



STUDENT NEWSLETTER FOR THE DEPARTMENT OF

# BIOLOGY

UNIVERSITY OF WASHINGTON

Winter Quarter 2013

Version 15

## Important Dates for Winter Quarter

Jan 7	Instruction Begins
Jan 8	Charles Russel Wallace's Birthday
Jan 10	Career Launch Workshop 10 am-3 pm @ MGH 134
Jan 11	LAST DAY to drop a class without a fee thru MyUW
Jan 14	All courses require entry codes to add beginning
Jan 20	LAST DAY to drop a class without the use of the ANNUAL DROP
Jan 21	Martin Luther King Day Holiday - no classes
Jan 24	Diversity Career Fair 5:30-8:30 pm HUB
Jan 26	Friday Harbor Labs Application review begins Apply early
Jan 27	LAST DAY to add a class through MyUW
Feb 6	Biology Apparel Day
Feb 13	Biology Networking Night 5:30-7:00 HCK 132
Feb 13	Darwin's Birthday
Feb 13	Internship Fair 2-6 pm @ MGH 134
Feb 18	Presidents' Day Holiday
Feb15-Mar3	Spring Reg Period 1
Feb 28	Mystery Flower contest ends
Mar 6	Biology Apparel Day
Mar4-31	Spring Reg Period 2
Mar 15	LAST DAY to Withdraw (from all classes)
Mar 15	Last Day of Instruction
Mar 17	St Patrick's Day
Mar18-22	Final Examination Week
Mar23-31	Spring Break

## Dr Joe Ammirati Assist Chair of Biology



Joseph F. Ammirati  
Professor and Associate Chair

Welcome to winter quarter 2013! We hope that you have had an enjoyable and restful winter break! As a new year begins, we look forward to seeing you back on campus and in our classrooms and laboratories. As always we encourage students to take full advantage of everything that the Biology Program and the University have to offer. As you become fully engaged with your courses and work closely with faculty, don't forget to talk to and interact with your colleagues, who, after all, share common paths, goals and interests with you. Also, get involved with Tri-Beta and the Biology Club as well as other activities in Biology; enrich your experience and the experiences of others!

If you have not already done so, look into the possibility of doing an undergraduate research project or internship. Talk to your instructors about research projects in areas of biology that interest you, and/or ask a biology adviser about how to look for a research laboratory or program where you can get hands-on experience with the challenges of doing basic research. You'll never have this opportunity so close at hand again, take advantage of it!

Even though we are just beginning winter quarter, it is not too early to begin planning ahead for spring and summer quarters. Check out the spring and summer programs and courses at Friday Harbor Marine Laboratories, look for field courses that take you off campus, such as excavating fossils in Hell Creek, Montana, and find research opportunities in experimental laboratories and in the field where you can gain additional valuable experience in biology.

Work hard and enjoy winter quarter. If you have any questions about the Biology program, the College or the University, feel free to visit the Biology Office in Hitchcock Hall at any time - talk with one of our advisers - they are terrific people who will give your undergraduate experience a positive spin.

*Riguardati, Joe*

## Atrium Plant Phoenix dactylifera

*Phoenix dactylifera* is a date palm cultivated for its edible sweet fruit known as dates.

Dates have been a staple food of the Middle East and parts of South Asia for thousands of years. They are believed to have originated around Iraq, and have been cultivated since ancient times from Mesopotamia to prehistoric Egypt, possibly as early as 4000 BCE.

The date palm is dioecious, having separate male and female plants. Dates are naturally wind pollinated but in both traditional oasis horticulture and in modern commercial orchards they are entirely pollinated manually.

A date palm cultivar, known as Judean date palm is renowned for its long lived orthodox seed, which successfully sprouted after accidental storage for 2000 years.



*Phoenix dactylifera*

*Morgan Eisenlord, Senior*

*Biology (Ecology, Evolution & Conservation)*

*Minor in Environmental Science and Resource Management*

*Winter 2013 graduation*



*Conducting marine bird and mammal surveys in San Juan Channel off the R/V Centennial (photo: Jessica Nordstrom)*

My hands were cold and raw from digging in the exposed mud of low tide. After a few hours, driving rain made its way through two jackets and down my collar, soaking my skin. Then came hail, the little white stones peppering everything on the sand of False Bay. But I had the last specimen needed for the day's marine biology lab cupped closely in my hand, a fast red worm that would bite if not handled carefully.

**Tides determine everything.** That's the first thing I learned studying marine biology during the ZooBot quarter at Friday Harbor Labs (FHL). When tides are low you go out regardless of weather. Rain, hail, early morning or dark of night, successful biologists collect specimen when the timing is best. This usually means low tide.



*Conducting marine bird and mammal surveys in San Juan Channel off the R/V Centennial (photo: Jessica Nordstrom)*

I came to Friday Harbor Labs to study marine birds during the summer of 2011. I was interested in wildlife conservation and wanted to learn hands-on research techniques. I learned much more. To study a single element you must consider

the whole environment and community in which it lives. I found a deep interest in investigating the ways different trophic levels and habitats influence each other. I returned to FHL the following spring to take the ZooBot quarter in 2012, where I studied marine botany and zoology while also conducting independent research in benthic ecology.

