

BIORESOURCE RESEARCH NEWSLETTER

FALL 2011 137 Strand Agriculture Hall Oregon State University Corvallis, OR 97331-2202 (541) 737-2999 BRR@oregonstate.edu

BioResource Research (BRR) is a research-based interdisciplinary undergraduate science major <http://agsci.oregonstate.edu/brr/>. The centerpiece of BRR is a comprehensive mentored research experience. The BRR degree provides students with a challenging science curriculum, focused course work in one of 13 bioresource options, professional development, and a research/mentorship opportunity unmatched in any other OSU undergraduate degree program.

BRR turns 20 and You're Invited to Celebrate!



BioResource Research Interdisciplinary sciences undergraduate research major celebrates its 20th year! A Birthday and Celebrating Success event is scheduled in the Gallery of the **LaSells Stewart Center** across from Reser Stadium from 1:00 – 2:30 PM on Friday November 4th.

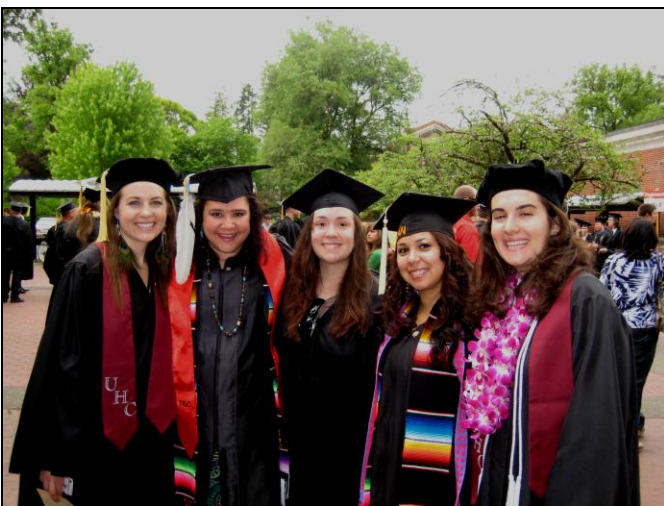
You and your guests are additionally invited to a separate event hosted by Dean Sonny Ramaswamy and the College of Agricultural Sciences celebrating the successes of our alumni, students, donors, faculty and friends at a reception in the **Loge Level of Reser Stadium** from 3:00 – 6:00 PM which includes wine and appetizers.

We hope that you, your spouse and your parents will join us to celebrate BRR's 20th Birthday, attend CAS Deans reception and participate in various Homecoming activities planned for the weekend. BRR alum, research faculty mentors (past and present), current BRR students, and previous and current BRR Directors are invited. Please RSVP for the BRR birthday celebration and the dean's reception by Oct. 15, 2011 on the websites:

<http://agsci.oregonstate.edu/brr-celebrate> and link to <http://agsci.oregonstate.edu/brr-rsvp>.

Attire is Business Professional.

Congratulations to the 2011 Graduates!



Pictured, left to right, Anneke Tucker, Eva Arndt, Jessica Campbell, Laura Cristal Magana and AnnaRose Adams.

AnnaRose Adams

HBS BRR Option: Sustainable Ecosystems. Faculty Mentors: Dr. Mark Hixon, Zoology Dept., Dr. Scott Heppell, and Dr. Selina Heppell, Fisheries and Wildlife Dept. Title: Response of reef fish assemblages to overgrowth of the hydrocoral *Millepora complanata* by the crustose alga *Ramicrosta* sp. AnnaRose spent her summer as an intern for Oregon Sea Grant. She leaves for Shark Bay Australia in October. Her blog site shares her experiences in marine ecology and policy. <http://annaroseandthesea.blogspot.com/>

Jessica Campbell

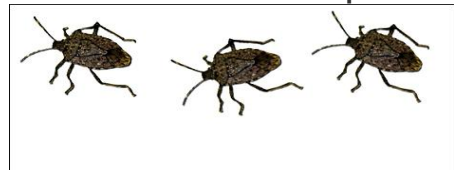
BS BRR Option: Genomics/Bioinformatics, our first student to earn this new option specialization. Faculty Mentors: Dr. Dee Denver and Dr. Katie Clark, Zoology Dept. Title: *Automation of Caenorhabditis mitochondrial genome annotation for phylogenetic analysis*. Jessica spent the summer in the Gaza Strip working with Gaza's Beach Camp School, a United Nations-administered elementary school that serves 1,300 students and is one of the poorest in the region.

