BioResource Research Newsletter
An informational newsletter about the Interdisciplinary undergraduate research science major at Oregon State University in Animal Reproduction and Development—Applied Genetics—Biosystems Modeling—Biotechnology—Environmental Chemistry—Food Quality—Pest Biology and Management—Plant Growth and Development—Sustainable Ecosystems—Toxicology

INSIDE THIS ISSUE

2005 Graduates
Students on the Forefront
Published Works
Spring 2005 Dean’s List
International News
Research Grants
Internships
Welcome New Students
Scholarships and Awards
Professional Development
Acknowledgements
BRR Mentor Faculty
BRR Alumni News
Bits and Pieces
CONGRATULATIONS TO ALL THE 2005 GRADUATES!!

Ben Nice  
**BRR Discipline:** Applied Genetics (Chemistry minor)  
**Research title:** “DNA mismatch repair and cancer; Identifying phenotypic consequences of hMLH1 mutations”  
**Mentor(s):** Dr. Andrew Buermeyer, Environmental and Molecular Toxicology (EMT) Dr. Michael Blouin, Zoology  
**Currently:** at Oregon Health Sciences University in metabolism and genetics clinic in Portland

Daniel Smith  
**BRR Discipline:** Biotechnology and Biosystems Modeling. Daniel received a second degree in Applied Computer Science  
**Research title:** “An automated approach to computational identification of microRNA genes in plant genomes”  
**Mentor(s):** Dr. James Carrington and Scott Givan via the Center for Gene Research and Biotechnology (CGRB)  
**Currently:** He will continue work in the field of genomics and bioinformatics as a fully-funded graduate student in the Molecular and Cellular Biology (MCB) Program at OSU with Dr. Stephen Giovanonni.

Lisa Marie Deskin  
**BRR Discipline:** Environmental Chemistry (Chemistry minor)  
**Mentor(s):** Drs. Staci Simonich and Kim Anderson, EMT Department.  
**Research title:** “Measurement of semivolatile organic compounds in conifer needles from Sequoia National Park, California” as part of the larger, on-going Western Airborne Contaminant Assessment Project (WACAP)  
**Currently:** She has since traveled to Germany and recently moved to Portland, Oregon

Eli Moore  
**BRR Discipline:** Environmental Chemistry  
**Research title:** “The use of lichen to monitor semivolatile organic compounds in high elevation ecosystems” (also part of the WACAP was conducted through the EMT department). Eli and Lisa presented their work at the Society of Environmental Toxicology and Chemistry (SETAC) World Congress and 25th Annual Meeting in North America at the Oregon Convention Center in Portland, Oregon, 14-18 November 2004. http://www.setac.org/  
**Mentor(s):** Drs. Staci Simonich and Kim Anderson  
**Currently:** begins graduate school at the University of Maryland in the Marine, Esturine and Environmental Sciences PhD program

Eryn Cramer  
**BRR Discipline:** Pest Biology and Management (University Honors College (UHC) student fulfilled three minors (Chemistry, Ag. Business Management, and Ag. Economics)  
**Research title:** “A survey of three key species of Ambrosia Beetles (Coleoptera: Curculionidae: Scolytinae: Monarthrum scutellare, Xyleborus dispar, Xyleborinus saxesenii) in Oregon’s Willamette Valley nursery industry”  
**Mentor(s):** Drs. Robin Rosetta and James Altland, North Willamette Research and Extension Center  
**Currently:** She is now at Touro University California in Vallejo in the Doctor of Pharmacy program.

Adam Wing  
**BRR Discipline:** Pest Biology and Management  
Adam, a crew honors athlete, received a minor in Soil Science.  
**Research title:** “Field validation of laboratory tests used in screening Port-Orford-cedar for resistance to Phytophthora lateralis”  
**Mentor(s):** Drs. Everett Hansen and Jeff Stone, Botany and Plant Pathology Department  
**Currently:** employed with the Forest Service PNW Forestry Research Laboratory and engaged to be married early 2006.
Amber Taylor
BRR Discipline: Toxicology
fulfilled dual majors in Chemistry (Forensic Science option)
Research title: “Immunohistochemical localization of cytochrome P450s 1A, 2K6, 2K7, 3A65 and 3C1 and expression of P4501A in tumor sensitive and resistant lines of juvenile zebrafish.” This work was presented at the Society of Toxicology professional meetings in New Orleans, prior to the hurricane.
Mentor(s): Drs. Jan Spitsbergen and Don Buhler
EMT Department
Currently: Employed at CH2MHill in environmental engineering and consulting.

