



Department of Botany, OSU

# *Bluestem*

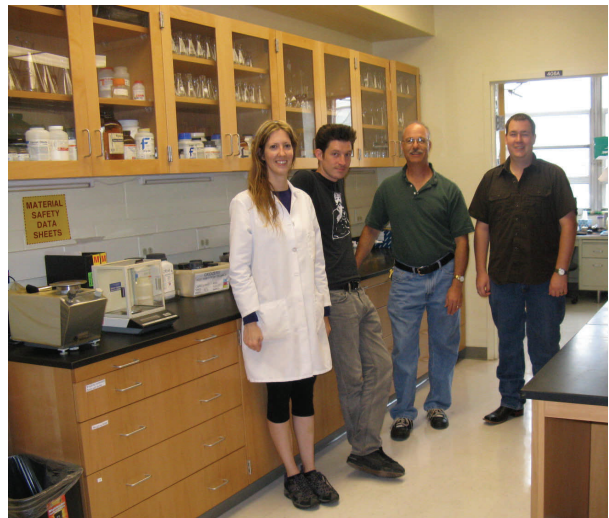
Fall 2012

## **Botany Moves!**

After several years of planning and renovation, the Botany Department finally moved into new offices and labs during the summer of 2011. We kept a portion of the first floor of Life Sciences East, and retained faculty offices, teaching and research labs, and the Herbarium in the basement of LSE. We acquired new offices and labs in Physical Sciences and in the new Henry Bellmon Research Center. We have two new teaching labs in Physical Sciences, in addition to three in Life Sciences East. The Botany main office is now located in Physical Sciences 301, along with a beautiful conference room.



*Ecology lab in Physical Sciences*



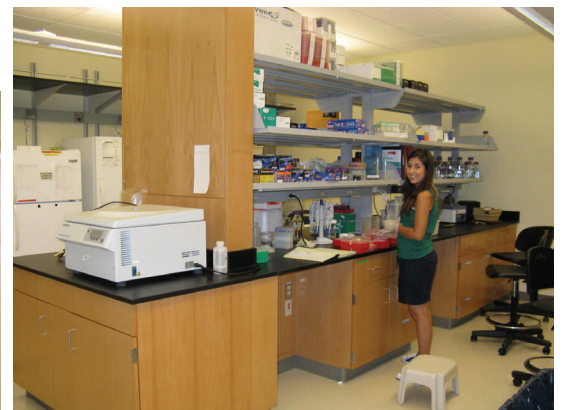
*Bill Henley's lab in Physical Sciences*



*Faculty enjoy the new Conference Room*



*Paula and Ann in the new Botany Office*



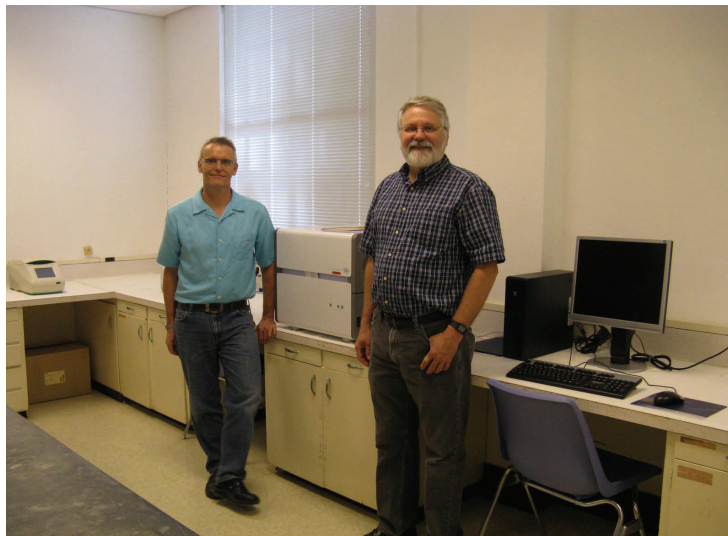
*Lupita Borja, MS student, works in new HBRC lab*

## PCR Core Facility in Life Science East

The Botany Department was instrumental in getting a next generation PCR Core Facility established for the College of Arts & Sciences. It is housed in Life Sciences East and is maintained by **Gerald Schoenknecht**, Associate Professor of Botany, and **Chris Wood**, Clinical Instructor for the College.

This facility provides faculty and students with cutting edge research capabilities in the analysis of gene expression, identification of mutant alleles, and rapid genotyping of large numbers of individuals. Equipment available includes a Roche LightCycler 480 System II and support equipment.

Gerald and Chris organized a workshop in June for faculty and students in Botany and Microbiology. Presentations on quantitative PCR and high resolution melting curves were provided, and participants were shown how to use the instruments and discussed research applications. The Field Application Specialist from Roche Applied Science also offered training in using the LC480 and the software for data analysis.