Read more:

http://democratherald.com/news/local/article_f92181f4-334f-11e0-a213-001cc4c002e0.html#ixzz1Y8ospXy4

Chris Hedstrom

BS BRR Options: Pest Biology and Management and Sustainable Ecosystems; Entomology Minor. Faculty Mentors: Dr. Vaughn Walton and Dr. Shawn Mehlenbacher, Horticulture Dept. Title: *Pheromone mating disruption of filbertworm moth (Cydia latiferreana) in commercial hazelnut orchards*. Accepted into a funded MS graduate program with Dr. Walton, Chris will turn his attention to work on invasive exotic stink bug pest new to the Pacific Northwest. **If you find stink bugs outside of the Portland metropolitan area, the Oregon Department of Agriculture wants to know about it. You can call 1-866-INVADER or e-mail jlabonte@oda.state.or.us to make a report.**



Betsy Leondar

BS BRR Option: Biotechnology, BS Animal Sciences; Chemistry Minor. Faculty Mentors: Dr. David Myrold CSS Dept., Dr. Stephanie Yarwood, MB Dept. and Dr. Mary Santelmann, Water Resource Grad Program Director. Title: *Evaluation of Restored Wetlands in the Greater Willamette Valley*. Betsy is now in the Portland area working as a QA Laboratory Technician at Lab Support, a division of On

Assignment while preparing for OIT's Clinical Laboratory Sciences Program.

<http://www.oit.edu/portland/programs/clinical-laboratory-science/overview>

Vananh Nguyen

BS BRR Option: Toxicology (2010 alum), completed her BA in International Studies with the second part of her research: *Differences in Societal and Behavioral Attitudes toward Skin Cancer between Japanese American and Japanese*. Vananh begins graduate school this fall pursuing Master's of International Public Health.



Gregory Petrossian

BS BRR Option: Toxicology and BS Microbiology; Chemistry Minor. Faculty Mentors: Dr. Mark Zabriskie, and Dr. Kerry McPhail College of Pharmacy.

Title: I. *Isolation of a New Antibiotic from a Commercial Feed Additive*. II. *Discovery and Isolation of Bioactive Natural Products from Rare Non-Streptomyces Actinomycete Bacteria*. As a triple major, including BA in International Studies, Gregory has not yet graduated but has completed his BRR research and thesis requirements. We are happy to have him around for the next year.

Rory Van Garde

BS BioResource Research Option: Applied Genetics; Chemistry Minor. Faculty Mentors: Dr. John Mata and Dr. Jennifer Warnock, Biomedical Sciences Dept

Title: *Telomere Binding Protein Antagonists for Stem Cell Therapy*. Rory begins graduate school this fall in OSU's college of Public Health and Human Sciences.

Upcoming Senior Seminars

Eva Arndt, BRR-Environmental Chemistry and Biotechnology, faculty mentor: Dr. Anita Morzillo, Forest Ecosystem and Society.

Daniel Bratton, BRR-Sustainable Ecosystems, faculty mentor: Dr. Fred Stevens, College of Pharmacy.

Laura C. Magaña, BRR-Biotechnology and Toxicology faculty mentor: Dr. Nancy Kerkvliet, Environmental and Molecular Toxicology.

Joseph Ree, BRR Applied Genetics and Biotechnology, faculty mentor: Dr. Steve Strauss, Forest Ecosystem and Society.

Erika Snow, HBS BRR-Toxicology, faculty mentor: Dr. John Mata, Biomedical Sciences.

Anneke Tucker, HBS BRR-Toxicology, faculty mentor: Dr. Balz Frei, Linus Pauling Institute Director.

Kevin Wong, BRR-Biotechnology, faculty mentor: Dr. John Mata, Biomedical Sciences.

Publication and Presentations

Jay Malmo (BRR-Toxicology 2010 alum) had work from his research thesis with Dr. Jane Ishmael, College of Pharmacy, published in the Journal of Natural Products receiving co-authorship. **Cyclic Depsipeptides, Grassypeptolides D and E and Ibu-epidemethoxylyngbyastatin 3, from a Red Sea *Leptolyngbya* Cyanobacterium**

<http://pubs.acs.org/doi/abs/10.1021/np200270d>. Congrats to him and his research team! Jay is employed at University of Hawaii-Hilo as a research assistant in the Cancer Research Center.

4th Pacific NW Undergraduate Research Symposium on Organic Chemistry and Chemical Biology was hosted on the OSU campus, Aug 8-9, 2011. **Elise Cowley** (Advisor: Kerry McPhail, College of Pharmacy) presented in the natural products and medicinal/biological chemistry session her research: **Bioassay Guided Fractionation and Compound Structure Elucidation of a Red Sea Strain of *Lyngbya majuscula***.

Chris Hedstrom wins two first place awards at the Entomological Society of America (ESA), Pacific Branch meeting held in Waikaloa, Hawaii, March 27-30, 2011. Chris won first place in the undergraduate research paper competition for his research project: **Pheromone Mating Disruption of Filbertworm Moth in commercial hazelnut orchards**. At the same time, he also received First Place Delegates Choice in the Photo Salon (see mason bee photo). Chris is an artist and photographer turned entomologist. Clearly, he's talented in both areas.