**Every day of class was an adventure.** Species we learned about in the morning lectures were then collected by students to examine under a microscope or through dissection in the afternoon labs. We went into the field whenever possible to take advantage of the diversity of animals that live in the San Juan Archipelago. The seawater tables that housed our class aquarium of live animals filled the lab with the sound of flowing water as we worked. Throughout the quarter the rainbow colored collection of invertebrates and algae grew in size and variety.



*Looking at a basket star in the lab (photo: Sheila Voon)*

In order to compare the protected waters of the San Juans with a high-energy environment, we visited the outer coast of Vancouver Island for a class camping trip. The jagged rocks opened to tide pools filled with turquoise blue anemones, purple and red sea stars, and camouflaged chitins large as a span of hands. In some places the force of the waves was so strong that deep holes bore into the rocks. After a long day of exploring cracks and crevices in the wind swept rocks and avoiding ocean spray, the class napped in the hot sun on a protected beach. **Our weeklong trip both deepened our understanding of the marine intertidal ecosystem and brought us closer as a class.**





*Heading out in the Bufflehead for a day of fieldwork. Let the adventures begin!*

In addition to classes I took a research apprenticeship in Nearshore Ecology. **This experience allowed me to work with a researcher to develop and carry out an independent research project.** My project investigated the food value of different types and ages of macroalgae to benthic herbivores to understand the importance of spatial subsidies to habitats below the photic zone. I tested the utility of a local marine isopod as a model organism through growth and preference feeding trials. I collected the animals in the field and learned through trial and error how to keep them alive. Every few days I went out in a research boat to collect fresh macroalgae to feed them. After the class ended I was able to stay on as an intern through the summer so I could follow up on my results and develop a more in depth study using what I learned as a research apprentice. I learned lab techniques to extract fatty acids from the tissues of animals I raised over the course of the spring and summer to test them as a potential model organism for use in food web modeling. This fall I presented my results at the Western Society of Naturalists annual meeting. I am now planning to apply quantitative fatty acid signature analysis to my results to investigate long-term diets in marine invertebrates.

*The lab was always busy! (photo: Rachel Brown)*



*Baby isopods happily eating algae in one of my feeding trial tanks (photo: Morgan Eisenlord)*



*Measuring a baby isopod after ten weeks in treatment to determine growth rates (photo: Morgan Eisenlord)*

**Taking classes at Friday Harbor Labs has been the most influential experience of my undergraduate career.** By working through projects from start to finish alongside gifted mentors I have learned what it takes to conduct meaningful research. The holistic, experience based approach to learning made me a better student and gave me the tools I needed to continue following my interest trophic ecology. **I feel ready for graduation and beyond.**



## **Friday Harbor Labs** ||| **FHL in SPRING Quarter - Think About Applying**

Friday Harbor Laboratories (FHL), part of the University of Washington, offers coursework in marine biology and oceanography for undergraduates, post-baccalaureates and graduate students. FHL is sited on a 484-acre biological preserve on San Juan Island, 75 miles northwest of Seattle; the island is accessible by ferry and scheduled commuter aircraft.

Credits for FHL coursework will be earned through the University of Washington but applicants to FHL courses do not need to be enrolled at University of Washington. Students from all over the world come to study and conduct research at Friday Harbor Labs.

**SPRING QUARTER 2013 (10 weeks) Monday, April 1 - Friday, June 7, 2013**

Students are encouraged to apply as early as possible.

Applications review begins January 26.

Applications will be accepted after that date and reviewed on a space-available basis. Link to Spring 2013 Web page:

<http://depts.washington.edu/fhl/studentSpring2013.html>



### **1) THE ZOO-BOT QUARTER 2013**

Applicants choose a combination of courses from the following choices:

Marine Zoology (Biology 430, 5 credits)

Marine Botany (Biology 445, 5 credits)

Developmental Biology Lab (Biology 412, 4 credits)

Nearshore Ecology Research Experience (Biol, Fish or Ocean 479, 6 credits)

Marine Genomics Research Experience (Biol, Fish or Ocean 479, 6 credits)

### **2) OCEAN ACIDIFICATION RESEARCH APPRENTICESHIP**

(Ocean 492, 15 credits)

### **3) MARINE SEDIMENTARY PROCESSES RESEARCH APPRENTICESHIP**

(Ocean 492, 15 credits)

### **4) THREE SEAS PROGRAM**

Find more information at: <http://depts.washington.edu/fhl/index.html> and see your Biology Adviser to see how these may fit in to your academic plans.

## **Biology Major!** ||| **Are you looking for a Scholarship??**

The Office of Merit Scholarships, Fellowships & Awards has re-designed their website and has fantastic searchable database for students to search scholarships that are specific to their year, major, field of study and more! This makes scholarship hunting a whole lot easier! You can also request a direct appointment with a scholarship adviser in their office via their website. Check out the new updates and get to applying for \$\$\$\$.

Pictured here is Biology Major, Autumn Walker, who received a scholarship from the UW Class of 1954 Achievement Scholars to continue her work in the Nemhauser lab over Summer 2012!



