



# BIOrhythms

Washington University Biology Department Newsletter

May 2011

*"It's spring fever.  
That is what the name  
of it is. And when  
you've got it, you  
want - oh, you don't  
quite know what it is  
you do want, but it  
just fairly makes your  
heart ache, you want  
it so!"*

*—Mark Twain*

## 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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articles/info*

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## Featured in this issue:

**Faculty Spotlight:** Peter Wyse Jackson

**Course Spotlight:** BIO 2950 & 2951

**Summer Jobs:** Career Center

**Stalker Award & Spector Prizes:** Winners 2011

**Undergraduate Research Symposium:** Spring 2011

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



## BIO 2950: Intro to Environmental Biology & BIO 2951: Intro to Environmental Debate



### BIO 2950

Dr. Tiffany Knight's course Introduction to Environmental Biology is open to freshman-seniors. This is a new course, approved by the Biology Department and Arts & Sciences curriculum committee, replacing ES 110. The course introduces students to our major environmental problems, and gives examples of how research in Biology, Chemistry, Physics and Math is necessary to solving these problems. It's open to non-majors, designed for freshmen to be the first in the Biology course sequence, i.e. pre-BIO 2960 and 2970. The course will be offered in Fall 2011 and focuses on four major environmental problems that need to be solved over the next few decades: global climate change and energy; how to feed the world without destroying the environment; environmental change and human health; and biodiversity conservation.

### BIO 2951

Solving major environmental problems requires understanding the range of interests, priorities and perspectives surrounding each issue and developing solutions that satisfy all constituencies. In this seminar students will research and discuss both sides of each issue. This will help them to develop informed opinions and foster a sense of civic engagement. They will present their debate points to students in Introduction to Environmental Biology (BIO 2950). Debate topics include: Is China's one child policy an appropriate way to stabilize human population growth? Coal: energy of the future or energy of the past? Should edible crops be used for biofuels? Will genetic engineering make our agriculture more sustainable? Is the economic development of developing countries more important than protecting the environment? Should DDT be banned worldwide? Seminar requires concurrent enrollment in BIO 2950. 

## SUMMER JOBS

WU 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:** Mon-Fri: 8:30-5:00

### Contact Us

**Phone:** 314.935.5930

**Fax:** 314.935.5905

**Email:** [careers@wustl.edu](mailto:careers@wustl.edu)

**Web:** [careercenter.wustl.edu](http://careercenter.wustl.edu)

### Upcoming Career Center Events

Career Camp: Next deadline: May 31—Get your plan in place before your schedule is booked! Attend an event designed to help ease your job, internship or graduate school search, all before next year's busy school year begins. Registration is currently online at [careercenter.wustl.edu/events](http://careercenter.wustl.edu/events).

Summer Parties: June 7-23—Meet up with classmates and young alumni in Chicago, New York, Washington, D.C. and Los Angeles this summer. A party will also be held in St. Louis. This is a great opportunity to build relationships and network, as well as learn about life after college. R.S.V.P. online at [careercenter.wustl.edu/events](http://careercenter.wustl.edu/events).

**\*\*\*SEE NEXT PAGE FOR INFORMATION ON HOW THE CAREER CENTER CAN HELP YOU**

## Faculty Spotlight: Dr. Peter Wyse Jackson

George Engelmann Professor of Botany & President of Missouri Botanical Garden



Dr. Peter Wyse Jackson's research interests are mainly focused on the areas of plant conservation, including conservation biology of threatened plants and the development of international biodiversity conservation policies. He has worked extensively with botanic gardens throughout the world and was lead author of the International Agenda for Botanic Gardens in Conservation, now endorsed by some 500 botanic gardens. He has played a lead role in the development and implementation of the Global Strategy for Plant Conservation, adopted by U.N. Convention on Biological Diversity in 2002 and he is currently the Chairman of the Global Partnership for Plant Conservation.