<http://www.entsoc.org/Pacific/meetings/archives/2011>

BRR students serving as research subjects

Exploring New Technologies!

The following BRR students aren't just undergraduates participating in research, they WILL BE the primary research subjects for fall and winter terms 2011-2012 in a study to investigate how mobile information technologies, like the iPad, change students' expectations for the information sources they use. As mobile devices become robust enough to deliver and organize scholarly information, students will want to use those devices to find, use, organize and read those sources -- this study is designed to explore how mobile devices change the way students stay informed.

Dominique Sabedra
Arlyn Moreno Luna
Alejandra Marquez Loza
Sarah Wright
Will Krett
James Thomas

The project investigators are OSU faculty librarians Anne-Marie Deitering and Margaret Mellinger. Engineering Librarian Margaret Mellinger works with two library departments: Teaching and Engagement and Emerging Technologies. Anne-Marie Deitering is the Franklin McEdward Professor for Undergraduate Learning Initiatives in the OSU Libraries. The project is being funded by the Franklin McEdward Professorship.

Awards

Anneke Tucker awarded First Place in the Journal of Young Investigators' Second Annual Virtual Poster Session.



Tucker, a senior in BioResource Research, with an option in toxicology, focused her video presentation on the research she conducted with Professor Dr. Balz Frei, Linus Pauling Institute Director and research associate Dr. Meltem Musa on the inhibition of enzymes in the stomach, specifically for Type-2 diabetes patients. Read more in the Barometer <http://www.dailybarometer.com/news/bioresource-student-wins-international-competition-1.2384971>

Grace Wu Memorial Award—**Laura C. Magaña** was honored with the Grace Wu Memorial Award. The Grace Wu Award is given to one student every year who has made outstanding contributions to the campus and community while showing unbiased leadership traits exemplified by the late Grace Wu, Class of 1956. Read more CAS website:

<http://agsci.oregonstate.edu/students/news/2011/laura-magana>



All-University Student Recognition Awards Dessert Reception. Laura and Doug Severs, Director of financial aid and scholarships.

M.A.S.A. Meso American Student Association at Noche de Gala recognized **Arlyn Yire Moreno Luna** with the - Minority Pride (Orgullo Latino) Award, as she received most votes from the campus community as a person who has exhibited passion, pride for their culture and has worked towards improving awareness of their culture through participation in events and organizations. She is currently chairing the committee working to develop the 'Mi Familia' Weekend, a bilingual weekend of events to share OSU with family members of Latino/Hispanic students, scheduled for April 27-29, 2012. Please contact Arlyn (morenola@onid.orst.edu) if you'd like to get involved.

Writing Awards:

Melissa McKenney Broussard wins library award: Melissa, who graduated last spring and is currently a graduate student in Entomology, was awarded the OSU Libraries Undergraduate Research Award for 2010-2011. This award recognizes undergraduates who, "through the comprehensive use of the OSU Libraries, demonstrate outstanding research, scholarship, and originality in writing a paper or completing a project". Melissa used her BRR thesis as her project. The award comes with a plaque and a \$1000 scholarship.

<http://hdl.handle.net/1957/16199>

Students must be a current OSU student to win this award. Melissa was eligible because she stayed on at OSU after graduating.

The Writing Intensive Curriculum Program, in coordination with the departments, is happy to announce Culture of Writing Award winners in their disciplines for the 2010-2011 academic year. Congratulations to each of the winners:

Andy Larkin received the 2010-2011 Writing Intensive Curriculum award for BRR for his thesis:

<http://hdl.handle.net/1957/18384>

AnnaRose Adams received the 2010-2011 Writing Intensive Curriculum award for University Honors College for her thesis:

<http://hdl.handle.net/1957/22384>

More Awards/Scholarships:

Casey Kernan selected as a recipient of an Honors Promise Finishing Scholarship by University Honors College award committee. The \$5,000 awarded to Casey – the highest dollar value scholarship awarded by the UHC – will be disbursed in two installments over the course of his final year: \$3,000 will be awarded at the beginning of the fall term and \$2,000 upon completion of his senior thesis and participation in a media project about his UHC experience.

Oregon Seed Trade Association provided scholarship award support for **Chris Hedstrom** and **Sarah Wright**. Info. contact: Barbara.Reed@oregonstate.edu, Crop and Soil Sciences Dept. and visit <http://www.oregonseed.org/>

Tiffany Harper received a \$1000 Lane County Farm Bureau Scholarship.

Laura C. Magaña has received a SACNAS travel award to present her research at the 2011 National Conference in San Jose, California, Oct. 27-30, 2011. A travel scholarship award covers airfare, lodging, and meals at the conference.

