



Department of Botany

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## RON TYRL NAMED STATE'S OUTSTANDING TEACHER

Ron Tyrl, Professor and Curator of the Herbarium, has been named Oklahoma's top university teacher by the Oklahoma Foundation for Excellence. He is the recipient of the Medal for Excellence in College/University Teaching.

The Oklahoma Foundation for Excellence was created in 1985 by David Boren, President of the University of Oklahoma. The mission of the Foundation is to recognize and encourage academic excellence in Oklahoma's public schools. Academic awards honoring the best in public education are at the center of that mission, its flagship program being the Academic Awards Banquet which recognizes 100 outstanding students, as well as outstanding educators and educational programs.



*Ron Tyrl, Professor and Curator of the Herbarium, is the recipient of the Medal for Excellence in College/University Teaching.*



*Brenda Wheelock of the Oklahoma Foundation for Excellence interviews Ron Tyrl.*

Ron will be presented his award at this year's Academic Awards Banquet May 22 at the Tulsa Convention Center in downtown Tulsa. He will receive a \$7,500 cash award, with an additional \$1,000 cash award going to OSU. Ron will also be presented a glass sculpture, "Roots and Wings," created by Oklahoma artist Ron Roberts and produced by Jim Triffo of Oklahoma City.

Since he began teaching 33 years ago, Ron has delighted in sharing his passion for plants with others, whether it is a classroom of college students, a class of Elderhostel learners, a gardening club, or a troop of scouts.

He expects much of himself and his students. "In each course, I set definite, high standards of performance and unabashedly ask my students to meet them," said Tyrl. These high standards have earned him numerous teaching awards, including the 2003 OSU Regents Distinguished Teaching Award.

In addition to his teaching duties, he also serves as advisor to countless undergraduates and has served as thesis advisor for 22 master's and six doctoral students.

# Meinke and Tyrl Honored at Fall Convocation

During the Fall Convocation held September 22, 2003 in the Student Union Atrium, two of our faculty, David Meinke and Ronald J. Tyrl, were recognized for honors they have received.

David, Regents Professor, was selected by the OSU Chapter of Sigma Xi, the scientific research society, as the chapter's lectureship award winner for 2003. Meinke received a plaque in recognition of the honor from OSU System CEO and President David J. Schmidly.

David received his B.A. degree in chemistry from the College of Wooster and his Ph.D. in biology from Yale University. The aim of his doctoral work was to study the development of plant embryos using genetics. For this, Meinke used



David Meinke, Regents Professor, receives Sigma Xi's 2003 lectureship award.

*Arabidopsis thaliana*, a little known plant in the mustard family. This plant was later to become the model system for studies of plant molecular genetics.

Among his research accomplishments are more than 50 scientific papers and review articles, ongoing service as curator of genetic maps and gene names for the *Arabidopsis* community, past chairmanship of the Multinational Coordinated *Arabidopsis* Genome Project, and principal investigator of a large-scale functional genomics project ([www.seedgenes.org](http://www.seedgenes.org)) funded by the National Science Foundation.

Ron, Professor and Curator of the Herbarium, again received the Regents Distinguished Teaching Award. He was a recipient the first year the award was given in 1992. Tyrl was presented a plaque by CEO and President David Schmidly, and he will receive a monetary stipend as well.

Ron received his B.A. degree in biology from Park College and both M.S. and Ph.D. degrees in taxonomy from Oregon State University. He teaches classes in field botany and taxonomy; conducts research in systematics and taxonomy which has culminated in numerous research articles and books, including *Toxic Plants of North America*, *Field*

*Guide to Oklahoma Plants*, *Identification of Oklahoma Plants*, and *Dyes from American Native Plants*; and serves as an advisor for 75–90 undergraduates majoring in botany and biology and as a major advisor for graduate students in taxonomy.

"The highest accolade as a teacher," Ron says, "is for students to tell me long after they have taken my course that they can't pass by a plant without asking and answering questions about it, or that they can't drive down the highway without scanning the passing landscape for plants, communities, and changes they know and understand."



Ron Tyrl, Professor and Curator of the Herbarium, receives the Regents Distinguished Teaching Award.

## Future Plans

**Adam Ryburn** has accepted a tenure-track faculty position at the State University of New York at Oneonta where he will be the resident botanist and herbarium curator. He received his Ph.D. in December 2003 under the tutelage of Ron Tyrl.

**Joshua Brokaw** is finishing his M.S. degree this spring with Michael Palmer as his major advisor. He studied oil spill remediation at the Tallgrass Prairie Preserve. In the fall, Josh will begin his Ph.D. studies in systematics with Larry Hufford at Washington State University.