## Botany Takes Part in National Lab Day

For the third year, area high school students came to OSU in May and participated in National Lab Day. “Is There DNA in My Food?” is our signature session in which the students extract DNA from fruit. In Mike Palmer’s session, “Oklahoma Plants: Understanding Our History and Ecology,” students learned about tree rings, wildflower roots, and mosses. Schools who visited Botany this year were Stillwater, Central Tech in Drumright, Perkins-Tryon, Valliant, Putnam City North, and Bartlesville.



## Faculty News



**Linda Watson**, Botany Dept. Head, just finished a term as president of the American Society of Plant Taxonomists. Linda was treasurer for five years and also served as president-elect. **Mark Fishbein** is currently serving as secretary, after having served three years as a council member.

**David Meinke** was awarded a research grant from the National Science Foundation for \$370,000 to study the role of chloroplast gene expression in plant growth and development. Meinke's research in plant molecular genetics has been continuously funded for his entire career at OSU since hired as an assistant professor 30 years ago. The success of his latest grant brings his total research dollars to more than \$11 million from NSF, USDA, the Oklahoma Center for the Advancement



of Science and Technology (OCAST), and the S. R. Noble Foundation, as well as Novartis Biotechnology and Ciba-Geigy companies.

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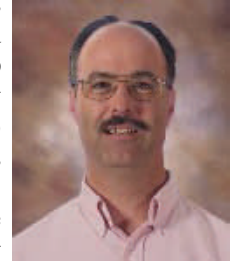


How many botanists does it take to move an herbarium cabinet?

## OCAST Grants

Four Botany faculty received 2-year OCAST grants of \$100,000 each.

**Bill Henley's** project is "Continuous Cultures of Algae: Basic Research Toward Biofuels." The long-term goal is to develop the intellectual foundation to support a new algal biofuels industry in Oklahoma. His lab will study pure and mixed continuous cultures of salt tolerant green algae, diatoms, and cyanobacteria. This project also has the potential to remediate water quality by consuming nutrients in wastewater and to reduce net CO<sub>2</sub> emissions by converting waste CO<sub>2</sub> from fossil fuel combustion to biofuels that will displace future fossil fuel use.



**Mark Fishbein** will study "Phylogenomics of Anti-Insect Defenses in Milkweeds." Crop losses to insect damage present one of the greatest challenges to the sustainability of human societies. The crux of the challenge is to counter the ever-evolving ability of insects and other crop pests to circumvent control methods without incurring unacceptable environmental and economic costs. Successful implementation of this project will provide a proof of concept for seeking additional funding to conduct a more extensive screen of the genes underlying defenses against insect herbivory. Such genetic tools will benefit the cotton, wheat, and other agricultural industries of Oklahoma.

"Using Foxtail Millet as a Model to Improve Drought Resistance in Biofuel Grasses" is the project of **Andrew Doust** and **Janette Steets**. Water availability is a prime determinant of crop production. Biofuels have been suggested as a way to increase productivity of land that is marginal for agriculture production in states such as Oklahoma. In order for this to be feasible, it will be necessary to breed biofuel grasses such as switchgrass with enhanced ability to withstand water stress and still produce biomass. They will perform genetic analysis of foxtail and green millet and study water-use efficiency in several model systems.

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### *Keep in touch!*

Let us know about your job, accomplishments, and family. Update your email, home, and work address.

[paula.shryock@okstate.edu](mailto:paula.shryock@okstate.edu)

[botany@okstate.edu](mailto:botany@okstate.edu)

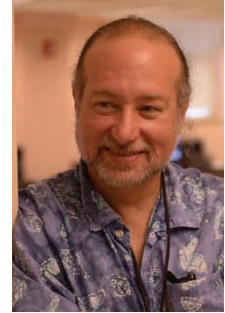
## Faculty Engage in Bioinformatics

Bioinformatics is a new field that has emerged to handle the enormous data sets produced by DNA and protein sequencing. In response to this trend, OSU has launched a new graduate-level Bioinformatics Certification program which trains students in the techniques required to generate, analyze, and interpret complex biologically-derived data sets. This program is interdisciplinary involving faculty and students across the core disciplines of life sciences, computer sciences, and statistics.

**Andrew Doust** is one of the certificate's committee members and teaches a new core course, BOT 5553 Molecular Phylogenetic Analysis. In this course, students use molecular sequence data to construct evolutionary trees. Theory and computer applications are integrated to answer questions involving species relationships, gene evolution, molecular evolution and morphological change, co-evolution, and biogeographic relationships.