## **TFA Next Deadline** ||| **Biology majors do teach for America**

Last year, 22 STEM (Science, Technology, Engineering, and Math) majors from UW joined Teach For America (TFA). Fifty percent of that group hailed from the UW Biology department (8 BIOL and 3 NBIO)! But what is TFA, you may ask? Teach For America is an opportunity to take your education and skills into education, to teach for two years (or more) in one of our 46 regions across the country. All majors accepted, especially Biology majors!

If you find yourself interested in Teach For America e, please visit [www.teachforamerica.org](http://www.teachforamerica.org) or contact UW's campus representative, Katherine Kleitsch ([kkleitsch@teachforamerica.org](mailto:kkleitsch@teachforamerica.org)).



## NEW FACULTY, NEW COURSES!

One of the four new faculty members joining the Department of Biology this year is Dr John Klicka. He comes from University of Nevada, Las Vegas, where he was adjunct professor in the School of Life Sciences and the Curator of Birds. He is now the Don & Betts Baepler Endowed Professor and Curator of Birds at the Burke Museum. He brings extensive experience in Ornithology and expertise in biogeography and is looking forward to growing the bird collection at the Burke Museum.

His research has three main related focuses of inquiry:

- 1) Identify the units of diversity. Earlier taxonomists used morphological, behavioral, and vocal characters to delimit species and define the relationships among them, Klicka uses molecular characters instead to identify these boundaries.

Presently, he is collaborating on an "avian tree of life" project with researchers from three other institutions, in which they are determining relationships among all New World nine-primaried oscine (songbirds) species (around 823 taxa).

- 2) Understand the historical biogeography and diversification of New World songbirds.
- 3) Phylogeography of pine-oak birds in western North America

Dr. Klicka will be teaching BIOL 444 'Ornithology' this spring quarter at the UW. The class will be a field, lecture and lab course designed as an introduction to the field of bird studies. It will cover the evolutionary history of birds; the basic biology of modern birds and you will learn how to identify common birds of Washington by sight and sound. This should be an incredible class.

In addition, Klicka hopes to develop a new course for biology majors in Biogeography. So keep an eye out for these exciting courses just like these birds are!



Hummingbird caught in a net.



Red-headed Tanager *Piranga erythrocephala*



White-eared Hummingbird *Basilinna leucotis*

## Want to be a Peer TA?

## You might want to sign up for Bio 492

**On a daily basis, our PeerTAs are doing better & more consistent teaching work than was thought possible.**

UW Biology has involved talented undergraduates in our teaching teams for many years. These students-turned-teachers are often in the best position to understand the difficulties in mastering the course material. From facilitating labs to helping with in-lecture activities, PeerTAs are helping newer Biology students to master difficult material and go beyond simple memorization.

Experimentally at first, a few PeerTAs joined the core intro classes as independent TAs. They do everything that graduate TAs do, and they do it extremely well. Most impressively, these PeerTAs are the sole teacher in the room for the lab sections of Bio180 and Bio200, and they help to develop and improve the curriculum as they work to master their teaching skills. The environment is pressured, but is also the best possible way to learn to teach effectively to diverse and brilliant students. The Intro to Biology classes maintain this role for undergraduate teachers because of their success and the positive training and experience this unique position provides.

PeerTAs in all classes are mentored by experienced instructors and use feedback on their teaching to improve week-to-week.

Those are the good parts. The tougher part is that there is no easy way to become a PeerTA. Strong grades and communication skills are important, as well as success in 300- and/or 400-level classes. Applicants must be motivated. As instructors, our first responsibility is to the students, so we don't give PeerTA jobs out to anyone that we don't think will do an excellent job. We do have an internal training course which is extremely well taught: Bio492 this Spring is taught by Dr. Linda Martin-Morris. She brings a wealth of knowledge and first-hand experience with PeerTAs to the class, and some of her students go on to be excellent PeerTAs in Biology courses. There is no guaranteed path to joining a PeerTA team, but this class is excellent training for any future teaching role.

Hat's off to UW Biology PeerTAs. They are showing that undergraduates can do excellent work in extremely challenging teaching environments, which was previously thought to be a pipe dream. They are already helping to build the next generation of great scientists in every field.

**Do you have what it takes?**

If you are interested please contact:

*Eileen O'Connor for Biology 180*

*Ben Wiggins for Biology 200*

*Chessa Goss for Biology 220*

*The instructor of record for any other course*

## Blooming Darwin's Orchid in Room 5 of the Botany Greenhouse

In Room 5, Tropical Plants, you find blooming The Madagascar Star Orchid or "Darwin's Orchid" (*Angraecum sesquipedale*). Darwin suggested that this species and its hawk-moth pollinator provide one of the most striking examples of how plants



*Angraecum sesquipedale*

and their pollinators can influence each others' evolution (called coevolution). In this case, the orchid evolved an incredibly long "nectar spur", a long tubular extension of the flower that holds the nectar. If the spur is long, it forces the moths to rub their faces in the pollen as they reach for the nectar, and the flower is successfully pollinated. In response to the difficulty of reaching the nectar, their major food source, the moths evolved longer and longer tongues over time. But if the moth has a long tongue it can reach the nectar without touching the pollen, so the orchid has to evolve longer and longer spurs to force the moth to pollinate it, and so on and so on. This coevolutionary process of orchid and moth influencing each other reciprocally has been taken to the extreme in the Madagascar Star Orchid: its nectar spurs can be as long as 11 inches!

