Spring is finally coming and we are nearing the end of the semester. An important current activity on campus is the Missouri Energy Summit, being held as I am writing this message. T. Boone Pickens was the keynote speaker and discussed the Pickens Plan and the idea that the country is at a “tipping point” in terms of how we produce and use energy.

The budget situation is still murky as it was the last time we visited. To date, we still have not had a rescission, but all units have been asked to set aside 5% of the non-salary general operating budget for this contingency. Our division has a number of faculty positions, 6 in all, on the list of positions that has been prioritized and sent to the campus administration to see which we might be able to proceed on hiring.

The division continues to have our faculty, staff and students recognized through awards (page 2), including the 2009 Outstanding CAFNR Freshman, Mr. Brandon Thiel. Debbie Lingle actually received two different awards since the last issue came out. Please welcome Kate Riley, who had a major role in putting the newsletter together, and Michelle Li who joined us following Marissa’s departure to another position on campus (page 3). I also think you will enjoy reading about Qisheng Song and his group in the Molecular Insect Physiology Lab on pages 4 and 5 of this issue.
Newell Kitchen

Newell Kitchen has been elected President of the American Society of Agronomy. His three-year service begins January 1, 2010, for a year as President-elect, then as President, then as Past-President. Some of the duties include setting the theme of the annual meeting, make all committee appointments, and shall have the authority to call meetings of the board of directors, the executive committee, and other committees as deemed necessary.

Debbie Lingle

Debbie Lingle is the February winner of the Above and Beyond Award and the 2009 Outstanding Staff Award. The Above and Beyond Award is designed to recognize CAFNR staff members who go that extra mile. One winner is selected each month and nominations can come from their peers or their supervisors. The 2009 Outstanding Staff Award recipients must demonstrate outstanding ability and performance in productivity, quality of work, congeniality, judgment, dependability, initiative, leadership and dedication to the mission and values of the College.

Craig Roberts

Craig Roberts was awarded the 2008 Alumnus of the Year from the University of Arkansas. The award is given to an outstanding alumnus that have contributed to their career field. Roberts received his MS and PhD from the University of Arkansas and accepted a position here at the University of Missouri in 1988. In 2005 he was promoted to full Professor and is also the State Forage Specialist.

Reid Smeda

Reid Smeda is the most recent recipient of the CAFNR Golden Apple Award. The CAFNR Golden Apple Award is designed to recognize faculty in the College who excel and go above and beyond in teaching and/or advising.

Brandon Thiel

Brandon Thiel is the 2009 Outstanding CAFNR Freshman. This award was started in 1998 by the College of Agriculture, Food and Natural Resources Student Council. Individual class awards are given to students who demonstrate leadership and CAFNR activity involvement.
Paul Verslues was an undergraduate at the University of Missouri in the Agronomy Department. He conducted an undergraduate research project with Robert Sharp, and continued in his lab to complete this project for his MS, graduating in 1998. He then pursued a PhD at UC-Riverside (with Beth Bray), and stayed there as a NIH Postdoctoral Fellow (with Jian-Kang Zhu) before being appointed to the faculty of Academia Sinica, Taiwan, as an Assistant Research Fellow in the Institute of Plant and Microbial Biology about 18 months ago. Paul was the primary organizer of the international symposium on Sensing, Response and Adaptation to Altered Water Status which was held on March 12-13, 2009 at Academia Sinica.

Throughout the year Tiger Garden now offers a variety of free classes and workshops. Check out Tiger Gardens website at tigergarden.missouri.edu for more information.

Kate Riley recently joined the Division as a part-time multimedia specialist. Her current responsibilities include assisting with Division web design and updating and creating Division print publications as needed. Some of Kate's recent projects include a redesign of the Forages website, a new brochure for the Division undergraduate program, and this current Division Newsletter. Her time is limited due to the part-time appointment; therefore, please contact Tonya Mueller if you are interested in getting on Kate's project schedule. Please respond in kind to any requests Kate sends out via email and welcome her as she becomes a more active Division employee.

Fiscal Office Staff Updates

Marissa Neff has transferred to another position on campus and currently we are unable to fill her position. We have decided to make a few changes to meet this challenge as best we can. Mike Bent is going to begin taking over most of the duties Marissa had and we have hired Michelle Li away from SOS temp services to take over Mike's duties.