USDA National Institutes of Food and Agriculture, Multicultural Scholars Program (MSP): Cynthia Le, Jorge Lopez-Contreras, Charlie Ta, Elyssa Trejo, and James Thomas.

BRR MSP Mentors: **Eva Arndt, Laura Magana, Kim Melendez-Rivera, Kim Barela, Arlyn Moreno Luna** and **Vananh Nguyen** for their service as mentors and officers in OSU MANRRS (Minorities in Agriculture, Natural Resources and Related Sciences) Chapter.

Congrats CAS Scholarship Recipients:

CAS Scholarships: Kim Barela, Nick West, Anneke Tucker, Robbie Eberhart-Garah, and Casey Kernan.

CAS Ag. Honors: Joseph Meyer and Cynthia Le.

CAS Celebrating Student Excellence:

Students, family, faculty, alumni, donors and friends from the College of Agricultural Sciences gathered for an evening in the MU Ballroom on May 19 to recognize student accomplishments throughout the year. The highest student awards were presented with **AnnaRose Adams receiving - Capital Press/CAS Outstanding Senior in Agriculture.** AnnaRose's combination of academic distinction, outstanding research, SeaGrant internship, and leadership in several different areas made her a standout for this prestigious honor.

Registry of Distinguished Students at the College of Agricultural Sciences (CAS) Great Achievements of Students Celebration: **Eva Arndt, Chris Hedstrom, Laura C. Magana and Anneke Tucker**

BRR students accept CAS Club of the Year award for OSU MANRRS. **BRR students Eva Arndt (MANRRS national president) along with Laura Magana, Martine Torres**

(MANRRS Region VI undergraduate VP), and **AnnaRose Adams** accepted the CAS Club of the Year Award on behalf of MANRRS (Minorities in Agriculture, Natural Resources and Related Sciences). The OSU MANRRS club was also recognized as the **National MANRRS Chapter of the year – 2011** during the 26th National Conference, Overland Park, Kansas. Read More in the Barometer:

<http://media.barometer.orst.edu/media/storage/paper854/news/2011/05/25/News/Manrrs.Receives.National.Recognition-3999012.shtml>

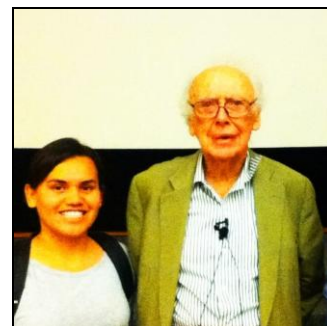


Research Grants and Internships

Arlyn Moreno Luna received a 2011 summer **STAR (Stipends for Training Aspiring Researchers) Program internship at University of Washington.** STAR scholars are placed for 10 – 12 weeks in a National Heart Lung and Blood Institute (NHLBI) research lab of the National Institutes of Health (i.e., cardiology, hematology, pulmonary, or sleep laboratory).

"I really like the internship here in Seattle. I'm working at UW Medicine Research Center in South Lake Union. My lab is located in a new building on the 5th floor. It's a great location and takes me about 15 min walking to down town and about 10 to the space needle. Also, in front of the building you can see the lake. I've been learning how to make western and southern blots, PCR, different assays to analyze DNA, plasmid preparation, making different buffers, agar plates, sending culture to other labs for DNA sequence and plasmid analyses."

Arlyn experienced a brush with greatness during her internship and is pictured with Dr. James D. Watson awarded the **Nobel Prize in Physiology/Medicine** in 1962 for x-ray diffraction work elucidating the **Watson-Crick base pairing** of nucleotides!



Howard Hughes Medical Institute (HHMI) Summer Undergraduate Research Fellowships at OSU:

Elise Cowley (Dr. Kerry McPhail, College of Pharmacy) – “Bioassay Guided Fractionation and Compound Structure Elucidation of a Red Sea Strain of *Lyngbya majuscula*”

Tiffany Harper (Dr. Sujaya Rao, Crop and Soil Sciences) – “Pollination Efficiencies of Native Bees and Syrphid Flies”

Charlie Ta (Dr. Inga Zasada, USDA Agricultural Research Service) – “Virus Vectoring Ability of a *Xiphinema americanum* Population”

Casey Kernan (Dr. Andrew Buermeyer, Environmental and Molecular Toxicology) – “DNA Mismatch Repair-Dependent Suppression in Genotoxicity of Complex Environmental Carcinogenic Mixtures”

Jacki Coburn (Dr. Andrew Buermeyer) – “Investigating a Role for DNA Mismatch Repair in Signaling a PAH-Induced DNA Replication Arrest”

Students provided a research seminar at the HHMI symposium in September. The HHMI program provides paid summer research opportunities for students who have finished their freshman, sophomore, or junior years.
<http://oregonstate.edu/dept/biochem/hhmi/summerresearch.html>

The Research Office announced the awards for the Undergraduate Research, Innovation, Scholarship and Creativity (URISC) - Summer solicitation:

Jacki Coburn (Mentor: Dr. Andrew Buermeyer, Dept. of Environmental and Molecular Toxicology): “Investigating a Role for DNA Mismatch Repair in Signaling a PAH-Induced DNA Replication Arrest”.