**Mark Fishbein** successfully landed an OSU Interdisciplinary Challenge Grant, "Entangled Genomes: An Interdisciplinary Program in the Ecology and Evolution of Genomic Interactions." Through ecological theory and genomic sequencing technologies, researchers attempt to understand genomic interactions among species at the community scale. Mark organized and conducted meetings among more than 25 OSU faculty across campus to develop this research theme.



Mark also taught two graduate-level courses "Phylogenomics" and "Entangled Genomes" which brought together students, faculty, and postdocs from several life sciences departments across campus.

This summer, Mark and Andrew helped organize a summer workshop "Bioinformatics of Entangled Genomes." Thirty participants (students, postdocs, and faculty) met for five days with instructors from the J. Craig Venter Institute, the Texas Advanced Computing Center, and iPlant. This training empowered OSU students and faculty to use the most advanced sequencing and computational technologies for conducting research. The workshop was funded through the Provost's office and was the combined effort of the Bioinformatics Certificate Program, the Entangled Genomes project, and the iCREST program in the College of Agriculture.



*Kay Scheets, adjunct asst. professor (front row middle)*



*Bioinformatics Workshop group*



*Shakuntala Fathepure, postdoc*



*Nicole Bryant, Botany MS student*



*Chad Ternes, Plant Science PhD student*



## RON TYRL

Oklahoma Higher Education Hall of Fame

inducted October 11, 2011

Jim Thorpe Museum, Oklahoma City

Ronald J. Tyrl, Emeritus Professor of Botany at Oklahoma State University, is the epitome of the teacher-scholar who has admirably served and continues to serve Oklahoma's students and citizens. He is a premier teacher, having received numerous teaching awards for his outstanding performance in the classroom. Tyrl earned a B.A. cum laude in Biology from Park College in Missouri in 1964, an M.S. in Botany in 1967 and a Ph.D. in Botany in 1969 from Oregon State University. He began his teaching career as an Assistant Professor of Biology at Park College. In 1972 he became an Assistant Professor of Botany and Curator of the Herbarium at OSU, subsequently retiring as a full Professor in 2008. He also has been a visiting Professor of Botany at the University of Oklahoma Biological Station.

Tyrl has received the prestigious Oklahoma Medal for Excellence in College and Teaching from the Oklahoma Foundation for Excellence; has mentored more than 30 graduate students in his career, many of whom have become college professors themselves; has taught numerous Elderhostel courses; and has led wildflower tours in Oklahoma and Great Britain. He served on the first board of directors of the

Oklahoma Native Plant Society and was president of the Oklahoma Academy of Sciences in 1998-1999 which awarded him its Outstanding Lifetime Achievement Award in 2009.

Tyrl's significant scholarly contributions include authorship or co-authorship of numerous books, journal articles, book chapters, and technical reports, including *Toxic Plants of North America*, *Dyes from American Native Plants*, *Field Guide to Oklahoma Plants*, and *Keys & Descriptions for the Vascular Plants of Oklahoma*. The last two books are the principal references for identification of the state's plants.

Tyrl's contributions to science education in Oklahoma at both the individual and organizational levels are unparalleled among his academic peers. He has employed a variety of pedagogical approaches: formal lectures, field trips, mentoring, workshops, and public lectures. Tyrl is a true Oklahoma educational treasure!

The Oklahoma Higher Education Hall of Fame was established in 1994 to recognize and honor individuals, living and deceased, for outstanding meritorious service to higher education in Oklahoma.

[Biography courtesy of OHEHS website <http://www.ohchs.org/hof.html>]



Maranda and Adam Ryburn, Susan Barber and David Nagle, Ron and Lynda Tyrl,  
Paula Shryock, Chris Wood and Linda Watson

## *Plants, People & Beyond* Library-Botany Lecture Series



### Daryl Baldwin

In Spring 2011, the annual Library-Botany lecture series highlighted the Miami Tribe of Oklahoma and the role of plants in their culture. Daryl Baldwin, director of the Myaamia Project, Miami University, Ohio presented “iši kiihkeelintamaanki ašiihkiwi: How we know the land, an ecological perspective.” Baldwin’s presentation looked at how the Miami

Tribe of Oklahoma integrates their ecological knowledge into educational programs through their traditional language and culture.

Daryl Baldwin is a citizen of the Miami Tribe of Oklahoma. Over the last 15 years he has worked with the Myaamia people developing culture and language based educational materials and programs. Daryl graduated in 1999 from The University of Montana with an M.A. in Native American linguistics. This event was

co-hosted by the Depts. of Botany and Zoology, ONPS Cross-Timbers Chapter, OSU Botanical Society, OSU Native American Student Association, and the OSU Library. That evening was topped off with a pot-luck dinner hosted by the ONPS Cross Timbers Chapter and OSUBS.