His recent research has included work on Irish ethnobotany and he is currently completing a book that documents the use of wild plants in Ireland, past and present. His Ph.D. research on the taxonomy and biosystematics of Irish Cruciferae was undertaken during the 1980s in Ireland, leading to a revision of the genus *Cochlearia* L. published in *Flora Europaea* (Vol 1, 2nd Ed.). Recent research has also included Irish floristics (his publications include Floras of Co. Dublin and Irish trees), the determination of a list of Irish archaeophytes (non-native plants introduced before 1600) and the potential impacts of climate change on plant diversity in Ireland.

### Event to Welcome Peter Wyse Jackson to Washington University

Washington University faculty and colleagues gathered together on April 5th to welcome Peter Wyse Jackson to the Biology Department. Dr. Wyse Jackson has taken Peter Raven's place as President of the Missouri Botanical Garden and George Engelmann Professor of Botany. Chancellor Mark Wrighton opened the event by expressing his enjoyment of Wyse Jackson's different perspective (he is coming from the National Botanic Gardens of Ireland) as well as excitement about his desire to expand the role of the Garden in national conservation. The Chancellor presented Peter with cufflinks and his wife Diane with a scarf and pin.

Edward Macias, Provost, gave some background on the early relationship between the Garden and Wash U. Historically, Missouri Botanical Garden has played a very important role in education at the University. A partnership has existed since Henry Shaw approached Washington University (founded 1853) at the Garden's inception (founded 1859). Originally, Wash U's Biology Dept was Henry Shaw's School of Botany, stationed at the Garden, and included all offices and labs. Shaw also endowed the position of Engelmann professor, named after his scientific advisor George Engelmann, at the university. The person who holds this position is also to be the President of the Garden, keeping permanent ties between the two.

—cont'd on page 3

*Event to Welcome Wyse Jackson cont'd*— Kathy Miller, Biology Chair, spoke about the continued special relationship between the Garden and students at Wash U. By the 1940's and 50's undergraduate research at the Garden had dwindled. When Peter Raven became the new President in the early 1970's, projects became more accessible to students for summer work. Hands-on experience and mentoring has become more important to education over the years. This, combined with recent diversification of research at the Garden, has created the perfect environment for new programs such as Students in the Garden and independent study research opportunities through Bio 200/500. Undergraduate and Graduate level research also crosses over and ties in with work and programs happening at related institutions such as Tyson Research Center (1963) and Shaw Nature Reserve (1925). Dr. Miller looks forward to working with Wyse Jackson on continuing and expanding student programming at the Garden.



VICTORIAN DISTRICT, Photo Credit: Josh Monken, Courtesy Missouri Botanical Garden

Peter Wyse Jackson concluded the event by graciously thanking everyone for the warm hospitality and support given to him and his family, saying that he already feels like a part of the community. He stated that the position here was most attractive to him because of the link between the Garden and University and he is honored to follow in Peter Raven's footsteps. He emphasized the critical role research plays at the Garden and the importance of involving students in that process

in order to grow new leaders from the student body. His research interests vary from international policy on biodiversity to restoration of ecosystems, all of which will be applied to research at the Garden. He looks forward to spending time getting to know faculty and staff in the Biology Department, stating that he does not consider himself faculty in name only. 

## Biology Students Awarded Social Change Grants

Congratulations to the following Biology students, who were awarded Social Change Grants through the Community Service Office:

Akhila Narla (and partner Preethi Kembaiyan): Procter & Gamble Social Change Grant of \$5,000—"Female Economic Empowerment in Rural Uganda"

Yamini Krishnamurthy & Sammita Satyanarayan: Stern Social Change Grant of \$6,000—"Family Planning and HIV/AIDS Education in Hyderabad, India"

WU Social Change Grants provide funding and support for students to pursue innovative social change ideas and community projects. The funding is intended to help individuals and groups defray project and/or cost-of-living expenses, enabling students to devote full attention to the development and implementation of their projects without the need to pursue paid work. Funding can be used at the recipient's discretion to cover costs of the project, cost-of-living expenses, and/or in lieu of earnings during the summer or academic year. \$32,000 was distributed in the 2011 cycle. —*cont'd on page 5*

Below are four ways the Washington University Career Center and its Web site can help you find a summer opportunity:

1) Create a target list of organizations and make a plan by setting up a personalized, one-on-one appointment with a Career Advisor. Call 314-935-5930 to set up your appointment or stop by the main office.

