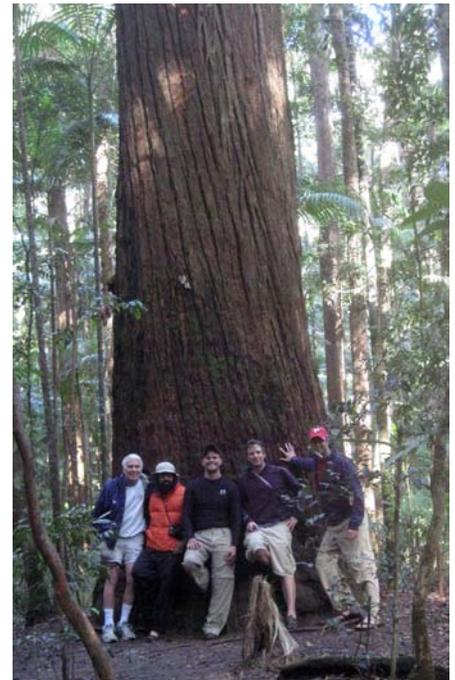
#### Etiquette Dinner: 11/14 (Registration ends 11/9)

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.

For more upcoming events, go to [careers.wustl.edu/events](http://careers.wustl.edu/events).

*Faculty Spotlight Cont'd*—Research funded by the National Science Foundation and other institutional grants over many years has allowed Gar to amass an amazing collection of archival documents about the history of genetics. These have been invaluable in preparing a biography of T.H. Morgan and a study of the development of the life sciences as a whole in the 20th century. These are also valuable for classes in which students read primary source material, for example, this semester in Bio 3183: A History of Genetics in the Twentieth Century. This course basically covers the evolution of ideas about heredity from the post-Darwin period to the end of the century. It provides not only a history of how ideas about the nature of the gene and other aspects of genetics itself developed, but also provides a window on how biology as a whole went from being a “little science”, fairly low in the hierarchy of the sciences (compared to Physics for example, which is quantitative, with laws and predictive power) to its high standing, with a strong experimental, quantitative (and mathematical) and predictive base today.

Gar Allen's personal hobbies include hiking and backpacking in the mountains, tennis (until recently, anyway), and a love for music. He has hosted radio shows on local stations in the 1970s and 1980s, including one, “Music and Musicians” on KFUE which focused on a specific composer, genre or performer each week, in which examples would be tied together with a narrative. My own interactions and experiences with him have always been a pleasure. He is a great conversationalist. On top of that he is so dedicated to his work that practically no mishap keeps him from coming in with a cheerful smile for everyone he passes in the hall. —*Erin Gerrity*



*Hiking trip with philosophers and historians of biology at Fraser Island, Australia, 2009, prior to an international meeting in Brisbane*

## Course Spotlight: BIO 3183: A History of Genetics in the 20th Century

In this course, students look at both primary and secondary sources (other historians' commentaries on the original works) to study the evolution of genetics as a science. They also read chapters from the book Gar is writing: “From Little Science to Big Science”, covering the period of the twentieth century, in both classical and molecular genetics. Every other week, the class has a discussion section, learning how to read original works in the context of their time, not either as necessarily predecessors of today's ideas or as simply “wrong” turns that should have been avoided. Topics include:

- economic and social context
- genetics and agriculture
- genetics and Eugenics
- genetics in the context of WWII and the development of nuclear energy
- the physiology and biochemistry of gene action
- attempts to relate genetics to development
- molecular genetics in relation to agriculture and pharmaceuticals

—*cont'd on page 3*

*Course Spotlight Cont'd*—Overall, the course looks at the technical development of ideas in genetics and how these ideas relate to economics, political needs and developments. Rather than a traditional term paper, for a final course project, students pair off and create a powerpoint or website presentation on particular topics or experimental developments.

#### Official course description:

Bio 3183. A History of Genetics in the Twentieth Century (fall, intermittent)  
After a brief survey of pre-twentieth-century theories of heredity, this course examines the work of Gregor Mendel and its rediscovery in 1900, and its expansion as an interfield theory in combination with the chromosome theory, pioneered beginning in 1910 by T.H. Morgan at Columbia and R.A. Emerson at Cornell, and led to the expansion of classical genetics up to World War II. The beginnings of biochemical and molecular genetics in the 1920s and 1930s developed rapidly after the war with the double-helix theory of DNA and the rise of molecular genetics. The course ends with examination of the Human Genome Project (Initiative) and the ramifications of genetic biotechnology. Throughout, emphasis is placed not only on the technical and theoretical developments comprising genetics as an epistemic field, but also on the economic, social, political and philosophical interconnections between genetics and society. Agriculture, medicine and the ideology of social control (including such movements as eugenics and Nazi race hygiene) both influenced, and were influenced by genetics, and played an integral part in the construction of the science itself. Readings are drawn from the primary and secondary literature. There will be a mid-term, final and periodic student reports. Prerequisites: Biol 2960 and Biol 2970. Small class. Credit 3 units. G. Allen

