



## Arrivals/New Personnel

**Sivakumar Swaminathan** joined the Bonning lab as a postdoctoral research associate. Siva is working toward development of aphid resistant transgenic plants.

## Incoming Students

**Samantha Soi Meng Lei** joined the Beetham lab as a PhD student (MCDB major). Samantha graduated with a BS in Biology from Hannibal-LaGrange College (MO) in 2004.

## Departures

**Jason Kinley** took a position as the Director of County Mosquito Control and Abatement District near Boise, Idaho.

## Graduations

**Sandhya Boyapalle** graduated with a PhD (Microbiology). Sandhya has accepted a postdoctoral position at the H. Lee Moffitt Cancer Center & Research Institute, University of South Florida.

**Sara Erickson** graduated with a Masters degree (Entomology). Sara will join Bruce Christiansen's lab at the University of Wisconsin-Madison to pursue her PhD.

**Tyasning Nusawardani** graduated with a Masters degree (Entomology). Tyas will join the lab of Dr. Bruce Webb at the University of Kentucky to work toward her PhD.

**Mary Schuster Johnson** successfully defended her Master's thesis (Entomology major) entitled *A bird in the hand is worth two in the book: Development and assessment of a teacher- and student-friendly invertebrate learning kit for children.*

## Awards and Honors

**Sandhya Boyapalle** received a Research Excellence Award for her doctoral research through the interdepartmental Microbiology Program. These awards recognize the top 10% of graduate student researchers.

**Joel Coats** received the Research Award of Merit from the Gamma Sigma Delta Agriculture Honor Society. This award is given to one faculty member within the College of Agriculture who has made exceptional contributions in helping Iowa State University achieve its mission in the area of research.

**Keri Henderson** and **Bryan Clark** were initiated into Sigma Xi Research Honor Society as Associate Members.

**Dingfei Hu** was initiated into the Gamma Sigma Delta Agriculture Honor Society.

**Betsy Matos** received a scholarship of \$300 to support travel to the Joint Meetings of the IOBC-NRS and the Biocontrol Network of Canada, May 8-11, 2005, in Quebec, and the affiliated Summer School, May 11-13.

**Matthew Petersen** was awarded the 2005 Henry and Sylvia Richardson Research Incentive Grant for \$2,500 for his proposal A Survey of the Crane Flies (Diptera: Tipulidae) of Madagascar. The grant will go toward research expenses.

**Gretchen Schultz** won Best Student Paper (M.S. level) at the NCB-ESA annual meeting in West Lafayette, Indiana in March.



## Publishing Activity

### Published/In Press

Anderson, P.L., Hellmich, R.L., Prasifka, J.R. and Lewis, L.C.. Effects on fitness and behavior of monarch butterfly larvae exposed to a combination of Cry1Ab-expressing corn anthers and pollen. *Environmental Entomology* (in press).

Arthur, E.L., Rice, P.J. Rice, P.J., Anderson, T.A. Baladi, S.M., Henderson, K.L.D. and Coats, J.R.. 2005. Phytoremediation – An Overview. *Crit. Rev. Plant. Sci.* (in press)

Belden, J.B., Clark, B.W., Phillips, T.A. Henderson, K.L., Arthur, E.L. and Coats, J.R.. 2004. Detoxification of pesticide residues in soil using phytoremediation. Chapter 12 in *Pesticide Decontamination and Detoxification*, J.J. Gan, P.C. Zhu, S.D. Aust, and A.T. Lemley, eds. pp. 155-167. American Chemical Society, Washington, D.C.

Belden, J.B. and Coats, J.R. 2004. Effect of grasses on herbicide fate in the soil column: Infiltration of runoff, movement, and degradation. *Environ. Toxicol. Chem.* 23:2251-2258.

Belden, J.B., Phillips, T.A., Clark, B.W. and Coats, J.R.. 2005. Toxicity of pendimethalin to non-target soil organisms. *Bull. Environ. Contam. Toxicol.* 74(4) (in press).

Belden, J.B., Phillips, T.A. and Coats, J.R.. 2004. Effect of prairie grass on the dissipation, movement, and bioavailability of selected herbicides in prepared soil columns. *Environ. Toxicol. Chem.* 23:125-132.