<http://oregonstate.edu/research/incentive/awards.htm>

URISC awards are available for academic year funding. The next URISC request for proposals for Winter and/or Spring term(s) 2012 will go out in late September/early October and the deadline for proposals will be in early November 2011.

<http://oregonstate.edu/research/incentive/urisc.htm>

Academic Year URISC early START awards for freshmen and sophomore-standing students went to:

Charlie Ta (Mentor: Dr. Inga Zasada, Botany and Plant Pathology/USDA Agricultural Research Service).

Jordan Trevor (Mentor: Dr. Jordan Trevor, Animal Sciences).

Dominique Sabedra (Mentor: Dr. Gerd Boebe, Animal Sciences.)

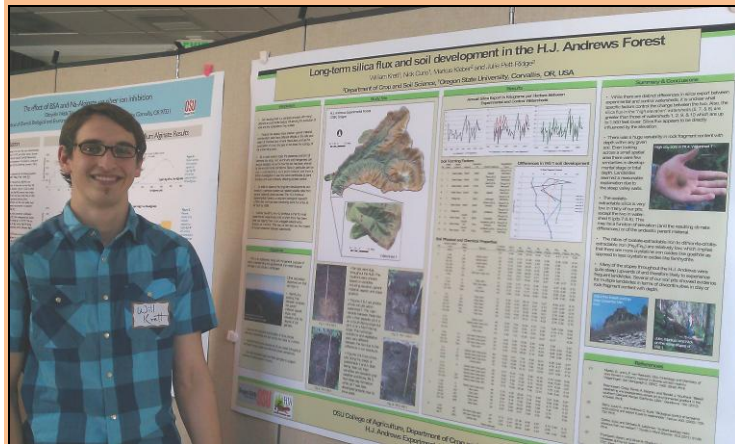
Kim Barela, Elise Cowley, Tori Grimwood, and Nick West received **ER Jackman Internship** support

<http://agsci.oregonstate.edu/students/undergrad/current/internship-support>

Subsurface Biosphere Initiative summer fellowships. The SBI provides paid summer research internships to stimulate undergraduates’ interest in research and in the subsurface biosphere.

<http://sbi.oregonstate.edu/education/interns.htm>

Will Krett SBI Poster symposium. Mentor Dr. Julie Pett-Ridge, Crop and Soil Sciences Dept. *Long-term silica flux and soil development in the H. J. Andrews Experimental Research Forest.*



Elise Cowley received research funding from Sigma Xi, The Scientific Research Society for her project with Dr. Kerry McPhail, College of Pharmacy, seeking new pharmaceuticals from organisms isolated from unique environments. The Sigma Xi Grants-in-Aid of Research (GIAR) program provides students with valuable educational experiences by encouraging close working relationships between students and faculty, the program promotes scientific excellence and achievement through hands-on learning.

<http://www.sigmaxi.org/programs/giar/>



Welcome New Students:

Brittney Alves
Ann Bernert
Thaddeus Kilmer
Cynthia Le
Jorge Lopez-Contreras
Laurie Macwhorter
Luis Marquez Loza
Joseph Meyer
Duy Nguyen
Kristin Pierre
Schyler Reis
Kimberly Sarver
Meera Satyanarayan
Nicole Schrock
Jose Solis-Ruiz
Jacinto Sepulveda
Blake Strong
Charlie Ta
James Thomas
Jacob Tower
Elyssa Trejo
Jordan Trevor
Amelia Van Hoesen
Ming-I Wang
Kenneth Willard
Nicholas West
Matthew Yasui

We are happy you are here!

Thanks to faculty for sharing their research programs in the BRR 100, Great Experiments course presentations:

We couldn't do without you!

Fall 2010:

Andreas Schmittner, Oceanic and Atmospheric Sciences
Michael Bondi, Forest Ecosystem and Society/Extension Agent--Clackamas County
John Simonsen, Wood Science and Engineering
Jeff Leonard, Crop and Soil Science
Kerry McPhail, College of Pharmacy

Upcoming Faculty presentations for Fall 2011:

Ganesh Cherala, College of Pharmacy
Bill Jaeger, Agriculture and Resource Economics
Anita Morzillo, Forest Ecosystem and Society
Lorenzo, Ciannelli, Oceanic and Atmospheric Sciences

Leadership:

At the National MANRRS training conference in Overland Park, Kansas, **Martine Torres** was elected Region VI Undergraduate Vice President. **Eva Arndt** was elected as the first Native American student to hold the National Undergraduate Student President position. Both spent a week spring term in leadership training in Atlanta, Ga.