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## Biology Undergraduate's Work Published in Science

Jonathan Herrmann, an undergraduate in the Jez lab, was a co-author on our recent paper: Corey S. Westfall, Chloe Zubieta, Jonathan Herrmann, Ulrike Kapp, Max H. Nanao, Joseph M. Jez (2012) Structural basis for pre-receptor modulation of plant hormones by GH3 family proteins. *Science* 336, 1708-11. —*Joe Jez*

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## Wash U's iGEM Team Recruiting Students for 2013

WashU's iGEM team is recruiting students for the 2013 competition! iGEM (the international Genetically Engineering Machines competition) is a synthetic biology competition in which students come up with a creative idea to engineer a microbe that can solve a real world problem and then use biological techniques to make it. This year's team worked on producing the color and flavor of the world's most expensive spice, saffron, in bacteria in order to ease pressures on the limited natural supply. Next year's team will start planning their amazing idea in the spring, and then conduct most of the actual lab work over the summer. Team members are compensated with a stipend, and the project wraps up with trips to Pittsburgh and Boston for the regional and international competitions. There is a place on the team for all creative, hardworking students from almost any department or school. iGEM is a fantastic way to learn about all of the different sides of research, from the actual lab work to the administrative aspects that go on behind the scenes.

If you are interested in learning more about the team and the competition, visit the WashU iGEM team's website or the competition's at: <http://2012.igem.org/Team:WashU> and <http://igem.org>, respectively.

If you think you might want to join next year's team or just have a question for us send an email to [WashU.iGEM@gmail.com](mailto:WashU.iGEM@gmail.com) to let us know.



## SURF Undergraduate Research Symposium, 10/27/12

The Summer Undergraduate Research Fellows (SURF), funded by the Howard Hughes Medical Institute and various other agencies, is an opportunity for freshmen, sophomores and juniors to apply for a 10 week research project with faculty mentors, earning a \$4000 stipend. Over the past few years, the number of students receiving awards has grown, due to increased funding and interest. When the research projects are complete, the participants join students from other fields to present their projects and findings at the Fall Undergraduate Research Symposium, this year's will be on October 27, 12-4pm. Many students continue to work with their SURF mentors throughout the academic year as paid lab technicians or in work study positions.

For more information: <http://www.nslc.wustl.edu/Research/HHMI/surf.html> or you can reach Amy O'Brien at [aobrien@wustl.edu](mailto:aobrien@wustl.edu) or in Life Sciences 200, 935-7170.

## Do You Have...

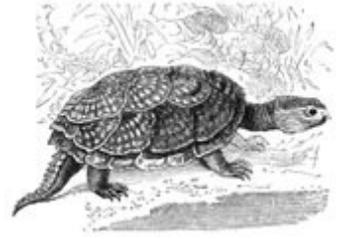
An announcement you'd like to make?

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)

# Biology Department Calendar



## Links to General Calendars and Regular Events:

Washington University Record Calendar: <http://record.wustl.edu/calendar>

Biology Department Seminars, Mondays, 4:00pm, Rebstock 322, check the website for topics/schedule:  
<http://wubio.wustl.edu/events?tid=8>

Evolution, Ecology, & Population Biology Seminars, Thursdays, 4:00pm, Rebstock 322, check the website for topics/schedule: <http://wubio.wustl.edu/events?tid=3>

History & Philosophy of Science Seminar Series: <http://wubio.wustl.edu/events?tid=12>

Plant Lunches: most Tuesdays at noon (1st Tuesday of month @ DDSPC, others @ McDonnell 212):  
<http://wubio.wustl.edu/events?tid=10>

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/](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/Events.aspx>

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## October 2012

12th W.I.L.D.

19th Fall Break, Friday, October 19th—NO CLASSES

26th Parent and Family Weekend, Friday, October 26-28

27th Summer Undergraduate Research Fellows (SURF) will present the results of their summer research from 12:00–4:00 pm in Olin Library

29th Advising Period Begins, October 29th—November 9th

## November 2012

13th Spring 2013 Online Registration Begins—*Undergraduates 90+ Units*

14th Spring 2013 Online Registration—*Undergraduates 57+ Units*

15th Spring 2013 Online Registration—*Undergraduates 24+ Units*

16th Spring 2013 Online Registration—*Undergraduates <24 Units*  
Last day to drop/W and change grading option to C for Fall 2012 courses

21st Thanksgiving Break, Wednesday, November 21st-25th—NO CLASSES