Michelle will be processing all the travel vouchers and accounts payable for the faculty and staff located in the Ag Building, as well as processing all their purchasing card transactions. Michelle's direct telephone line is 882-2108.

Mike Bent will retain some of his old duties and train Michelle while he begins to transition into handling the post-award grant issues. His direct telephone line will remain 882-8658.
Qisheng Song is an Associate Professor in the Division of Plant Sciences. He teaches the “Principle of Insect Physiology” (DPS7820) and Insect Toxicology (DPS 9820) courses. He is also a co-instructor for the DPS 7087/9087 seminar course. His research focuses are to

1. investigate the molecular mechanisms of molting hormone 20-hydroxyecdysone and cuticle sclerotization hormone bursicon in *Drosophila melanogaster* and
2. to monitor the susceptibility of Southwestern corn borer, *Diatraea grandiosella*, to BT toxins in transgenic corn.

His research program is currently funded by National Science Foundation, Agricultural Biotechnology Stewardship Technical Committee, Monsanto, and MU Research Board. He currently serves as an associate editor for *Archives of Insect Biochemistry and Physiology* and as an editorial board member for *Journal Economic Entomology* and *Acta Entomologica Sinica*. To learn more about his research program visit the Song Lab website at http://plantsci.missouri.edu/songlab/.

**Functional assay of the r-bursicon heterodimer in neck-ligated flies.** Newly emerged flies were neck-ligated at emergence and injected with 0.5 µl of cell culture transfected with blank pcDNA 3.1 vector as a sham control (a) or with the purified r-bursicon α (b) or r-bursicon β (c) or r-bursicon heterodimer expressed in insect High Five™ cells (e) and in mammalian HEK293 cells (f). A CNS homogenate (0.5 CNS equivalent/fly) from newly emerged flies was used as a positive control (d). The arrow indicates the area with the unsclerotized cuticle (light color) in control (a-c) and the sclerotized cuticle (darkened) in the flies injected with *Drosophila* r-bursicon heterodimer.
Around the Division

An Shiheng, Post-Doctoral Research Associate, uses microarray and proteomic approaches to identify the genes and signal transduction pathways involved in the bursicon-regulated cuticle sclerotization process.

Shiheng received his BS and MS degrees in entomology from Henan Agriculture University and Ph.D degree in entomology from Zhejiang University in China.

Sheng Li, Visiting Professor from Shanghai Institute of Plant Physiology and Ecology-Chinese Academy of Sciences, uses genetic approach to study the function of juvenile hormone and 20 hydroxyecdysone regulated genes in Drosophila melanogaster.

Li received his Ph.D degree in Zoology from Shanghai Institute of Plant Physiology and Ecology-Chinese Academy of Sciences, and postdoctoral training in Department of Molecular Biology and Genetics, Johns Hopkins University.

Yaning Sun, Ph.D student, uses proteomic approach to identify protein kinase C-mediated proteins and phosphoproteins in the salivary gland of Drosophila melanogaster to determine the role of PKC in insect molting.

Sun received his BS and MS degrees in Marine Biology from China Ocean University, China.

Qian Wang, MS student, is investigating a novel function of neurohormone bursicon in mediating the immune response of insect using molecular and proteomic approaches.

Wang obtained a BS degree in Biotechnology from the School of Life Science, Shandong University, China.
## Recent Grants