AnnaRose Adams presented a research project and won a national third place in the Research Poster contest. Read more about OSU student successes

<http://agsci.oregonstate.edu/newsletter/2011/april/manrrs>

Several BRR students serve as Chapter officers in this professional development organization.

2011-2012 Officers

Dominique Sabedra, President
Omar Miranda-Garcia, Vice-President
Emily Escobedo, Secretary
Kim Barela, Treasurer
Charlie Ta, Agriculture Exec. Rep
Alejandra Marquez Loza, Historian
Tiffany Harper, Parliamentarian
Arlyn Moreno Luna, Concilio Rep.
Kim Melendez-Rivera, Webmaster

Alejandra Marquez Loza, Martine Torres, and Sarah Wright selected to serve as Ambassadors for Agriculture, Forestry and Natural Resources 2010/2011.



Also, congratulations to outgoing ambassadors Gregory Petrossian and Dominique Sabedra

The Ambassadors' mission is: "To provide information, promote diversity, and create personal relationships with Oregon State University affiliates. Sharing an inspiring perspective of our university for future students and presenting opportunities to ease the transition into higher

education." The Ambassador Team engages in professional activities that promote the College of Agricultural Sciences, the College of Forestry, and the student's individual departments. Ambassadors also receive a \$1,500 scholarship and upper division agriculture or forestry credit.

Dominique Sabedra elected to the Ag Executive Council to serve on the 2011-2012 Ag Exec as Director of Correspondence.

Helen Walters will be in the new CAS Leadership Academy! Fellows work with a faculty mentor who can provide guidance, advice, and encouragement. This program is intended to be flexible and to accommodate fellows' own goals in leadership, starting with where they are and growing in the direction that fits their interests and prepares them for career success.

http://oregonstate.edu/dept/ag-ed/Leadership_Academy

Elise Cowley has been selected to serve as a Resident Assistant- She will live and work within the UHC residence hall to support and assist on-campus residents.

Spring Term 2011 Dean's List:

AnnaRose Adams
Kimberly Barela
Sean Carrigg
Jacki Coburn
Elise Cowley
Jake Dittrich
Casey Kernan
Alejandra Marquez Loza
Gregory Petrossian
Patrick Rutledge
Erika Snow
Charlie Ta
James Thomas
Martine Torres
Elyssa Trejo
Helen Walters
Nicholas West
Ceely Will
Kevin Wong
Congrats!

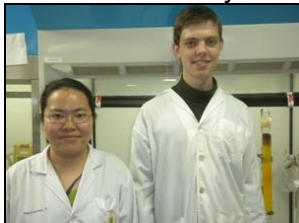
**Travel
(Hawaii, Utah, New Zealand, Spain and Thailand):**

Elyssa Trejo is preparing to spend spring term 2012 on internship in Utah working at the USDA Poisonous Plant Research Laboratory.



Sean Carrigg, was one of only 8 students in the US selected to participate in an NSF-funded Research Experience for Undergraduates (REU) in Organic Chemistry in Thailand.

The program is run by the University of California at Santa Cruz. Sean received expenses and a fellowship, to take Thai language and culture courses, and participate in a research project conducted in the Laboratory of Natural Products, Chulabhorn Research Institute, Bangkok, Thailand. His research paper is: *Chemical Investigation of Bioactive Secondary Metabolites from the Root of Millettia brandisiana*. Sean claims he learned more in this summer experience than in an entire year of organic chemistry.



Kevin Wong and Tileng Lo, have both been selected to participate in a summer internship for Winter term 2012 to work in Hawaii with Monsanto. Students with interested in plant biotechnologies may want to consider future opportunities, contact Paul.Dorres@oregonstate.edu

Patrick Rutledge, in New Zealand! "I am currently traveling around the north island of New Zealand the people and scenery are both amazing."



Patrick Rutledge with Ruth (FST major) in New Zealand. He assures me that his studies at Lincoln University are going well!



Kevin Wong gives a presentation sharing his study abroad experience in Spain with visiting high school students during Ag Day.

Study Abroad Information Sessions begin the second week of classes and are held daily, at noon and 4pm daily in Snell 444.

The Gilman Scholarship Program offers awards for undergraduate study abroad and was established by the International Academic Opportunity Act of 2000. This scholarship provides awards for U.S. undergraduate students who are receiving Federal Pell Grant funding at a two-year or four-year college or university to participate in study abroad

programs worldwide. The Summer and Fall 2012 online application will open in early January 2012 and all online applications are due March 1, 2012.