Clark, B.W., Phillips, T.A. and Coats, J.R.. 2005. Environmental fate and effects of *Bacillus thuringiensis* (Bt) proteins from transgenic crops: a review. *J. Agric. Food Chem.* 53 (in press)

Coates B.S., Sumerford D.V., Hellmich R.L., Lewis L.C. (2005) Sequence variation in the cadherin gene of *Ostrinia nubilalis*: A tool for field monitoring. *Insect Biochem Mol Biol* 35(2):129-139.

Coates B.S., Hellmich R.L., Lewis L.C. (2005)

Polymorphic CA/GT and GA/CT microsatellite loci for *Ostrinia nubilalis* (Lepidoptera: Crambidae). *Mol Ecol Notes* 5(1):10-12.

Coates B.S., Hellmich R.L., Lewis L.C. (2005) Two differentially expressed *Ostrinia nubilalis* ommochrome-binding protein-like genes (*obp1* and *obp2*) in larval fat body. *J Insect Sci* (in Press)

Courtney, G.W. 2004. Deuterophlebiidae. pp. 763-768 in C.M. Yule & Y.H. Sen (editors). *Freshwater Invertebrates of the Malaysian Region*. Academy of Sciences Malaysia, Kuala Lumpur.

Courtney, G.W. 2004. Nymphomyiidae. pp. 769-774 in C.M. Yule & Y.H. Sen (editors). *Freshwater Invertebrates of the Malaysian Region*. Academy of Sciences Malaysia, Kuala Lumpur.

Cummings, M.A., Moon, R.D., and Krafur, E.S. 2005. North American face flies Old World origins: mitochondrial evidence. *Medical and Veterinary Entomology* 19: 48-52.

Cummings, M.A. and Krafur, E.S. 2005. Spatial diversity in mitochondrial cytochrome c oxidase in house flies (Diptera: Muscidae). *Medical and Veterinary Entomology* 19: 53-59.

Dahlin-Laborde, R.R., Yu, T.P., Beetham, J.K. Genetic complementation to identify DNA elements that influence complement resistance in *Leishmania chagasi*. *J. Parasitology*. (in press.)

Groot, A., Fan, Y., Brownie, C., Jurenka, R., Gould, F., Schal, C., 2005. Effect of PBAN on the sex pheromone profile in mated *Heliothis virescens* and *Heliothis subflexa* females. *Journal of Chemical Ecology* 31, 15-28.

Henderson, K.L.D., Belden, J.B., Zhao, S. and Coats, J.R.. 2005. Phytoremediation of pesticide wastes in soil. *Zeitschrift Naturforschung* 60 (in press).



R.S. Holl, **M.H. Shour**, and S. Pennington. 2005. Emerald ash borer: 2004 Iowa survey. *Iowa Horticulturist* 21(3):10-11

**Kim, K.S.**, and **T.W. Sappington**. 2005. Genetic Structuring of Western corn rootworm (Coleoptera: Chrysomelidae) populations in the U.S. based on microsatellite loci analysis. *Environ. Entomol.* 34: 494-503.

**Krafsur, E.S.**, Cummings, M.A., Endsley, M.A. and **Marquez, J.G.** 2005. Geographic differentiation in the house fly estimated by microsatellite and mitochondrial variation. *J. Heredity* (in press).

**Matos, B.** and Obrycki, J.J. 2004. Potential sources of *Frankliniella* spp. (Thysanoptera : Thripidae) in Iowa *Journal of Agricultural and Urban entomology* 21 (1): 1-8

**O'Neal, M.E.**, Zontek, E.L., Szendrei, Z., Landis, D.A. and Isaacs, R. 2005. Ground predator abundance affects prey removal in highbush blueberry (*Vaccinium corymbosum*) fields and is increased by ground covers. *BioControl* 50: 205-222.

**O'Neal, M.E.**, Mason, K. and Isaacs, R.. 2005. Seasonal abundance of ground beetles in highbush blueberry (*Vaccinium corymbosum*) fields and response to a reduce-risk insecticide program. *Environ. Entomol.* 34: 378-384

**Ouma, J.O.**, **Marquez, J.G.** and **Krafsur, E.S.** 2005. Macrogeographic structure of the tsetse fly, *Glossina pallidipes* (Diptera: Glossinidae). *Bulletin of Entomological Research* (in press)

Park, D.S., and **Coats, J.R.**. 2005. Mode of action of cyanohydrins in Insects. *J. Pestic. Sci.* 30(2) (in press).