**Jerad Linneman** is also finishing his M.S. degree this spring and will be looking for employment. He studied the ecology of eastern red cedar in prairie ecosystems with Michael Palmer.

**Aiko Mori** will receive her B.S. degree this summer. She is planning to work in a plant biotechnology lab at Tasmania University in Queensland, Australia.

**Jessica Rivers** is also receiving her B.S. degree this summer. She plans to work in Ireland in some area of botany.

David Meinke's lab will be losing three of its student technicians. **Steven Hutchens**, who received a B.S. degree in biology in spring 2003, will begin employment this summer as a research assistant at Lynntech, Inc. in College Station, Texas. **Amy Fesler**, who received her B.S. degree in biology and microbiology in fall 2003, will be going to medical school at the University of Oklahoma. **Clay Holley**, who is receiving his B.S. degree in physiology this spring, also has aspirations for medical school. He will be moving to North Carolina to pursue his dream.

## Alumni News

**David Hagyar** (B.S. 2003) is working for the Chicago Botanical Gardens. He will be based in Utah and will be monitoring poppy and cacti.

**Sonia Jaiswal** (M.S. 1999) and her husband Chandrasekar Jayaraman have given birth to their first child. Simren was born on July 4, 2003 in Austin, Texas. Congratulations!

**Bill Kennedy** (M.S. 1955) writes that he and his wife Betty are enjoying



Bill Kennedy (M.S. 1955) and his wife Betty.

their retirement in Tucson, Arizona. Bill grew up on a farm in Durant, Oklahoma. He received his B.S. in biology/chemistry from Southeastern Oklahoma State College (now Southeastern OSU) and his M.S. degree at Oklahoma A & M College (now OSU), studying under Drs. Struble, Brinkerhoff, and Thomas. He attended the University of Minnesota where he received his Ph.D. in plant pathology in 1961. He then began his career there as a soybean pathologist, becoming a full professor in 1967 and retiring in 1993. During his career, he studied chromopathology (the day/night timing when pathogens are more likely to be associated with plants in an epidemic), helped set up an Institute of Chromobiology & Chromomedicine in China, and spent several sabbaticals in Berkeley, Italy, England, and the University of Minnesota School of Medicine.

**Marty Stone** (M.S. 1990) is on the faculty at Western Kentucky University in a tenure-track position. He is busy teaching horticulture classes and supervising graduate students, as well as being in charge of several greenhouses and working on a 700-acre farm.

**A. J. Vlitos** (B.S. 1948) lives in Newbury, England. Even though he is retired, he still is an acting Fellow for Kings College at London University and the Royal Society of Medicine, London.

**Cindy Wyman Jordy** (B.S. 1986, M.S. 1988) is the corporate environmental manager for Chevron Phillips Chemical Company in The Woodlands, Texas. She works on environmental impact assessments, conservation projects, and sustainable development. Among her favorite projects are the greenbelt wildlife easements around some of their large chemical plants.

## OSU Botanical Society

Our student organization, the OSU Botanical Society (OSUBS), had a very productive year. They started the school year by participating in Nature Day at Sanborn Lake, where they helped children plant wildflowers in pots that the children painted and decorated. OSUBS celebrated Earth Day in April with a display illustrating botanical research. Our students continued to reach out to the campus and Stillwater community by hosting a seminar in February. Stephen Bieberich, owner of Sunshine Farm & Nursery in Clinton, Oklahoma, gave a slide presentation on "The Use of Native Plants in Landscaping." They received added support from the Botany Department and the Arts & Sciences Student Council for the presentation.

OSUBS continues to support its members by providing transportation to the OAS Fall and Spring Technical Meetings, where several students presented papers. The OSUBS Award has been established as a \$150 award given to an active OSUBS member for the advancement of botanical knowledge. The first award has been presented to Fumiko Shirakura, a master's student studying with Michael Palmer. Also new this year is the creation of the OSUBS Web site—<http://orgs.okstate.edu/botanical>.

Thanks to all members of the OSU Botanical Society and especially to the leadership of president Jerad Linneman and secretary/treasurer Sherry Leis for a great year!

*Bluestem* is published annually to inform alumni, faculty and friends about the issues, activities, and news of the Department of Botany.

## New Babies

Our department has been blessed with many new babies this year! **Kang Liu**, post-doctoral fellow with David Meinke, and her husband Quan Zhang are the proud parents of a baby girl, Melody, born November 4, 2003. **Adam Ryburn**, Ph.D. student, and his wife Maranda also have a new baby girl. Madalyn Kay was born February 27, 2004 and joins brother Addison. **Crystal Small**, Speairs Fellow and botany B.S. student, gave birth to her first child on December 29, 2003, a baby boy named Collin. We wish the best to all these young families!