When Darwin proposed this scenario, only the orchid had been discovered. He thought such an impressive spur must have evolved through coevolution with a pollinator, and therefore there must exist a moth in Madagascar having an equally impressive long tongue. Everyone thought he must be crazy until a full 40 years later, when the hawkmoth *Xanthophan morgani praedicta* (so named because of Darwin's prediction) was discovered in Madagascar – with a tongue that averages a full 10 inches.

The Darwin orchid blooms only once a year, and it's started blooming the first week of January in Room 5 of the Botany Greenhouse. If you want a chance to see this world-famous orchid in the flesh, check it out before the flowers wilt – you have about a week. The greenhouse is open weekdays from around 9:00 am to 4:00 pm.



## Retiring || Ellie Duffield, Elaine Mahler and Helen Buttemer

Last Autumn, Ellie Duffield and Elaine Mahler retired from long time staff service to the Department of Biology. This quarter, Helen Buttemer will be officially retiring. They will all be missed very much. Here is a little something on each one of them and how they added so much to the Department of Biology.

**Ellie Duffield** was the Curator of the Algae and Fungal U of W collection. She also provided teaching lab support for over 25 courses, including Intro to Algae, Mycology and the Intro to Biology courses. Her alga pets were endearing to many people and were pretty much found all over Hitchcock Hall, from academic services to biology study area and even the hallways. Ellie had been at botany/biology almost continuously since she came as graduate student in '68. She will still be stopping by on her bicycle on her way to the IMA to work out. She will continue with gardening, birding, civic engagement, quaker meetings, and seeing more of friends and family. This coming year Ellie will concentrate on figuring out what volunteer project she wants to work on in the years to come.



*Ellie with Anthoceros*



*Elaine Mahler*

**Elaine Mahler** was the Laboratory Tech of the Media room. Providing plates and solutions for lab and class room support, especially for the Intro to Biology series and support media for Ellie Duffield. Elaine has been here since 1987 and before that worked in Laboratory Medicine at the UW as a medical technologist. As an artist she is hoping she has more time to devote to watercolor, collage and mixed media painting and entering art shows along with lots of walking—not necessarily at the same time! Elaine will continue being involved in two professional art organizations along with reading, involvement in the community and visiting her three granddaughters!

**Helen Buttemer** will be retiring at the end of March. She has been the graduate adviser for the Master's of Science in Biology for Teachers degree and director of the Biology Teacher Preparation Program since 1986 as well as a senior lecturer since 1990. Her

popular courses included Biology 104 (Biology for Elementary Teachers) and Biology 492 (Biology Teaching Methods for High School Teachers). In addition, Helen has overseen and taught numerous long-running workshops for teachers, including SILS, the very successful 4-week Summer Institute in Life Sciences for middle school teachers funded by the Howard Hughes Medical Institute for 22 years. Since she started here,

Helen has taught classes and workshops to more than 2000 K-12 teachers and advised and mentored countless future high school biology teachers many of whom still keep in contact with her. Her passion for training teachers and prospective teachers in practical, investigative scientific inquiry techniques for the classroom has made her a great addition to the department. Soon she will be off whitewater canoeing, visiting every national park in the US and backpacking around the world.



*Helen Buttemer*

## Media Room || Introducing Wesley Eand



*Wesley Eand*

*And now... there is a new face in the Media room, Wesley Eand.*

**Ellie Duffield and Elaine Mahler hope that everyone will welcome Wesley to the department and give her wholehearted support!**

Wesley Eand is the new laboratory tech in the media room. For three years she assisted Ellie as a work study student. Last summer, she graduated from the UW with a major in Biochemistry and minor in Math. She found she really like taking care of algae. The algae is interesting and seems to like her. At this time, Wesley is maintaining some of Ellie's essential Algae Collection used in the Intro to Biology courses.

She really likes being part of the team supplying the labs classes for their experiments. So far, Wesley has managed to survive Autumn quarter supplying the labs for the 1000 students in Bio 180 and is now looking forward to Bio 200's large class of 791.

Some day, she wants to travel and see the world, especially the Great Wall of China and the Harry Potter castle (or wherever they shot the movies).



## Tribeta Officers 2012-2013

President

**Olga Afichuk**

VP of Meetings & Events

**Jenna Lebedev**

VP of Membership

**Minkyung 'Monica' Shin**

VP of Membership

**Kelli Kaneta**

Secretary

**Nikki Barber**

VP of Advertising

**Grace Provost**

Treasurer

**Heather Shen**

VP of Tutoring

**Galen Pizzorno**

VP of Tutoring Coordination

**James Chaing**

VP of Community Events

**Adrian Diaz Guerrero**

## Hello fellow Bio students!

Welcome to Winter Quarter!!! Learn about the numerous opportunities to connect with students who share your passion for science. Get inspired, get involved!