*Jake Long, Botany MS student, and Daryl Baldwin, members of the Miami Tribe of Oklahoma*

### Sarah Reichard

“The Conscientious Gardener” was the topic of the Spring 2012 annual Library-Botany lecture series. Dr. Sarah Reichard is an invasive plant species ecologist at the University of Washington, where she is Professor in the School of Forest Resources and Director of the Botanic Gardens. She discussed gardening practices that are often damaging to the environment, and the cutting-edge research in urban horticulture and the benefits it has on sustainability. Reichard has published two books: *The Conscientious Gardener: Creating a Garden Ethic* and *Invasive Species in the Pacific Northwest*. This event was co-hosted by the Depts. of Botany, Horticulture, and Natural Resources & Ecology Management, as well as ONPS Cross-Timbers Chapter, OSUBS, OSU Library, OSU Botanic Garden, and the University Store. The evening ended with a pot-luck dinner.



*Sarah Reichard meets with the OSUBS student group*

### Botanists Active in ONPS

Botany faculty, students, and staff are active in the Oklahoma Native Plant Society. **Brooke Bonner** (Ph.D. student), **Janette Steets** (Asst. Prof.), **Ron Tyrl** (Emeritus Professor), and **Jay Walker** (Adj. Asst. Prof.) currently serve on the Board of Directors. **Paula Shryock** (departmental secretary) serves as the production editor for the ONPS journal *Oklahoma Native Plant Record*. **Ron Tyrl** also serves as President of the ONPS Cross-Timbers chapter and was awarded the 2012 ONPS Service award for his years of dedication and work on behalf of the society.



## STAFF NEWS



**Kathleen Wilson** is the academic advisor for students pursuing Botany and Biological Sciences undergraduate degrees.

Kathleen earned a B.S. in Biology from Georgian Court College in Lakewood, NJ and an M.S. in Ecology from the University of Tennessee. She has had various work experi-

ences including Environmental Enforcement Specialist for Kentucky's Division of Water; contract work for the USDA Division of Exotic and Invasive Weeds, in Reno, NV; secondary school science teacher; and College Coordinator - Registrar, at Augustana College, Nairobi, Kenya.

Kathleen and her husband, Stephan, have three children: a son who lives and works in Reno, NV, and two daughters who are both college students. During her free time, Kathleen enjoys gardening, music, wellness activities, and travel.



**Lucie Novoveská** came to Bill Henley's lab in September 2011 from Dauphin Island Sea Lab in Alabama. Lucie is working as a post-doctoral researcher on Bill's algal biofuels project.

A native of the Czech Republic, she earned her Ph.D. in the Dept. of Marine Sciences at the University of

South Alabama. Her B.S. and M.S. degrees are in Biology, from Hampton University in Virginia and Eastern Illinois University, respectively.

Lucie specializes in microalgal ecology and physiology, and her interests include pretty much anything about microalgae: biofuels, harmful algal blooms, mercury accumulation, benthic-pelagic coupling, paleo-ecology, and climate change.

In her free time, she and her husband like hiking with their two dogs, gardening, kayaking, and any activity outdoors when it is less than 90 degrees! Retired tennis player, Lucie recently joined Stillwater's softball league and hopes to improve her game.

Visit our website at  
<http://botany.okstate.edu>

## VISITING SCHOLARS



**Dr. Konstantinos Saitanis**, an assistant professor at the Agricultural University of Athens, Greece, visited our department in 2011. Costas studied with Mike Palmer, Regents Professor, furthering his knowledge of quantitative ecology, specifically learning Canonical Correspondence

Analysis and CANOCO software. Costas also gave a seminar, "Ambient Ozone as Phytotoxic Pollutant and its Biomonitoring - the Greek Experience."



**Prof. Dr. Dan Cogalniceanu** came to our department as a Fulbright Scholar from the University Ovidius Constanta in Romania to work with Mike Palmer. He gave several presentations on his research and experience with conservation issues, including giving a

Botany seminar titled, "The Importance of the Danube Delta for the Improvement of the Black Sea Environment."

Mike also hosted a doctoral student from Mexico, **Jorge Omar**, who studied the species composition and beta diversity of woody plants of the Yucatan Peninsula.

**Yinghua Huang**, USDA researcher and Adjunct Professor of Botany, has had several scientists from China in his lab conducting research in plant science and biotechnology. **Jian Huang**, an M.S. student at Shenyang Normal University, was here during the 2011 year. Currently, **Keijing Xue**, a Ph.D. student, and **Dr. Chaojin Yue**, both from China Three Gorges University in Yichang, are here working with Dr. Huang.



*Botany  
Homecoming  
Reception*



**Friday, Oct. 19  
3:00 – 5:00 pm  
atrium of Noble Research Center**

**Meet with faculty, students, and alumni  
Take tours of the dept.  
Enjoy refreshments**

## Botany Graduate Student Awarded NSF Fellowship

**AJ Harris**, a plant science doctoral student from Graham, NC, was awarded a National Science Foundation Summer Fellowship to travel to China for eight weeks to examine plant specimens and conduct field and laboratory work. She collaborated with Professor Chengxin Fu at Zhejiang University in Hangzhou.