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## Meinke Directs Plant BioNet

David Meinke is the director of the OSU Plant Biotechnology Network, composed of more than 25 research faculty on the Stillwater campus. The network is funded by the Samuel Roberts Noble Foundation, headquartered in Ardmore, Oklahoma, which has committed \$1 million over 10 years to support cross-campus research and training programs in molecular plant biology at OSU. The goal of the project is to enhance the international visibility of statewide programs in molecular plant biology and to encourage interactions between research personnel at the two institutions.

In its third year of funding, the Noble Foundation award is used to support a coordinator, David Demezas, graduate student fellowships in molecular plant biology, recruitment of graduate students and post-doctoral fellows, enhancement of outside speaker programs, travel to national and international conferences, and sponsorship of periodic regional mini-symposia in molecular plant biology. OSU undergraduates will also gain new research experience opportunities.



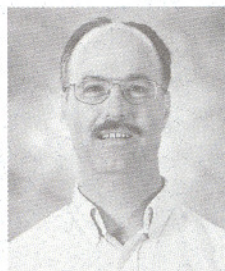
Meinke made major contributions to the international research effort to complete the first flowering plant genome sequence.

The second Oklahoma mini-symposium in molecular plant biology was held last spring here at OSU with more than 150 people from Oklahoma attending. Discussions focused on *Medicago truncatula*, a legume related to alfalfa, which is being used worldwide as a model for research in plant genomics. Much of the genome sequencing is being done in Oklahoma. Meinke, a pioneer in the field of plant genomics, made major contributions to the international research effort to complete the first flowering plant genome sequence. He, as well as other researchers, hope to apply the information from that project to the *Medicago truncatula* functional genomics project.

Meinke says additional funding from the National Science Foundation's EPSCoR program also helps the Plant Biotechnology Network remain competitive with larger programs around the country.

(Compiled from articles written by Carolyn Gonzales of the OSU Public Information Office.)

## Henley to become Botany Head New Face



Dr. Bill Henley

Bill Henley will begin his duties as head of the department on July 1, 2004. He earned his B.S. degree in marine science from Southampton College and his Ph.D. in botany at Duke

University. Bill came to OSU in 1992 after serving two post-doctoral fellowships at the University of Texas Marine Science Institute and the Duke University Marine Lab. He was awarded tenure and the rank of associate professor in 1997, and promoted to professor in 2004.

Since his arrival, Bill has been active in the research area of algal ecology, most recently algal physiology in extreme environments. He is currently involved in a large collaborative NSF grant which has established the Salt Plains Microbial Observatory.

Bill teaches botanical limnology, the general education course titled Environment and Society, and occasionally introductory biology. At present he also supervises undergraduates in his lab as well as three graduate students and a post-doctoral fellow.

Bill is a member of professional organizations (American Society of Limnology & Oceanography, Phycological Society of America, American Society for Microbiology) and serves as vice-chair of the Arts & Sciences Faculty Council and chair of the department personnel committee.

Bill Henley has a wife Terry and two sons Sean and Evan. Bill enjoys Boy Scout activities with his sons, riding his bike to work, and attending various musical and cultural events in the Stillwater area.

### Sandrine Casanova

joined the department in May 2003 to work as a lab technician for David Meinke. She is originally from France, and in 2002 she received her B.S. degree in plant biotechnology from the University of Toulouse, France. She worked one year with Dr. Dumas and Dr. Faure on non-fertilization mutants of *Arabidopsis thaliana* before coming to David's lab. Here she is working on mutants stopped during seed development, a part of the *Arabidopsis* Seed Genes Project.



Sandrine Casanova

**Donations**—Thank you for your contributions. Your continued support of the department is greatly appreciated. Remember to make your checks payable to the OSU Foundation and specify the fund: McPherson Fund or general Botany Dept. fund.

## Bits and Pieces

**Mary Gard** received the Outstanding Botany Senior award at the Arts & Sciences Award Banquet this spring. She is currently serving as a teaching assistant in introductory biology and will be graduating in December.

**Tatsuro Yamada** received the department's undergraduate scholarship given to a junior majoring in botany. He is a native of Nagoya, Japan.

**David Murray**, one of our undergraduates, is taking some time off from botany to study languages. He will study the geography of Japan and the Japanese language this summer in Japan and the Gaelic language this fall at the University of Aberdeen in Scotland.