<table>
<thead>
<tr>
<th>Investigators</th>
<th>Title</th>
<th>Sponsor</th>
<th>Amount of Funding</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunn, D.</td>
<td>Nitrogen Rate and Timing Study for Cotton Grown on Irrigated Crowley Silt-loam</td>
<td>Cotton, Inc.</td>
<td>$13,250</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Dunn, D.</td>
<td>Economic Comparison of Soil Test Recommendations from University &amp; Private Soil Test Labs for Cotton</td>
<td>Cotton, Inc.</td>
<td>$7,500</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Fritschi, F.</td>
<td>Evaluating Genotypic Variation in Early Vigor of Cotton (2 projects)</td>
<td>Cotton Inc.</td>
<td>$36,976</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Stevens, G.</td>
<td>Variable Rate Nitrogen with On-the-Go Sensors for Cotton</td>
<td>Cotton Inc.</td>
<td>$18,000</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Tindall, K.</td>
<td>Resistance Monitoring</td>
<td>Cotton Inc.</td>
<td>$8,950</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Tindall, K.</td>
<td>Heliothine Monitoring</td>
<td>Cotton Inc.</td>
<td>$10,024</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Tindall, K.</td>
<td>Mite Thresholds</td>
<td>Cotton Inc.</td>
<td>$9,980</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Wrather, A.</td>
<td>Site Specific Detection of Root-Knot Nematodes in Cotton</td>
<td>Cotton Inc.</td>
<td>$12,000</td>
<td>1/1/09-12/31/09</td>
</tr>
<tr>
<td>Starbuck, C. Kroening-Hibbard, M. Quinn, J.</td>
<td>Assisting Communities to Implement a “Healthy Yards for Clear Streams” Program</td>
<td>MDNR</td>
<td>$10,000</td>
<td>10/1/08-9/30/10</td>
</tr>
<tr>
<td>Wrather, A.</td>
<td>Compile Estimates of Soybean Yield Suppression by Diseases in the USA during 2008</td>
<td>Smith Bucklin and Associates</td>
<td>$18,000</td>
<td>10/1/08-5/31/09</td>
</tr>
<tr>
<td>Wrather, A. Shannon, G.</td>
<td>Charcoal Rot Cultivar Evaluation Using Adapted and Exotic Sources of Resistance</td>
<td>University of Arkansas</td>
<td>$60,000</td>
<td>5/1/08-4/30/09</td>
</tr>
</tbody>
</table>
Recent Publications


SOME UPCOMING MEETINGS & ACTIVITIES:

A more complete list of Division Events can be found at http://plantsci.missouri.edu

2009 MEETINGS:

The 26th Annual Interdisciplinary Plant Group Symposium will be held May 27-29, 2009, at University of Missouri, Columbia. This year’s symposium focuses on root biology.

Missouri is host to the 2009 Annual Meeting of the American Society for Horticultural Science. The meeting will be held in St. Louis, from July 25 to 28, 2009.

The 9th IPMB Congress will be held Oct 25-30, 2009 in St. Louis, MO. Details can be seen on the IPMB web site at: http://www.ipmb2009.org

New Courses:

PLNT_S 8530: 3 credit hours; Course title: Research with Plant Stress Agents. In this course, students will learn key research strategies for abiotic and biotic plant stress agents. Students will complete two focused hands-on projects. Prerequisites are PLNT_S 7500 and PLNT_S 7510, or PLNT_S 7315, or PLNT_S 7320, or equivalent. This course will first be offered in the Fall, 2009 semester.

PLNT_S 4400/7400: 4 credit hours; Course title: Plant Anatomy. In this course, students will learn comparative structure, growth of meristems; development, structure of important cell types, tissue systems; comparative anatomy of stem, root, and leaf. This course emphasizes anatomy of gymnosperms and angiosperms. Includes a lab. Prerequisites: Bio Sci 1200 or 1500. This course will first be offered in the Fall, 2009 semester.

We changed PLNT_S 4500/7500:

Previously, PLNT_S 4500/7500 “Theory & Concepts in Plant Pathology” was a 3 unit lecture course and PLNT_S 4510/7510 “Introductory Plant Pathology Lab” was a 2 unit lab course. We combined the two courses into a single 4 unit course offered as PLNT_S 4500/7500 “Biology & Pathogenesis of Plant-Associated Microbes.” In this course the lecture and lab will provide information on disease development in plant populations and possible control strategies combined with training in retrieving and critically reviewing research information. Prerequisites: 5 hours Biological Sciences, junior, senior or graduate standing.

Field Days:

June 14 - Turf and Ornamental Field Day at MU Turfgrass Research Center
June 18 - Native Plant/Quail Field Day at Bradford Research and Extension Center
July 15 - 2009 Pest Management Field Day at Bradford Research and Extension Center
July 28-31 - Crop Injury & Diagnostic Clinic at Bradford Research and Extension Center
August 13 - Greenley Memorial Research Center Field Day
September 2 - Delta Research Center Field Day
September 11 - Southwest Center Field Day
For more information visit: http://aes.missouri.edu.