AJ's research is focused on understanding the evolutionary relationships among the plant species commonly known as buckeyes, using tools of molecular systematics to understand patterns of species diversifications and biogeographic patterns. This trip enabled her to collect the species that occur only in China and contribute to a greater understanding of the assemblage of the north temperate forests in North America and Eurasia.



Harris was awarded the Fellowship through the East Asia and Pacific Summer Institutes Program. The NSF-EAPSI Fellowship provides a stipend and travel allowance, with housing and research expenses provided to the host institution. AJ's advisor is Linda Watson, Professor and Head of Botany.

## Botany Graduate Students Awarded OK-LSAMP Bridge-to-Doctorate Fellowships

Three Botany graduate students have been awarded Bridge to Doctorate Fellowships from the Louis Stokes Alliance for Minority Participation, funded by the National Science Foundation. They receive annual stipends and will have opportunities for professional development.

**Nicole Bryant** is a second year graduate student working with David Meinke in the area of plant molecular genetics.

**Josh McLoud** is a first year graduate student working with Ming Yang in the area of cell and molecular biology.

**Molly Parkhurst** will finish her master's degree this year and will begin her doctoral work, continuing to work with Janette Steets in plant population genetics.



*clockwise from top left: Molly Parkhurst, Nicole Bryant, Josh McLoud, and Mark Payton, OSU program director*

## Other Graduate Student News

**Lupita Borja**, M.S. student of Andrew Doust, received a Graduate Student Research Award from the Genetics Section of the Botanical Society of America. This award provides \$500 to fund her research of the southeastern bladderpods (*Paysonia*), plus \$500 to attend a BSA annual meeting. Lupita also received the OSU Summer Graduate College Research Fellowship, a \$2000 award for thesis work.

**Johnny Lloyd** received the Distinguished Graduate Fellowship sponsored by the OSU Foundation. He worked with David Meinke on research concerning the loss-function mutant phenotypes in *Arabidopsis thaliana*. He recently graduated with an M.S. degree and is now pursuing a Ph.D. degree at Michigan State University.

**Jake Long**, M.S. student of Andrew Doust, attended the Summer Internship for Native Americans in Genomics (SING) workshop in the summer of 2011. This one-week workshop discussed the uses, misuses, and limitations of genomics as a tool for Native American communities. The interns also were trained in the concepts and methods currently used in genomics.

**AJ Harris** and **Angela Rein**, Ph.D. Plant Science students, were awarded travel awards to attend a workshop organized by TORCH, the Texas-Oklahoma Regional Consortium of Herbaria (<http://www.torchherbaria.org>). This workshop, held at the OU Biological Station on Lake Texoma, provided training in database software used by natural history museums throughout the U.S. This is the second year that these two students were selected to attend a TORCH workshop. **Mark Fishbein**, Associate Professor of Botany, is on the Steering Committee for the Consortium and also attended.

**Angela Rein**, Ph.D. student, received a grant from the Society of Systematic Biologists to support her thesis research in the milkweeds, specifically the *Matelea* subgenus *Chthamalia* of the Apocynaceae. Angela also was awarded the Distinguished Graduate Fellowship which is sponsored by the OSU Foundation. The fellowship carries a \$2,200 annual stipend and is renewable for 3 years.





## Gift to Herbarium

Craig Rupp, of Perry, OK, came to our department this spring and donated to the herbarium a collection of mounted plant specimens that his father Melvern Sam Rupp had created and used while he worked on his doctoral degree.



Sam Rupp grew up on a farm near Lucien and graduated from Sumner High School in 1946. He began a high school teaching career in 1949 and in 1953 received a B.S. in Education from Oklahoma A&M College (now OSU). Sam earned an M.S. in Natural Science from OSU in 1960 and a Ph.D. in Botany from Washington State University in 1969. His career after receiving his doctorate included working in a wheat research unit in Lind, Washington, teaching at Iowa Western Community College, and working at the OSU Peanut Research Unit in the Agronomy Dept. Sam Rupp died April 28, 2012 at the age of 83.

We want to sincerely thank Craig Rupp for his generous donation. The OSU Herbarium welcomes any donations of plant collections needing a home. You may contact the Herbarium Director, Mark Fishbein, at [mark.fishbein@okstate.edu](mailto:mark.fishbein@okstate.edu) or 405-744-4757.