We have several new first-year graduate students, all studying for their master's degree in botany. **Andy Potter** and **Karen Ray** are students with Bill Henley working respectively in algal and saltcedar ecology in the extreme environment of the Salt Plains in Oklahoma. **Fumiko Shirakura** and **Shyam Thomas** are working with Mike Palmer in ecology. **DeAnn Lowder** is a student of taxonomy with Ron Tyrl.

**Andy Potter**, master's student, was awarded a \$1000 Croasdale Fellowship

from the Phycological Society of America to participate in the summer 2004 course, "Ecology and Systematics of Diatoms," at Iowa Lakeside Laboratory.

**Kay Scheets**, Adjunct Assistant Professor, has begun collaborating with researchers in the Division of Biological Sciences at the University of Missouri—Columbia. They are studying viral proteins that suppress silencing of endogenous maize genes.

**Sue McAlister**, Adjunct Assistant Professor, is finishing her year as president of the Cross-Timbers Chapter of the Oklahoma Native Plant Society. During her tenure, she gave a seminar about bryophytes at the fall meeting, led a winter tour of her homeplace in Perkins, and hosted a seminar on global warming given by Rebecca Sherry from the Department of Botany & Microbiology at the University of Oklahoma.

**Bill Henley**, Associate Professor, and post-doctoral fellow Andrea Kirkwood have given several oral and poster presentations on the Salt Plains Microbial Observatory project at the national meeting of the American Society of Limnology & Oceanography, regional and national meetings of the American

Society for Microbiology, and national meeting of the Phycological Society of America. As a direct result of this project, Bill was invited to serve as a consultant for the NSF EPSCoR Centers Development Initiative in July 2003.

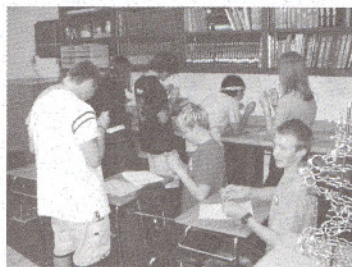
**Mike Palmer**, Professor, continues his work at the Tallgrass Prairie Preserve. He is preparing a manuscript detailing the vascular flora of this preserve in Osage County, Oklahoma. Mike is also helping his colleague Dr. Jose Arevalo from the Canary Islands, Spain collect data at the tornado-damaged site in the southwest corner of this prairie.

**Gerald Schoenknecht**, Assistant Professor, presented a seminar, "Two-pore domain potassium channels in plants," at the 1<sup>st</sup> Pan-American Plant Membrane Biology Workshop, May 28–June 1, 2003 in Cuernavaca, Mexico.

Departmental staff were honored at the annual Staff Appreciation Day in November 2003. **Ann Yankunas**, Financial Control Assistant, was awarded her 5-year service pin. **Paula Shryock**, Unit Assistant, was recognized for completion of the Ambassador Program, a 30-hour training program for staff who interact with students, staff, and visitors.

## Junior High Students Become Scientists

On April 21st, thirty students from Mrs. Barnes' 8th and 9th grade Extended Studies classes at Stillwater Junior High School descended upon the OSU campus to learn more about plant molecular biology as part of David Meinke's NSF-funded 2010 project. The focus of this outreach activity was to elaborate upon the concept of *Arabidopsis* in the real world. Students studied various aspects of plant biotechnology in their classroom and then spent a morning on campus to learn more about *Arabidopsis*, DNA, and plant biotechnology. David Meinke discussed how *Arabidopsis* has become the model organism of choice for plant biology. He also provided a tour of his research laboratory and emphasized the value of mutants in basic research. David Demezas presented a brief overview of DNA, genes, chromosomes, and proteins.



Stillwater students learn about plant molecular biology

Students had the opportunity to precipitate DNA in their own microfuge tube. Jonathan Shaver (Department of Plant and Soil Sciences) discussed the role of plant biotechnology in developing Golden Rice, a variety modified to produce vitamin A. After a Hideaway pizza lunch, which received great reviews, students had an opportunity to act as research scientists. Each student was given a plate containing 50 *Arabidopsis* seedlings derived from a mutagenized population. Students then scored these seedlings for a variety of developmental abnormalities. Back in their classroom, students built models of DNA and had a chance to quiz Drs. Meinke and Demezas about genetics and plant biotechnology. It was an interesting and positive experience for those involved.

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## Alumni information requested

The department wants to hear from our alumni. Please send information about your professional activities and personal life.

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*current professional position*

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*education/degrees*

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*name*

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*home address*

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*home phone*

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*e-mail*

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*business address*

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*business phone*

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*achievements and awards*