2) Our database of jobs and internships, CAREERlink ([careercenter.wustl.edu/careerlink](http://careercenter.wustl.edu/careerlink)), contains a searchable directory of opportunities by industry including health care products and services; nonprofit; pharmaceuticals; biotech; and agriculture. Currently, CAREERlink has over 1,000 active internship and job postings with new opportunities added daily.

3) Career Center Website - Use the "Career Tools" at [careercenter.wustl.edu/tools](http://careercenter.wustl.edu/tools) for many great online resources, from handouts on applying to medical or graduate school, to online dossier services.

4) 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.

Lastly, don't forget to utilize all the resources on campus. Check out the Office of Undergraduate Research at [www.ur.wustl.edu/](http://www.ur.wustl.edu/).



## UNDERGRADUATE RESEARCH SYPOSIUM

### Biology Participants

Chris Brown  
Nicole Gong  
Chan Lee  
Christina Mosher  
John Scott

### With Honors

Haejun Ahn  
Ashley Aluko  
Devika Bagchi  
Adeetee Bhide  
YanYi Anny Chung  
Sarah Ebstein  
Scott Elman  
Toby Emanuel  
Elizabeth Freeman  
Kevin Gao  
So Chon Gil  
Alice Gu  
KiHyun Kwon  
Matthew Kwong  
Joseph Lampe  
Matthew Leach  
Charles Li  
Jimmy Ma  
Perry Morocco  
Elizabeth Qin  
John Schneider  
Austin Sim  
Aeron Small  
Connie Tsai  
Keita Uchida  
Yan Wang  
Eliana Weisz  
Hao Yang  
Laura Yockey

This year, nearly 200 students participated, including over 55 biology and biochemistry majors. The Keynote address "Modern Applications of Osler's 'Master-Word' for Students" was given by Dennis Barbour, Professor of Biomedical Engineering and recipient of the first Chancellor's Award for contributions to Undergraduate Research. Two student presentations followed: "Sexual Politics and Sainly Devotion: Contextualizing Barbara Strozzi's Sacri musicali affetti" and "IpsiHand: An EEG-based Brain Computer Interface for Rehabilitation and Restoration of Hand Control Following Stroke and Traumatic Brain Injury Using Ipsilateral Cortical Physiology".

## Harrison D. Stalker Award Winner 2010: Yan Yi Chung



Yan Yi ("Anny") Chung has been chosen to receive the 2011 Harrison D. Stalker Award from the Department of Biology. This award is named in honor of the late Professor Stalker, who was a member of the Biology faculty from 1942 to 1982, a world-renowned evolutionary biologist, an inspired teacher, and an enthusiastic supporter of, and contributor to, the fine arts. It is given annually to the graduating Biology major

whose undergraduate career has been marked by outstanding scientific scholarship as well as contributions to the university in the areas of artistic expression and/or community service. Anny Chung exemplifies the spirit of the Stalker Award exceptionally well: during her undergraduate career she has not only excelled as a student, research scholar and research mentor in the biological sciences, she has been a campus leader in the performing arts and has also made several important community service contributions.

Ms. Chung has been engaged since her freshman year in ecological research in the Biology Department, under the guidance of professor Tiffany Knight. Her studies, which are now being written up both for inclusion in her Honors thesis and for publication, have focused on the effects that non-native plants have on native plant-pollinator interactions. The starting point for her study was a huge data set that was established in the late 19th century, listing the interactions that occurred among 456 plant species and 1,429 pollinator species in the Carlinville, Illinois area. Ms. Chung has now reexamined such interactions to address three questions: 1) how have the pollinator interactions of non-native plants changed over the intervening century, 2) how do new non-native plants interact with native pollinators, and 3) how does the presence of various non-native plants affect the pollination success of native plants?