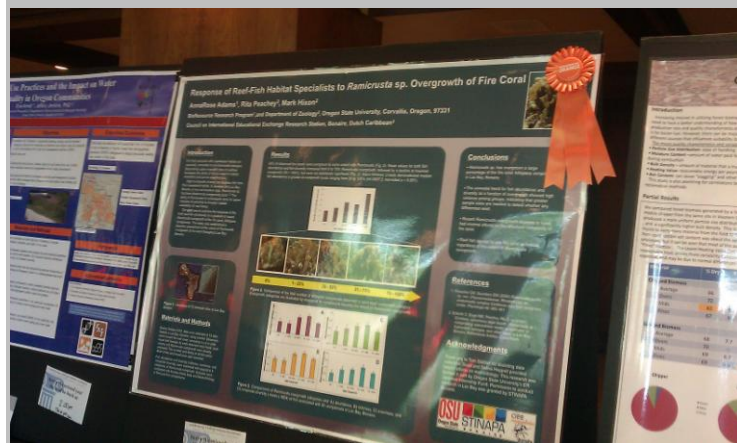
<http://www.iie.org/Programs/Gilman-Scholarship-Program>

2011 Celebrating Undergraduate Excellence all-University event, held May 5, 2011.

Seven out of 10 participants from the College of Agricultural Sciences were BRR students, and for the third consecutive year in a row since the event began, the CAS poster award winner is a BRR student. Congratulations to award winner, AnnaRose Adams. **Watch videos with the 2011 award recipients!**

<http://oregonstate.edu/ua/events/cue>

***winner* AnnaRose Adams:** Response of Reef-Fish Habitat Specialists to *Ramircrusta* sp. Overgrowth of Fire Coral



This poster was also an award-winner in the 8th Annual Research Advance in Fisheries and Wildlife and Ecology Symposium.

<http://fw.oregonstate.edu/groups/fwgsa/rafwe.htm>

Great job to all the terrific BRR students sharing their research in this event:

Eva Arndt: Pesticide Use Practices and the Impact on Water Quality in Oregon Communities

Daniel Bratton: Development of a Sprayable Herbicide: Enzyme-Mediated Conversion of Glucolimnanthin

Laura Magana: Quantifying IFN- γ Production During Graft Versus Host Response Following Treatment with TCDD

James Thomas: IV Quality Assessment and Improvement in Outpatient Surgery

Anneke Tucker: (URISC) Inhibition of Alpha-Amylase and Alpha-Glucosidase by Bioflavonoids: In Vitro and In Vivo Studies

Aurora VanGarde: (URISC) Telomere Binding Protein Antagonists for Stem Cell Therapy

BRR major spotlight in GT

Oregon State University: Bioresource Research
Interdisciplinary Sciences BS degree major

Rewarding hard work *Innovative major gives students special opportunities for success*

Two samples demonstrating the dye-filtering effects of algae. The sample on the left was treated with algae, while the sample on the right was not. (Jesse Skoubo | Corvallis Gazette-Times)



Martine Torres wants to give people living in impoverished areas around the world greater access to clean water.

“A lot of children die from a lack of clean water, or just a lack of water,” Torres said. “I thought that was not acceptable.”

She began her undergraduate career in University of Oregon’s international studies program, but in her sophomore year realized she wanted a more focused major.

So Torres did a Google search of the phrase “water quality” and ultimately transferred to Oregon State University after stumbling upon one of the hidden academic gems here: bioresource research.

Launched 20 years ago within the College of Agricultural Sciences, the interdisciplinary science major provides tremendous research opportunities for undergraduates by requiring students to complete a thesis by graduation; this gives them the chance to work with faculty mentors on unique research and ultimately write and present their findings at their thesis defense.

Although OSU’s University Honors College and International Degree programs require students to complete a research thesis, both programs are in addition to a student’s major of study. And while some major programs, like physics, require a senior capstone project, bioresource research is the only standalone major with such a rigorous thesis requirement, said director Kate Field.

With an alumni base of around 125, about 50 students major in bioresource research. Still, program advisor Wanda Crannell said students have found tremendous success both in and out of school: 40 percent have graduated with honors — meaning cum laude or higher — and about 20 percent have graduated with an additional University Honors College degree.

Furthermore, graduates have a 100 percent success rate at either finding work within three months of graduating or

getting accepted to a graduate program. Around 60 percent of graduates go on to graduate school, many with full funding that covers tuition and pays a stipend to work as a teaching assistant or do research.

“The reason our students get into grad school is because they have a proven track record in research science,” Crannell said. “For most faculty, that’s kind of a no-brainer.”

Opportunities for undergraduates to conduct research have picked up in recent years since studies have found that undergraduate research prepares students well for graduate school and employment, and stimulates problem solving skills thanks to long-term projects that often require teamwork.