PUBLISHED WORKS

Ryan Scholz had his research identifying ecologically and economically sound land management practices using sheep for controlling invasive, non-native grass published in the conference proceedings of the Western Extension Research and Academics: Committee 039.
http://www.colostate.edu/Orgs/WAAESD/
Mentor: Dr. H. Meyer (ANS Department)
Title: “Controlling Slender False Brome (Bracipodium Sylvaticum) By Sheep Grazing”
This project actually helps condition lambs to be weed-eaters!

Eryn Cramer and Julie Ream each spoke on their work conducted with Dr. James Altland, North Willamette Research and Extension Center, at the Weed Science Society meetings (January 2005, Washington DC)
http://www.newss.org/index.aspx
Eryn’s seminar title: “Control of Northern Willowherb in container Production” evaluated the effectiveness of control methods used by nurseries to prevent spread.
Julie’s seminar title: “Production and Invasion of Butterfly Bush” provided an evaluation of natural site characteristics that favor invasion and included The Nature Conservancy and nursery industry professionals.

Regional third place outstanding research presentation awarded to Shannon Bell (BRR-Biotechnology and Applied Genetics options) mentored by Dr. Riera-Lizarazu, CSS Department, Shannon won third place in the oral research competition at the American Institute of Chemical Engineers (AIChE)
http://groups.engr.oregonstate.edu/AIChe/
http://www.aiche.org/annual/
Regional Conference hosted by OSU in April, 2005. The work she presented involves analyses of success for rapid genetic transformations of wheat embryos. The project aims to identify wheat with reduced proteins that cause an allergic reaction for some.

Educational Outreach…Shannon Bell was also competitively selected to work as an educator in the Outreach in Resource Biotechnologies (ORB) program. A program developed to communicate factually and contextually accurate information on the scientific benefits, safety and ethics of biotechnology.
http://wwwdata.forestry.oregonstate.edu/ORB/marketplace.htm
http://wwwdata.forestry.oregonstate.edu/ORB/press.htm
SPRING 2005 DEAN’S LIST

- Shannon Bell
- Shanna Bernal-Fields
- Bryan Danielson
- Jess Holcomb
- Eli Moore
- Ben Nice
- Lindsey Rank
- Daniel Smith
- Amber Taylor

*Keep up the great work!*

INTERNATIONAL EXPERIENCES AND OPPORTUNITIES

**Kendall Dutcher** returned from studying at Lincoln University in New Zealand as a Gilman scholar and began work on her research with Dr. Barofsky, EMT Department.

http://www.iie.org/programs/gilman/overview/overview.html

**Jamie Jaberg** is currently studying abroad at Lincoln (visit Strand Ag Hall Rm 137 for more info.). Jamie is also an intern working with the Ecology Department on a project involving population dynamics in the tussock grasslands in the Otago region of the south island.

**Lauren Osborn** (mentor: Pat Hayes, CSS) left for Spain late this summer and in conjunction with her International Degree requirements will be conducting research at the University of Lleida.

(Visit International Programs in Snell Hall for more information or attend the OSU Study Abroad Fair -- October 12, 2005, MU Student Lounge.)

http://oregonstate.edu/international/internationaldegree/index.html

RESEARCH GRANTS!

(URISC) Undergraduate Research Innovation, Scholarship and Creativity

**Winter/Spring Award Recipients:**

* **Pachida Lo** (mentor: David Williams, EMT):
  “Determination of the Flavin-Containing Monoxygenase (FMO) Distribution in Mouse Lung and Liver.”

* **Amber Taylor** (mentor: Jan Spitsbergen, EMT):
  “Influence of selected P450 Isozymes on the Carcinogenesis Process in Carcinogen Sensitive and Resistant Lines of Zebrafish.”

**Summer 2005 Award Recipient ($1800):**

* **Kendall Dutcher** (mentor: Douglas Barofsky, EMT): Selenosulfide Bonds and Phosphorylation Sites on the Native Form of Selenoprotein W.”