Anny Chung is also an accomplished violinist who has played a leading role on the campus musical scene ever since she was a freshman. In addition to playing in the Washington University Pops Orchestra, she has served as its librarian, treasurer, and president. She has similarly served as both a member and an officer of the Mariachi Cuicacalli band each year, reaching out to the local Hispanic community with performances at a variety of churches, festivals, campus events and fundraisers. In addition, she has performed in, and served as the rehearsal coordinator for, the pit orchestra for musicals put on by the Performing Arts Department.

Ms Chung's community service has also taken a number of forms: In addition to serving as a teaching assistant and peer tutor for several core courses in the Biology curriculum, she has tutored 5th and 6th grade students in science, math and English each year, under the auspices of the "Each One Teach One" program of the Community Service Office. She has also reached out to incorporate high school interns into her research program, and to mentor them in ecological research methods. Next fall, Anny Chung will matriculate in the Ecology and Evolutionary Biology graduate program of Rice University. 

## Spector Prize Winners 2010: Adeetee Bhide and Matthew Leach

Every year the Department of Biology awards a prize in memory of Marion Smith Spector, a 1938 graduate of the University who studied Zoology under the late Professor Viktor Hamburger. Professor Hamburger was a prominent developmental biologist who made many important contributions while a faculty member at Washington University.

The Spector Prize was first awarded in 1974 to recognize academic excellence and outstanding undergraduate achievement in research. Students are nominated by their research mentors for this award. Being nominated means they have done outstanding work in research and have made substantial contributions to the field of that work.

This year the prize has been awarded to two students, Adeetee Bhide, and Matthew Leach. Adeetee worked in the lab of Bradley Schlaggar in the Department of Neurology at the School of Medicine. Her thesis is “The Effect of Orthographic Neighborhood Size on the Extent of Priming”. Adeetee was awarded a Churchill Scholarship to work in Cambridge England in the area of experimental Psychology. She will enter a PhD program in cognitive Psychology at the University of Pittsburgh after a year in England. Matt worked in the lab of Rodney Newberry in the Department of Internal Medicine—Gastroenterology at the School of Medicine. His thesis is “The Processing and Function of Vitamin A in CD103+ Intestinal Dendritic Cells”. Matt plans to enter medical school at the University of Michigan in August.

As part of the departmental recognition of their outstanding work, Ms. Adeetee Bhide and Mr. Matthew Leach presented a research talk at a special Biology Department Seminar on May 2, 2011, followed by a reception. Friends, colleagues, coworkers, Biology Department faculty, and other researchers attended. 



*Adeetee Bhide*



*Matthew Leach*

### 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)

### Tyson Summer Seminar Series

If you are interested in environmental science and will be staying in St. Louis this summer you don't want to miss the Tyson Summer Seminar Series! Seminars take place on Thursday afternoons starting shortly after 4:00 PM in the Living Learning Center at Tyson Research Center (<http://tyson.wustl.edu/maps.php>).

Seminars are followed by an informal BBQ—please bring your favorite side dish! For a full series schedule go to: <http://www.tyson.wustl.edu/>. For additional information please contact Meghan Kelly ([mkelly@wustl.edu](mailto:mkelly@wustl.edu); 935-8430).



**Biology Students Awarded Social Change Grants cont'd**— These students were selected out of a large and competitive pool of applicants, following a rigorous proposal process. Details about their projects and the other Social Change Grant projects, as well as information about how other students in Arts & Sciences can apply for next year's cycle, are available at <http://communityservice.wustl.edu/grants>. We will be offering a showcase of 2011 projects this fall and hope you will be able to attend.—*Community Service Office*, <http://communityservice.wustl.edu>

**More Biology Jobs on Department Website:** <http://www.nslc.wustl.edu/research.html>

**Volunteer Opportunities:** subscribe to the Community Service Connection, an email newsletter: <http://www.communityservice.wustl.edu/csconnection/>

# 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/dbbs/website.nsf/SDN>

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## May 2011

2nd May 2nd-6th: Reading Period

9th May 9th-13th: Final Exams

19th Arts & Sciences Recognition Ceremony  
Biology Major Graduates Celebration

20th  COMMENCEMENT

23rd First Summer Session Begins

30th Memorial Day—No Classes

## June 2011

10th Summer Session I Ends

13th Summer Session II and II Begin