Thank you to all who had a chance to attend any of our events last quarter, including the faculty lectures, pumpkin carving, and the study night. We hope to see all of you and more at our upcoming events!

Here is a run-down of what is planned for our Biology Community for the rest of the year.

**Tutoring:** We want YOU to come to Biology Tutoring – either for help with Biology or Genome, or as a tutor yourself! Our drop-in study lounge on the 4th floor of Hitchcock is open 4:30 - 6:30PM Monday through Thursday. It's a great place to study, with free snacks, experienced tutors, and students like you. You can also meet one-on-one with a tutor, up to two hours a week! Go to the following calendar, read the instructions at the top of the page, and sign up: [www.students.washington.edu/tribeta/tutoring.html](http://www.students.washington.edu/tribeta/tutoring.html) Email officer Galen to get involved: [galenp@uw.edu](mailto:galenp@uw.edu)

**Meetings:** During the quarter we bring an engaging lecturer to share a unique aspect of biology with you! Our FIRST lecture will be on Thursday, January 17th, at 4:00PM in HCK 132!

In February we are planning on visiting the Theo Chocolates. Sign up to be on our mailing list for event updates. E-mail officer Kelli at [kekaneta@gmail.com](mailto:kekaneta@gmail.com).

**T-shirts:** Keep a lookout for our first T-shirt sale days (first Wednesdays of every month), around 11-2:00 time frame in the HCK 3rd floor atrium. If you ordered a sweatshirt, they will be ready for pick up during the 2nd week of school.

**Honors Society:** We also offer the option to become a member of the Beta Beta Beta National Biological Honors society. Tribeta is the UW branch of this society, though our club is open to everyone! E-mail officer Olga at [ovafichuk@yahoo.com](mailto:ovafichuk@yahoo.com) to get involved!

Good luck this quarter, and we hope to see you at our meetings and events!

— Olga Afichuk UW Tribeta President 2012-13, [ovafichuk@yahoo.com](mailto:ovafichuk@yahoo.com)

## Free TriBeta Tutoring

## UW Intro Biology Series 180, 200 & 220

### UW INTRODUCTORY BIOLOGY STUDENTS:

How comfortable you feel studying biology is irrelevant. Those who do well in Biology 180, 200, and 220 are those who study with others and ask questions.

*That's it: that's the secret.*

It's where TriBeta can help! TriBeta Tutoring provides someone to answer your questions and work with you as you process the UW intro bio series. We provide a place for you to work and meet people, with snacks, and we do it for free.

Our tutors are students who've taken the full 180-220 series, done well, and enjoy teaching. They can help you with material, concepts, study habits and more.

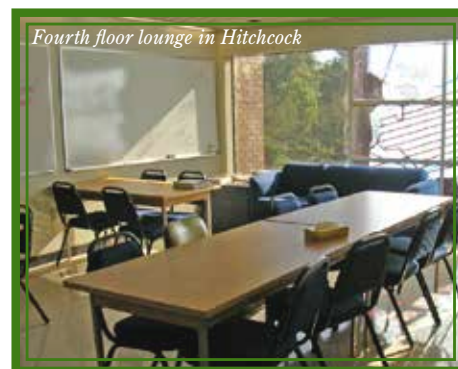
There are two ways to take advantage:

1) Attend our study lounge on the 4th floor lounge in Hitchcock, at the following times: **Monday, Tuesday, Wednesday & Thursday: 4:30-6:30 pm**

You go to Hitchcock every week for lab. Just enter the building from campus per normal (via the foot bridge over Pacific Street onto the 3rd floor), then go up one level.

2) Sign up for personal tutoring at the following link (see instructions at top of page): <http://students.washington.edu/tribeta/tutoring.html>. If you want to do well, try us out! And if you like the idea of tutoring others, feel free to shoot us an email – there are a host of benefits, and we can get you involved once you finish the intro series.

All questions are welcome, **Galen Pizzorno**, TriBeta Tutoring Coordinator, [galenp@uw.edu](mailto:galenp@uw.edu)





## Career Fairs & Workshops

Several are headed your way

Take advantage of these workshops and more offered by the The Career Center  
MGH 134 <http://careers.uw.edu>

### Career Launch Workshop Registration OPEN – Thurs., January 10 | 10:00 – 3:00 pm

This workshop features three of our key job search workshops including:

- 1) **Resume and Cover Letter Writing.** Did you know most employers spend only 30 seconds reviewing a resume and cover letter? Learn how to make sure yours stand out.
- 2) **Conducting a Job Search.** What are the most successful job search strategies? How do you use them? How do you find a job in a down economy? Learn the answers to all of these questions.
- 3) **Successful Interviewing.** Learn practical information and tips to help you ace any interview by exploring popular questions and how to answer them, interview preparation techniques and more.

### Diversity Career Fair – Thurs., January 24 | 5:30 – 8:30 pm

The career fair is for ALL MAJORS (Business, Engineering, Liberal Arts and Sciences) and is the only diversity job fair held at the University of Washington. This years fair will be held at the Husky Union Building (HUB). Each year employers are looking for undergraduate and graduate students looking for a career, internships, summer jobs and co-op opportunities.