## On a personal note...

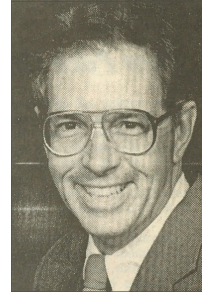
### *Babies*

**Channing Richardson**, Ph.D. student, and wife Amy had their first child last summer, a baby boy named Bryum.

**Josh McLoud**, new M.S. student, and wife Reachel have also had their first child, a baby boy named Seth, who was born this June.

**Janette Steets**, Assistant Professor, and husband Jeff Byrnes, Assistant Professor of Geology, added a daughter to their family this spring. Lily joins her two-year-old brother David.

## McPherson Fund Awards



The Botany Department awarded four grants from the McPherson Fund. These awards are given each semester in honor of the late James K. McPherson, an ecology professor from 1968 until his retirement in 1992.

**Lupita Borja** – field research in OK, TX, TN  
**Molly Parkhurst** – field research in Puerto Rico  
**Brooke Bonner** – research supplies  
**Angela Rein** – field research in TX

*Lupita Borja at a roadside population of Paysonia auriculata near the Salt Plains Reservoir in Alfalfa Co., March 2012*



### *Marriages*

**Tristan Wulfers**, M.S. student, and Sarah were married last summer.

**Chad Ternes**, Ph.D. student, and Hailey were married last year and are now expecting their first child.

**Michael Cobbs**, new M.S. student, and Caitlin were married this summer.

**Mike Malahy** and **Kelly McGrath DeRennaux** were married this summer. They both finished their M.S. degrees in Botany and are instructors in Biology at NOC-Stillwater and at OSU.

## Botany Undergraduate News



**Wyatt Sharber** was the 2012 Outstanding Botany Senior. He is from Wynnewood and received degrees in Botany and Zoology. He was awarded the General Honors Award and the Honors Degree and completed his Senior Honors Thesis with Mark Fishbein, conducting research focused on understanding the cryptic species of Mexican milkweed using genetic and morphological data.

A Freshman Research Scholar, Wentz Scholar, and Niblack Scholar, Sharber worked in the labs of Mark Fishbein, Mike Palmer, and Kristen Baum (Zoology). He was a member of the OSU Botanical Society, Wildlife Society, and Beta Beta Beta Biological Honors Society. He is a member of the Golden Key International Honors Society, Sigma Xi, Ecological Society of American, and the Southwestern Association of Naturalists.

Wyatt received the Lisa Anness Graduate Fellowship in Tropical Plant Biology and is pursuing a doctoral degree at the University of Miami.

**Nadjeschda “Hope” Goertz** was awarded the Botany Scholarship for Fall 2012. She is a Botany major and has worked in the lab of Andrew Doust. Hope plans to become a doctor and practice in a hospital, clinic, or research laboratory.

**Ben Haack** received a Wentz Scholarship this fall for his project “The Use of Nuclear Genes in Phylogenetic Analysis of the Sonoran Desert clade of Milkweeds (*Asclepias*).” Ben will conduct his research under the guidance of Mark Fishbein, where he has been working as a lab technician for several years.

Ben was also awarded the Richard & Betty Spears Fellowship. He worked in the OSU Herbarium during the summer of 2011 learning curation and taxonomic techniques. This fellowship was begun by the late Dr. Richard Spears and continues through donations from his foundation, administered by his wife Dr. Betty Spears.

**Alex Hardison** was named an OK-LSAMP Scholar and will be working with Janette Steets and her graduate student Sally Kittrell. His research will examine the importance of mycorrhizal fungi in growth of wetland plants.



**Nicole Bryant** was the 2011 Outstanding Botany Senior. A Bartlesville native, she graduated with degrees in Botany and Microbiology. She was awarded the General Honors Award and the Honors Degree and was frequently on the President’s and Dean’s Honor Rolls. She is a member of the OSU Botanical Society, Golden Key

International Honors Society, Phi Kappa Phi Honors Society, Microbiology Club, and Oklahoma Academy of Sciences.

As an OK-LSAMP Scholar, Nicole conducted research with David Meinke. She co-authored a publication in the journal *Plant Physiology* and gave three presentations as part of her Senior Honors Thesis.

Currently, Nicole is working on her master’s degree in Botany and is in the OK-LSAMP Bridge to Doctorate program. Her research focuses on understanding essential embryo development genes in the model plant organism *Arabidopsis*. Her advisor is David Meinke.

**Josh McLoud** received a Wentz Scholarship last year and worked with Andrew Doust on his project: “Effects of Triclosan Concentrations on Inoculated Soy Bean Plants in Sterile Soil.” He graduated with a B.S. in Biology, and is now pursuing a Botany M.S. degree under the OK-LSAMP Bridge to Doctorate program. His advisor is Ming Yang.