**Grants available for summer or school-year awards**

For more information visit the research office website at:

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

**Howard Hughes Medical Institute Summer 2005 Research Program Award Recipients ($3600)**

**Lauren Osborn** (mentor: John Fowler, BPP)
  “Testing a Role for Rop9 GTPase in Maize Pollen Tube Growth.”

**Pachida C. Lo** (mentor: David Williams, EMT)
  “Determination of the Flavin Containing Monoxygenase (FMO) Distribution in Mouse Lung and Liver.”

**Aly Mohamed** (mentor: John Hays, EMT)
  “Repression of mismatch repair (MMR) by dominant-negative MMR proteins.”

For more information visit:

http://oregonstate.edu/dept/biochem/hhmi/summerresearch.html

or contact Dr. Kevin Ahern (ahernk@onid.orst.edu) or call 737-2305.

**MORE SUMMER RESEARCH GRANTS…..**

* **Lauren Osborn** (mentor: John Fowler, BPP)
  “Testing a Role for Rop9 GTPase in Maize Pollen Tube Growth.” Lauren also received an Ernest and Pauline Jaworski Fund for Summer Research Experiences for underserved undergraduates. Applications are available from the Botany and Plant Pathology Department in February each year.
Also receiving grant funding from the **National Institute of Environmental Health Sciences** ($4000) [http://www.ehsc.orst.edu/training.htm](http://www.ehsc.orst.edu/training.htm)

* **Pachida C. Lo** (mentors: David Williams and Sharon Krueger, EMT Department)  
  “Determination of the Flavin Containing Monooxygenase (FMO) Distribution in Mouse Lung and Liver.”

* **Kendall Dutcher** (mentors: Doug Barofsky, Chemistry Department, and Larry Curtis, EMT Department). “Selenoprotein W: a Search for Selenosulfide Bonding.”

**INTERNSHIPS**

**Shanna Bernal-Fields** and **Tuan Huynh** received federal Student Training/Career Education Program (STEP/SCEP) internship support. Tuan worked for the Forest Service in Mapleton restoring riparian habitat with the Fisheries Biologist and served on a fire crew. [http://www.fs.fed.us/fsjobs/step.html](http://www.fs.fed.us/fsjobs/step.html)

Shanna worked for the Natural Resource Conservation Service surveying with an engineer, pulling up land use capability and soil reports, determining wetlands and highly unstable land subject to erosion, providing public relations at the local county fair, and seeing quite a bit of southwest Oregon. She also went to Redmond for a week for soil science work in the Ochoco forest. [http://www.nrcs.usda.gov/](http://www.nrcs.usda.gov/)

**Jee Lee** worked as an intern through a Cooperative Partnership with US EPA-Western Ecology Division [http://www.epa.gov/wed/](http://www.epa.gov/wed/) and the Center for Water and Environmental Sustainability [http://cwest.oregonstate.edu/about/coops/index.htm](http://cwest.oregonstate.edu/about/coops/index.htm) [http://oregonstate.edu/promise/description.html](http://oregonstate.edu/promise/description.html)

**Students seeking Internship Support** should consider the ER Jackman support program. Applications for internships during winter term 2006 are due October 24, 2005. Online version of the application: [http://agsci.oregonstate.edu/jobs/cas_isp.html](http://agsci.oregonstate.edu/jobs/cas_isp.html)

Please contact the Student Advancement Office at 737-5671 or Dale Weber at 737-2144 for more information.

**WELCOME NEW STUDENTS!**

- Jeff Bernett
- Bryan Danielson
- Alissa Freitas
- Karen Haraldson
- Jimmy Mak
- Michelle Martin
- Tonya Moon
- Lauren Osborn
- Jessica Puccetti
- Lindsey Rank
- Matthew Wenning

**Glad you are here!**

**SCHOLARSHIP AND AWARDS**

**Karen Harldson** received a university Diversity Achievement Scholarship.

**Ryan Scholz** received scholarship support from the Department of Animal Sciences.

**Shanna Bernal-Fields** and **Doug Heckart** received scholarship support from the Crop and Soil Sciences Department.

**Kendall Dutcher** received support from the Florence Garden Club.

**College of Agricultural Sciences Honors and Continuing Ventures Scholarship Recipients:**

- Shanna Bernal-Fields
- Lance Hansen
- Karen Haraldson
- Doug Heckart
- Jess Holcomb
- Pachida Lo