### Internship Fair – Wed., February 13 | 2:00 – 6:00 pm

We look forward to another great event, bringing together up to 100 employers and UW students interested in pursuing internship opportunities. Don't miss this chance to land a great internship.

## UW Farm

What have you grown today to eat?

The UW farm strives to create spaces on campus for students to learn about and practice sustainable urban agriculture.



The farm consists of a ¼ acre plot surrounding the Botany Greenhouses and a ½ acre plot at the Center For Urban Horticulture.

At the botany greenhouse space, you'll see food squeezed into every corner, in buckets, climbing up twine, in raised beds, and on hillsides. You'll also find five beehives, steaming compost piles, and a hecka-ton of worms!

We have just begun to sell our produce to HFS's Cultivate Restaurant and the District Market! We have also hosted stands at the UW Medical Center Farmers' market. We are hoping that with this new ½ acre we will be able to continue to increase our

production of food for campus through Housing and Food Services and also to the UW Student Food Co-op!

This is the farm's seventh year and is a student run campus organization and we are always looking for new volunteers! You are what keeps the farm going! If you are interested check out our website ([www.uwfarm.org](http://www.uwfarm.org)) and join the mailing list, or come to one of our Farm Meetings beginning the first week of Winter quarter, where you'll learn what we're up to and how to get involved!



The UFarm's Dirty Dozen

Joy Palisbo, Senior  
Biology (Physiology)  
Spring 2013 graduation



of travel distance, commitment time, and overall monetary costs associated with becoming a part of each organization, I decided that I would gain the most rewarding experience at PAWS and soon found myself excited and hopeful for an internship as a wildlife rehabilitation intern!

The application process was standard: a resume, short essay, a few letters of recommendation, your transcript, and a brief interview. By midway of winter quarter, I was offered the position as a wildlife care assist at PAWS and in April I found myself driving to Lynnwood to begin my 6-month internship.

**A typical day for a PAWS wildlife intern revolved around the supportive care of the animal.**

This consisted of weighing small mammals and animals housed in the ward (a room dedicated to animals needing medication, feedings every few hours, or veterinary care), preparing diets, distributing diets, tube and syringe feeding, administering fluids and medications, and cleaning, cleaning, cleaning! It may be hard to imagine how amazing and rewarding this internship really is just by reading the short list of duties I described, but imagine the amount of animal handling associated with each job, and on top of that, the education and knowledge you gain in areas such as species specific supportive care by practicing and performing these skills each day, 40 hours a week, on hundreds of animals over the course of your internship!

I've wanted to be a veterinarian since I was six years old and have been lucky enough to stick to my goals without straying far off my career path. I've volunteered at various shelters and rescue organizations throughout my college career, but during fall quarter of my junior year, I decided that I needed to boost my resume with volunteer work unrelated to companion animals to help me stand out amongst the hundreds of applications veterinary schools will receive. I began with a Google search containing simple key words such as "animal volunteer Seattle" hoping for a good start to my search. That simple phrase proved to be very helpful in the end as I was provided with a link to the PAWS website regarding wildlife volunteer positions as well as a few other rehabilitation centers in the PNW. After weighing the pros and cons



Hawk feeding time



As a wildlife care assistant intern and a Biology major, I was able to connect concepts I've learned in both my lower and upper level biology courses to the supportive care we were providing our wildlife patients. One major biology theme repeated in every intern's task, whether it be administering subcutaneous fluids or cleaning their cage, was the concept of allocation of resources. By providing an injured or sick animal with fluids, food, shelter, heat, and an appropriate amount of cage space, we can decrease their stress levels and maximize the amount of resources available for them to allocate towards healing, growth, and recovery.

**One of the great rewards of investing your time and passion into something is witnessing the successful outcome of your hard work!**

In early summer, we had a huge influx of orphaned baby raccoons and would spend hours tube feeding to help them grow and ultimately reach the appropriate weaning weight. Most raccoons came in the size of about 1 ½ times the length of a human hand, and looked like a mix between a puppy and a kitten. These guys were the cutest thing, but became a handful to handle as they grew larger. When the time came, they were transferred from indoor caging to outdoor caging where they would have very minimal visual contact and no physical contact with humans. Once summer turned into the beginning of fall, it was time to release the once tiny baby raccoons into their natural habitat, and a few interns were allowed to tag along for the adventure. This was one of the most rewarding animal releases I had the privilege to be a part of. It felt amazing to watch animals that wouldn't have been able to climb trees and play with their fellow raccoon-mates if it weren't for your team's sweat and dedication to properly raising wild animals for the goal of returning them back to their home.

Working at PAWS, I was able to watch and be a part of biology in real-time, make a difference in the lives of many animals, and work alongside people who shared the same



*Cleaning, cleaning, cleaning.*

passions and goals. This internship also encouraged me all the more to keep pursuing that DVM title so I can continue to love my job and make a difference in the animal community.



*Administering subcutaneous fluids to a hawk*



*Orphaned baby raccoons in the trees*

### • FACULTY HONORS

Biology professors Tom Daniel and Keiko Torii were among 11 UW faculty who were recently named as Fellows of the American Association for the Advancement of Science. This honor comes right on the heels of Torii and Daniel's induction into the Washington State Academy of Science. AAAS Fellows are elected for membership by their peers, and are recognized for meritorious efforts to advance science or its applications.