**Lydia Meador** received the honors of Outstanding OSU Senior, OSU Senior of Significance, and Outstanding A&S Senior. She had previously been named a Barry M. Goldwater Scholar. Lydia also received an NSF Graduate Fellowship, which she is using to pursue her doctorate at the University of Arizona in the Biological Design graduate program.

**Kimberly Rogers** was awarded a Freshman Research Scholarship this year. She is working with Andrew Doust on her project, “Genetic Control of Shattering in Foxtail Millet.”

**Alesia Hallmark Sharber** worked with Mark Fishbein on her Wentz Scholarship project “Botany in the Modern Age: Creating an Interactive Key to the Ferns of Oklahoma.” After completing her degrees in Botany and Zoology, Alesia is currently the supervisor of lab services for the Department of Biology, University of Miami.

## ***Congrats, Graduates!***

### **B.S. degrees**

Rob Bieloh	Jeff Pickens
Tricia Bolene	Alesia Hallmark Sharber
Nicole Bryant	Wyatt Sharber
Michael Cobbs	Jessica Squires
Lydia Meador	Austin Werts

### **M.S. degrees**

**Reed Couch** [advisor Janette Steets]  
Above- and Belowground Symbiotic Interactions  
in the Tallgrass Prairie]

**Kelly McGrath DeRennaux** [advisor Mike Palmer]  
Decadal-Scale Dynamics of a Crosstimbers Forest  
in Osage County, Oklahoma

**Kate Halpin** [advisor Mark Fishbein]  
A Chloroplast Phylogeny of Agavaceae Subfamily  
Chlorogaloideae with a Focus on Species Relationships  
in *Hastingsia*

**Johnny Lloyd** [advisor Dave Meinke]  
A Comprehensive Dataset of Genes with Loss-of-  
Function Mutant Phenotypes in *Arabidopsis thaliana*

**Michael Malahy** [advisor Andrew Doust]  
Evolution and Development of Vegetative Architec-  
ture: Broad Scale Patterns of Branching Across the  
Grass Family (Poaceae) and Characterization of  
Architectural Development in Weedy Green Millet  
(*Setaria viridis* L.P. Beauv.)

### **Ph.D. degrees**

**Matthew Allen** [advisor Mike Palmer]  
Disturbance History and Dynamics in Forest and  
Prairie Communities

**Somashekhar Punnuri** [advisor Yinghua Huang]  
Genetic Mapping of Greenbug Resistance Loci in  
Sorghum [*Sorghum bicolor* (L.) Moench] and  
Expression Analysis of Candidate Genes in  
Response to Greenbug Infestation

**Vaskar Thapa** [advisor Mike Palmer]  
Investigations on the Ecology and Evolution of  
Wild Plant Viruses

## ***Welcome, New Graduate Students!***

**Nicole Bryant**, M.S. [advisor Dave Meinke]

**Michael Cobbs**, M.S. [advisor Bill Henley]

**Justin Dee**, Ph.D. [advisor Mike Palmer]

**Brian Hercyk**, M.S. [advisor Ming Yang]

**Sally Kittrell**, Ph.D. [advisor Janette Steets]

**Huang Li**, Ph.D. [advisor Yinghua Huang]

**Josh McLoud**, M.S. [advisor Ming Yang]

**Harlan Svoboda**, M.S. [advisor Mark Fishbein]

**Lindsey Worcester**, M.S. [advisor Mark Fishbein]

**Tristan Wulfers**, M.S. [advisor Bill Henley]

The Botany Department currently has 19 graduate  
students: 9 pursuing the Ph.D. and 10 pursuing an  
M.S.



### **In Memoriam**

**Cameron Goforth**, a  
Botany undergraduate  
student from Guthrie,  
died Nov. 23, 2010. He  
had been at OSU from  
Fall 2007 through Spring  
2009 and was taking  
a semester off before  
returning to his studies.

### **Thank you for all the donations we received**

**Fall 2010-Summer 2012!**

Robert Adcock  
Mark Fishbein  
Bill Henley  
Mike Palmer  
Ann Phillippi-Warren  
John Pyzner  
Bill Thompson  
Chris Wood  
Ming Yang

Myron Ledbetter Revocable Trust  
Richard & Betty Spears Charitable Foundation

## OSU BOTANICAL SOCIETY

Our student group OSUBS has been very active with community activities. At the EPSCoR Women in Science conference in OKC, they manned a booth “The Secret Dance of Plants.” They also participated in Earth Fest at Theta Pond and the annual Stillwater Trash-Off.

Steve Owens gave them a tour of Bustani Farms, and they visited the OSU Botanical Gardens. They had fun hosting their Chili Cook-Off and sponsoring the annual photo contest, which has become very popular!