CAS Scholarship applications for new and continuing students are due February 1st. See: [http://agsci.oregonstate.edu/students/schol_current.html](http://agsci.oregonstate.edu/students/schol_current.html)
**PROFESSIONAL DEVELOPMENT AND MEETING TRAVEL AWARDS**

**Bryan Danielson,** (mentor: M. Sarker, MB) was awarded funding to attend the Mismatch Repair Responses to DNA Lesions Satellite Conference on Environmental Mutagens at OSU and OHSU September 9-11, 2005.

http://oregonstate.edu/conferences/ICEMsatellite.mmrlesions/index.htm

**Linda Ruiz** received support for her volunteer work with the Oregon Pacific Area Health Education Center, a resource center assisting health education for at-risk youth.

http://www.opahec.org/

Contact BRR advisor for information to apply at: crannelw@science.oregonstate.edu

---

**THANKS TO FACULTY FOR SHARING THEIR RESEARCH PROGRAMS IN BRR-GREAT EXPERIMENTS COURSES:**

**Fall 2004:**
- Maria Dragila, CSS
- Jerri Bartholowmew, MB
- Carol Rivin, BPP
- Mafus Sarker, MB
- Barbara Bond, FS

**Upcoming presentations for fall 2005:**
- Machtedl Mok, HORT
- Jennifer Field, EMT
- Sujaya Rao, CSS
- Steve Strauss, FS
- Sue Tornquist, Vet. Med.

---

**FACULTY CURRENTLY SERVING AS BRR MENTORS:**

- **Animal Sciences**
  - Fred Menino
  - Gary Merrill
  - Howard Meyer

- **Biology**
  - Deborah Clark

- **Botany and Plant Pathology**
  - Mark Wilson

- **Chemistry**
  - Claudia Maier

- **Crop and Soil Science**
  - Tom Chastain
  - Patrick Hayes
  - Oscar Riera-Lizarazu
  - Andrew Ross

- **Environmental and Molecular Toxicology**
  - Kim Anderson
  - Doug Barofsky
  - John Hays
  - Jeff Jenkins
  - David Williams

- **Fisheries and Wildlife**
  - Stan Gregory
  - Kathryn Boyer

- **Food Science and Technology**
  - Andrew Ross

- **Forest Sciences**
  - Jane Smith
  - Steve Radosevich
  - David Hibbs

- **Microbiology**
  - Dan Rockey
  - Mafus Sarker

- **North Willamette Research/Extension**
  - James Altland

- **Pharmacy**
  - Jane Ishmael-Leid

**Thanks - we wouldn’t exist without you!**
The BRR program is the primary reason I stayed at OSU, and I really hope that it continues to be a success! BRR-Environmental Chemistry grad. (05).

“This program is the most unique and efficient way for undergrads to gain experience in their field of interest, thus allowing us to truly figure out if we’re headed in the right direction.” BRR-Sustainable Ecosystems grad. (97)

“The BRR class, Great Experiments in BioResource Research, is a wonderful introductory class. It gave me a glimpse of the types of projects available for me to study. Not only has it interested me in other sciences but it gave me some ideas for my research project.” UHC, ID and BRR-Food Quality grad. (00)

“I am really impressed by the amount of individual attention that each member in this major receives. It is great to have someone to go to for problems or questions concerning advising and to help organize educational plans and goals.” CSS and BRR-Sustainable Ecosystems grad. (00)

“Thank you for the challenge.” BRR-Food Quality grad. (00)

“I liked the whole research project. I also liked the contact I had with professors and the lab experience and skills I acquired.” BRR-Toxicology grad. (96)

Sara Davis (BRR-Animal Reproduction and Dev. ’02) is now working for the USDA in Pullman, Washington with ticks and tick-borne diseases.

Kristi Barckley (BRR-Plant Growth and Dev. ’02) finished her MS at UC Davis and beginning in November will be working at the Mid-Columbia Research Extension Center in Hood River in their post-harvest division.