Undergraduate research also gives students the opportunity to work closely with and ultimately build relationships with faculty. And because bioresource research requires students to pick one of thirteen major options that leads them to work with faculty throughout the university, each bioresource research major can work with stellar faculty and innovative research.

For example, Torres joined biological and ecological engineering professor Ganti Murthy’s project that studies how algae can absorb harmful dyes used in the textile industry. And Annarose Adams, who graduated in June, conducted research on invasive marine plants on coral reefs in the Caribbean Sea while studying abroad on the island of Bonaire; her thesis mentor was zoology professor Mark Hixon, the most-cited journal author on coral reef research.

Adams hopes to earn a doctorate and someday do policy work on marine science issues. She sought out a variety of classes that helped shape her understanding of her area of study, like a graduate-level coastal law course, which taught her to communicate science with the public.

“One thing that was really cool was that I didn’t strictly take science courses,” she said. “Science does not exist in a vacuum — it is critically linked to policy.”

Likewise, Torres, a fifth-year senior, wants to go to graduate school, hoping to get in to a public health program and eventually work in other countries.

She admits that her work in bioresource research has been difficult, and jumping from a liberal arts-centered major to one in science took an adjustment. But Torres knows that her work in both the classroom and lab is giving her an insight to research she’ll not get elsewhere.

“I’m definitely challenging myself with this major,” she said.

Contact Gazette-Times reporter Gail Cole at 541-758-9510 or gail.cole@gazettetimes.com

Alumni News:



Marita Barth (BS BRR-Toxicology 1998), Dr. Marita Barth has joined the Chemistry Department as our newest E-Campus Instructor. Welcome, back Marita!

Jeff Burnett (BS BRR-Biotechnology 2008), enters medical school at Kansas City University of Medicine and Biosciences, Kansas City, MO. **D.O.**, Osteopathic Medicine (2010 – 2015 expected).



Jenny Rebecca Glass (BS BRR-Plant Growth and Development 1994), “As the manager of WSU Puyallup’s Plant and Insect Diagnostic Laboratory, I use the skills I gained in my BRR studies every day.” Plant Diagnostician-WSU Puyallup Plant & Insect Diagnostic Laboratory
<http://www.puyallup.wsu.edu/plantclinic/>

Jess Holcomb (BS BRR-Environmental Chemistry 2008) received MS degree in Soil Science, 2011.

Jacob Huber (BS BRR-Toxicology 2007) is working in the Netherlands as an Energy Analyst with the Energy Delta Institute (energydelta.org), developing courses on energy transition topics for energy executives (smart grids, renewables, energy efficiency, etc). “My responsibility is for the energy efficiency topic. I am really enjoying it so far!”

Pachida Lo (HBS BRR-Toxicology 2007), “I am a current medical student at Oregon Health & Sciences University. Currently, I have taken off one year from my medical studies to pursue my research interests at the Asian Liver Center at Stanford University to develop the first effective and sustainable program to address the disproportionately high rates of hepatitis B among the Hmong population in the Central Valley of California using a 3 pronged-approach of: outreach/education, research, and collaboration with community members and organizations. I have realized through the past four years since I graduated from Oregon State University how much the Bioresource Research program has helped me to develop skills that have often made me more research savvy compared to my peers.”

Aly Mohamed (HBS BRR-Biotechnology 2006) “I have continued my education at the Medical College of Wisconsin and I am working towards my MD degree. I am currently preparing my residency application for Orthopaedic Surgery. Since I've graduated, I've married and now have a two year old child. I am working on publishing a case report on 'open

scapulothoracic dissociation.' I've been enjoying meeting lots of great people in medical school.”

Joshua Owens BS BRR-Biosystems Modeling and Environmental Chemistry 2002), completed MS in Water Resources Engineering, 2011.

Ryan Scholz and Danielle Trummel, (BS BRR 2007) each received their Doctor of Veterinary Medicine (DVM) degrees during OSU’s 142nd annual commencement, 2011.

Jari von Zitzewitz (BS BRR-Applied Genetics) received PhD in Crop Science, 2011. Thesis: The genetics of winter Hardiness in Barley: Perspectives from Genome-Wide Association mapping.



BRR-Alumni, 2011, “*I loved my experience with the BRR program. It was delightfully flexible, allowed me to gain very valuable experience, and I wrote and defended a thesis as an undergraduate! I never thought I'd be able to do that! I recommend the BRR program to any undergraduate wanting research experience. The project itself was a blast, but I also enjoyed the opportunity to have close relationships with faculty members and learn laboratory skills.*”

We love to hear from our graduates! So please keep in touch! Send your updates to BRR@oregonstate.edu

For more news and information, visit the BRR website:
<http://agsci.oregonstate.edu/brr/>

Information is compiled from various sources. Please report any errors or inaccuracies.