Prof. Dee Boersma, called the "Jane Goodall of penguins" by the New York Times, was honored with the Mortar Board's Alumni Achievement Award for her decades of dedication to conservation, and her extensive research on the effects of human interference and environmental changes on seabird survival. This award is conferred annually upon extraordinary Mortar Board alumni who have demonstrated outstanding achievement in their professional lives.

The Center for Conservation Biology's Conservation Canines program, led by Prof. Sam Wasser, was awarded the "Outstanding Achievement in Environmental Technology and Innovation Award" by the Alberta Science and Technology Leadership Foundation. This is the top environmental award for the entire province of Alberta. The CCB is working with policy makers and corporations to revise conservation plans for wolves and caribou in the Alberta oil sands.

Prof. Josh Tewksbury was appointed as the inaugural Director of the Luc Hoffman Institute at the WWF global office in Switzerland. Congratulations, Josh! See article below for more information about WWF and the Luc Hoffman Institute.

### • STUDENT HONORS

Graduate student Stephanie Crofts won the Estes Memorial Grant to support her research on the evolution of durophagous teeth and won the Colbert Prize for the best student poster, which featured her work modeling durophagous teeth. Both awards are conferred at the annual Society of Vertebrate Paleontology meeting. Stephanie is a biomechanics graduate student in Adam Summer's lab and models extinct organisms.

### • DEPARTMENTAL FELLOWSHIPS & AWARDS

#### Fall 2012 graduate student recipients

*W.T. and Yvette H. Edmondson Award* - **Yasmeen Hussain**

*Walter and Margaret Sargent Award* - **Jonathan Calede and Rebecca Harris**

*Melinda Denton Writing Fellowship* - **Regan Dunn**

*Frye-Hotson-Rigg Writing Fellowship* - **Rachana Kumar**

*Kathryn C. Hahn Writing Fellowship* - **Susan Waters**

*Michael and Darthea Tunnicliffe Fellowship* - **Larissa Patterson**

*Distinguished Teaching Fellowship (Charlotte Cornell Crary Fellow & Henry and Frances Decker Fellow)* - **Max Maliska**

*Washington Research Foundation-Hall Fellowship* - **Ricky Dooley, Jodi Lilley, & Daril Vilhena**

#### Fall 2012 undergraduate student recipients

*Walter and Margaret Sargent Award* - **Tanya Dodgen & Robert Hall**

*Frye-Hotson-Rigg Award* - **Morgan Eisenlord & Suven Prakash Nair**

*Casey Award* - **Ceri Weber**

## Josh Tewksbury WWF or the World Wide Fund for Nature

### Position as the First Director of the Luc Hoffman Institute

Josh Tewksbury (Biology faculty) has accepted a position as the first Director of the Luc Hoffmann Institute, at the World Wildlife Fund's global office in Gland, Switzerland. Josh and Kirsten will be on leave from the UW beginning in late 2012 or early 2013.

WWF (originally World Wildlife Fund /now known as the World Wide Fund for Nature) is one of the World's largest conservation organizations. It's first office opened in September 1961 in the Swiss town of Morges. The organization now has offices in more than 80 countries around the world and employees around 2500 full time staff. In its 50 years of existence, WWF has invested almost \$10 billion in more than 13,000 projects world wide.

It was announced at WWF's 50th birthday in April 2011 it was going to create the Luc Hoffman Institute named for Hans Lukas 'Luc' Hoffman, an ornithologist, conservationist, philanthropist and a founding member of the World Wildlife Fund. He served as the vice-president from 1961 to 1988. The Institute has been launched with a founding gift of \$26 million. In Josh's words, the Institute "will be a new type of global environmental synthesis and knowledge generation center focused on mobilizing scientific capacity around some of the largest and most pressing environmental and conservation issues of the 21st century."



## Biology Undergrad Listserve

The Biology Advisers maintain a listserve called biostudent. Anyone can request to be added to this email notification system. Notices regarding jobs, research, internship and scholarship opportunities as well as course announcements and event notices are sent out to this list. Want to be in the know? Visit this site and enter your information to request to be added to biostudent: <http://mailman1.u.washington.edu/mailman/listinfo/biostudent>:

**Go to this site and you will see two gray boxes**

1: Need to type in your email address (*uw.edu* address **ONLY**)

2: Need to type in your name (optional)

3: Need to check the box about list mail being batched

No — you will receive them separately

Yes — you will receive them all in one daily batch

4: Click the subscribe button and your part is done

## UW Biology Department Website

[www.biology.washington.edu](http://www.biology.washington.edu)

## UW Biology Facebook Page

[www.facebook.com/UWBiology](https://www.facebook.com/UWBiology)

## EnviroLink & BioLink

<http://uwbiolink.wordpress.com/>

<http://environmentlink.wordpress.com/>

EnviroLink and BioLink are groups of academic advisers in their respective areas who meet regularly to help students interested in those areas discover which major is best for them, career choices, and resources to better navigate the University of Washington. Check out their blogs here for information and events:

## UW Undergrad Research Program

<http://www.washington.edu/research/urp/>

## Career Center at UW

<http://careers.uw.edu/>

## Conservation Magazine

<http://www.conservationmagazine.org>

Want to learn about cutting edge science that is making for smarter conservation? Then you'll want to look at Conservation Magazine. It's a quarterly publication (produced in the UW Department of Biology) that focuses on the remarkable efforts people are making to protect species and habitats. And it features some stories you won't find anywhere else. Recently, for example, Conservation reported on an interesting little study about sharks. It turns out that sharks appear to be color-blind. That little nugget could help conservationists design better ways of keeping them out of fishing nets – and even away from beaches. That's just one example of the unusual, interesting stories you'll find in every issue of Conservation. Subscription are just \$19. Check it out at: [www.conservationmagazine.org](http://www.conservationmagazine.org).

## TriBeta Honor Society & Bio Club

<http://students.washington.edu/tribeta/>

Beta Beta Beta is an honor society for students, especially undergraduates, dedicated to improving the understanding and appreciation of biological study.

The Biology club is sponsored by Tri-Beta and is open to all UW students, faculty and staff interested in biology. The purpose of the club is to reach out to the larger UW community and allow anyone interested to attend Tri-Beta's meetings and events. There is no fee, GPA requirement or need to have taken a biology course.

## UW Farm

<http://students.washington.edu/uwfarm/> and

<https://www.facebook.com/UWFarm>

The UW Farm is now a registered student organization with over 600 members. If you would like to learn more about the farm please join our listserve and facebook page and show up for a work party, or come to our next all-farm meeting.

## Burke Museum

<http://www.burkemuseum.org/>

General Admission FREE to Burke Members, children 4 and under, and **UW staff/faculty/students**

Free Admission—First Thursdays Admission is free to the public on the first Thursday of each month.

**RETHINK PLASTICS AT THE BURKE**  
"PLASTICS UNWRAPPED" Opens December 20, 2012



**Dec 20, 2012 - May 27, 2013**

*How did they go from being rare to being everywhere. Learn what life was like before plastics, how they are made, why they're so convenient to use, and what happens after we throw them away.*

## Biology Advisors

## Undergraduate Advising Hitchcock 318

The Undergraduate Biology Advising Dept:  
OPEN: Monday thru Friday 8 am to 5 pm.  
General Phone: 206-543-9120

We welcome UW and prospective students to contact us with any questions regarding an option in Biology or Neurobiology.

Open walk-in: Monday - Friday 9:00 am to 12 pm and 1:00 to 4:00 pm or contact one of our four advisors for an appointment by phone or email. The photo on the right (in the Greenhouse's Desert Room) includes the advisors and the office staff of Room 318. Advisors are: Jason, Janet, Andrea and Tom. Staff is Kay, Julie and Jeannette.



Kay Suiter, Jason Patterson, Julie Martinez, Jeannette Takashima, Janet Germeraad, Andrea Pardo, Tom Freng

## Biology Study Area

## Hitchcock 220 - All students are welcome!

This is a GREAT place to study. All students are welcome-not just Biology majors!



Mr Toad checking out the growth of the *Vertricaria* in the large Algae Pet bottle on the BSA counter.

The BSA is open Monday - Friday, 8:30 am - 5:00 pm.

We have two returning undergraduate computer support staff who will be staffing the Biology Study Area and responding to IT help requests, so you may see them around.

**Joey Khwaja** - Joey is a postbac CSE major who has a degree in Biochemistry with a minor in Mathematics. He was here last year so you may have met him already.

**Meng Meng Zhao** - is a CSE major with extensive troubleshooting and programming skills.

## Advising Available

### Biology & Neurobiology

#### Walk-in Advising

Janet Germeraad • Tom Freng  
Jason Patterson • Andrea Pardo

Mon-Fri, 318 Hitchcock Hall

9:00 am-12:00 pm

1:00 pm- 4:00 pm

Website URL:

<http://depts.washington.edu/biology/advising.htm>

### Undergraduate Academic Advising and Office of Minority Affairs & Diversity

141 Mary Gates Hall

206-543-2550

Quick Question hours (Mon-Fri)  
9:00 am-4:30 pm  
or email [advice@u.washington.edu](mailto:advice@u.washington.edu)

<http://depts.washington.edu/uaa/advising/index.php>

## Mystery Plant

## Guess it and win!



### The hints:

1. The flowers are the small, individual tubular structures that make up the raceme part of the inflorescence.
2. Thought to have various rejuvenating, healing or soothing properties.
3. Leaf margins are serrated and have small white teeth.

This is the Winter Quarter mystery plant and it is blooming right now in and around the greenhouse.

Find it's genus species and where it is thought to have originated, then come to Hitchcock 318 and submit your name & email for a drawing for the prize of a special limited edition, eight Biology note cards featuring flowers blooming Winter Quarter in the Greenhouse.

Drawing to be after Feb 28

**Last quarter's Mystery Plant** whose common name is *Buddha Belly* & the genus species, *Jatropha podagrica*. Correctly guessed by Suven Nair, Biology senior and Zachary McCauley (just got accepted into Graduate school here)