Caryn Ong (BRR-Biotechnology ‘03) is currently a graduate student at OSU in the Crop and Soil Sciences Department and received an Oregon Laurels Scholarship.

http://oregonstate.edu/dept/grad_school/current/laurels.html

Marriages…Congratulations to...

Linda Ruiz (BRR sophomore) on her summer wedding to Curtis (football OSU Beaver #98)

Ryan Scholz (BRR senior) also married an OSU student in Animal Sciences, Nicole.

Births...

Jari Von Zitzewitz (BRR-Applied Genetics ‘99) along with wife, Cecilia, welcomed a new baby girl (Manuela) to their family! All while earning his MS degree in Crop Science (’05).

BRR ALUMNI
WHAT ARE THEY DOING NOW?

Chris Heider, the first BRR graduate (1994) (Environmental Chemistry) works as the lead ecologist for a private environmental consulting company. He also runs his own business 720 Wine Cellars. Although you can find his outstanding wines at many downtown Corvallis wine shops (Avalon, the Co-op, Wineopolis, Sahalie wine bar, as well as the Wine Vault in Philomath) or with dinner at Iovino’s, Chris says the best deals can be had by contacting him directly. winery@720cellars.com

Sara Davis (BRR-Animal Reproduction and Dev. ’02) is now working for the USDA in Pullman, Washington with ticks and tick-borne diseases.

Kristi Barckley (BRR-Plant Growth and Dev. ’02) finished her MS at UC Davis and beginning in November will be working at the Mid-Columbia Research Extension Center in Hood River in their post-harvest division.

Caryn Ong (BRR-Biotechnology ‘03) is currently a graduate student at OSU in the Crop and Soil Sciences Department and received an Oregon Laurels Scholarship.

http://oregonstate.edu/dept/grad_school/current/laurels.html

Marriages…Congratulations to...

Linda Ruiz (BRR sophomore) on her summer wedding to Curtis (football OSU Beaver #98)

Ryan Scholz (BRR senior) also married an OSU student in Animal Sciences, Nicole.

Births...

Jari Von Zitzewitz (BRR-Applied Genetics ‘99) along with wife, Cecilia, welcomed a new baby girl (Manuela) to their family! All while earning his MS degree in Crop Science (’05).

BRR ALUMNI
WHAT ARE THEY DOING NOW?

Chris Heider, the first BRR graduate (1994) (Environmental Chemistry) works as the lead ecologist for a private environmental consulting company. He also runs his own business 720 Wine Cellars. Although you can find his outstanding wines at many downtown Corvallis wine shops (Avalon, the Co-op, Wineopolis, Sahalie wine bar, as well as the Wine Vault in Philomath) or with dinner at Iovino’s, Chris says the best deals can be had by contacting him directly. winery@720cellars.com

Sara Davis (BRR-Animal Reproduction and Dev. ’02) is now working for the USDA in Pullman, Washington with ticks and tick-borne diseases.

Kristi Barckley (BRR-Plant Growth and Dev. ’02) finished her MS at UC Davis and beginning in November will be working at the Mid-Columbia Research Extension Center in Hood River in their post-harvest division.

Caryn Ong (BRR-Biotechnology ‘03) is currently a graduate student at OSU in the Crop and Soil Sciences Department and received an Oregon Laurels Scholarship.

http://oregonstate.edu/dept/grad_school/current/laurels.html

Marriages…Congratulations to...

Linda Ruiz (BRR sophomore) on her summer wedding to Curtis (football OSU Beaver #98)

Ryan Scholz (BRR senior) also married an OSU student in Animal Sciences, Nicole.

Births...

Jari Von Zitzewitz (BRR-Applied Genetics ‘99) along with wife, Cecilia, welcomed a new baby girl (Manuela) to their family! All while earning his MS degree in Crop Science (’05).

Submit your newsletter information for the next issue to Wanda Crannell at:

crannelw@science.oregonstate.edu

Disclaimer: Information in this newsletter is provided by many different people. While we try to keep it accurate and up to date, we cannot guarantee that it always will be. If you see something that should be corrected or updated, please notify the newsletter editor, Lee Ann Julson: leeann.julson@oregonstate.edu