Speakers included Leticia Dadalt, fellow grad student, who discussed the Atlantic Forest Biome of Brazil; Ron Tyrl enlightened them about forensic botany; Andrew Doust spoke about plants endemic to New Caledonia; and Steve Dobbs discussed the landscaping changes and improvements on campus. Each year, they co-host the annual Library-Botany Seminar Series: Plants, People, and Beyond.



*OSUBS members at a reception at the OSU President's home  
l to r: Mark Fishbein, LaRinda Holland, Ben Haack,  
Angela Rein, Nicole Bryant, Lupita Borja, Brooke Bonner,  
First Cowgirl Ann Hargis, Jacob Farriester*



*Stillwater Trash-Off*



*OSU Botanical Garden*



*Chili Cook-Off*



### *Photo Contest Winners*

#### **2011**

1st Place “Stone Roses”

Francisco Ochoa Corona

2nd Place “Winter Trees” Kaitlin Haase

3rd Place “Wavy Leaf Thistle Seed”

Dwayne Elmore

4th Place “Balloon Flower”

Rebecca Bornstein

#### **2012**

1st Place “Leaf” Jacob Farriester

2nd Place “Agave” Mark Fishbein

3rd Place “Dewdrops on the Leaf”

Xingfeng Li

### Officers for 2012-13

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## Alumni News

In April 2012, **Susan Barber** (*MS 75*) was named Provost at Oklahoma City University. She served as Acting Provost since 2010 and is a Professor of Biology. She also served as Associate Provost from 2006-2010 and in several other academic positions at OCU. OCU President Robert Henry states, "I have the utmost confidence in Dr. Barber to elevate OCU's academic prestige to the next level."

**Charles Bird** (*MS 58, PhD 60*) received the 2010 Individual Commitment Emerald Award for the Province of Alberta, Canada. Each year he documents the moths of south central Alberta and stresses the importance of preserving biodiversity and native vegetation.

**Raelene Crandall** (*MS 03*) completed her Ph.D. in Biological Sciences at Louisiana State University in Dec. 2010. She is a postdoc at Washington University and Tyson Research Center in St. Louis. In her research, Rae examines the responses of non-native invasive plants to fire timing, fire intensity, and competition with foundation species.

**Kate Halpin** (*MS 11*) is a horticultural consultant and artist based out of Robertsedale, AL.

**Jerad Linneman** (*MS 04*) has been promoted to the USDA Emergency Operations Center in downtown Washington DC.

**Curt McCormick** graduated with degrees in Botany (*BS 80*) and Zoology (*MS 85*). He remembers the late Bud Burks fondly (Professor of Zoology and Director of the



Water Quality Research Lab). Curt worked for the Environmental Protection Agency in the Dallas (1987-1989) and Denver (1989-2007) regional offices. He worked in the Clean Water Act and Safe Drinking Water Act programs during this time. In October 2007, Curt opened CWA Consulting Services, LLC that assists local governments in controlling the discharge of pollution from industrial users. He is married to Jill and they have three children and love living and working in Colorado (but do miss the lakes in Oklahoma).

**Dan McGlenn** (*PhD 09*) married Maurine Gilmore in December of 2011. They experienced the birth of their first child, a son Seamus, in



August of this year. After a two-year postdoc at the University of North Carolina, Dan is now a postdoc in Ethan White's quantitative macroecology lab at Utah State University. Dan's research centers around understanding the determinates of species abundance and diversity through space and time.

**Andy Potter** (*BS 03, MS 06*) is a Ph.D. student at New Mexico State University. His research focuses on the interaction of biotic and abiotic factors that affect algal growth and the application of this knowledge to large scale algae production. Andy recently married Marisa Thompson, who is also a NMSU grad student.



**Som Punnuri** (*PhD 11*) is a postdoc at the Agricultural Research Station at Fort Valley State University in Georgia.

**Marilyn Brady Semtner** (*MS 72*) and her husband Paul visited the OSU campus in September. They toured our new facilities and had a nice visit with Ron Tyrl. Marilyn was a student when Dr. Thomas was chair and we were the Dept. of



Botany and Plant Pathology. Her advisor was Jim McPherson. Marilyn has just retired from the Dept. of Math and Science at Saint Paul's College, Lawrenceville, VA.

**Austin Werts** (*BS 12*) is at Lake Wenatchee, WA working as a seasonal intern through the US Forest Service. His job is to hike through the Alpine Lakes Wilderness and look for human impact in the form of compacted soil, litter, damage to trees, and the presence of invasive plant species.

**Yi Yin** (*PhD 98*) visited Stillwater in August, along with his wife Jane and his daughters Jenny and Amanda. They enjoyed visiting his former advisor Bill Henley and seeing the campus again. Yi is the director of product operations at Transverse in Austin, TX.



**Oklahoma State University  
Department of Botany  
301 Physical Sciences  
Stillwater OK 74078-3013**

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