Park, D.S., Peterson, C., Zhao, S. and **Coats, J.R.**. 2004. Fumigation toxicity of volatile natural and synthetic cyanohydrins to stored-product pests and activity as soil fumigants. *Pest Manag. Sci.* 60:833-838

Rice, P.J., Anderson, T.A. and **Coats, J.R.**. 2004. Effect of sediment on the fate of metolachlor and atrazine in surface water. *Environ. Toxicol. Chem.* 23:1145-1155.

**Schultz, G.**, Peterson, C. and **Coats, J.R.** 2005. Natural insect repellents: Activity *Management*. American Chemical Society, Washington D.C. (in press).

Zhao, S., Arthur, E.L., Moorman, T.B. and **Coats, J.R.**. 2005. The evaluation of microbial inoculation and vegetation to enhance the dissipation of atrazine and metolachlor in soil. *Environ. Toxicol. Chem.* 24 (in press).

## **Extension, Educational, Technical Publications**

T. Ellis, G. Bradfish, **L. Lewis**, and **J.R. Coats**. Bt bacteria might form basis for future biological insecticide. *Turfgrass Trends*. (2004)

**Rice, M.E.**, **O'Neal, M.** and P. Pedersen. 2005. Soybean Aphids in Iowa-2005 Update. Iowa State University, University Extension, (in press).

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## **Grants Awarded**

**Joel Coats** was awarded \$10,000 from EcoSmart Technologies, Inc. to continue insecticide evaluations.

**Joel Coats** received \$47,560 from the Department of Agriculture for biodegradation of Transgenic Crop Residue research.

**Jerry DeWitt** and **Joyce Hornstein** were awarded \$15,000 from the Iowa Department of Agriculture and Land Stewardship for the implementation of revised worker protection standards.

**Jerry DeWitt** and **Rich Pope** were awarded \$15,000 from the Iowa Department of Agriculture and Land Stewardship for a pesticide management planning process for groundwater protection.



Mark Gleason, Gail Nonnecke, Joe Colletti, **Donald Lewis**, and William Edwards received \$99,951 from the Department of Agriculture for the program, *Widening the Road: Building Our Global Awareness and Agricultural Competitiveness by Partnering with Costa Rican Educators*

**Elliot Krafzur** received \$282,800 from the National Institute of Health to conduct research on the ecology, genetics, and physiology of insect vectors.

**Matt O'Neal** received \$109,999 from Michigan State University for Soybean Aphid research in the North Central US: Implementing IPM at the Landscape Scale.

**Matt O'Neal** received a subcontract of \$127,770 for "Biological Control of the Soybean Aphid" from the North Central Soybean Research Program as part of a three year grant for \$652,217; O'Neil, R., R.N. Wiendenmann, D. Voegtlin, K.L. Steffey, M. O'Neal, D. Landis, C. DiFonzo, G. Heimpel, D. Ragsdale, K. Hopper, D. Mahr, C. Gratton, and E. Cullen.

**Carol Pilcher, Jerry DeWitt, and Rich Pope** received \$27,233 from Michigan State University for developing standardized measurement tools for program evaluation.

**Wayne Rowley** was awarded \$34,000 from the Iowa Department of Public Health for monitoring mosquitoes and encephalitis virus activity in Iowa

**Tom Sappington, U. Stolz, M. J. Bagley, and Rick Hellmich** received a three year grant for \$343,000 for "Spatial and Temporal Characterization of Gene Flow Among European Corn Borer Populations Using Microsatellite Markers" from the USDA NRI, Integrative Biology of Arthropods and Nematodes program.

**Jon Tollefson and Jim Oleson** received \$5,300 from FMC Corporation, \$2,000 from Helena Chemical Company, and \$5,670 from Pioneer Hi-Bred International, Inc. for corn insect research.

**Jon Tollefson** was awarded \$11,000 from Pioneer Hi-Bred International, Inc. for research on Grape Co-

laspis Phenology, sampling techniques, control and management strategies.

**Jon Tollefson, Patti Anderson, Matt O'Neal, John VanDyk, and Carol Pilcher** received \$18,900 from Iowa State's Miller Faculty Fellowship fund to improve the ENT 386 and 376 curriculum by creating an on-line virtual laboratory.

**John VanDyk, Matt O'Neal, Jon Tollefson and Nina Richtman** received \$11,846 from the College of Agricultural Technology Advancement Committee grants program for "Upgrading Computer Services in the Entomology Teaching Laboratory."

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## Out-of-state Travel

**Patti Anderson and Jon Tollefson** traveled to Greenbelt, MD, to participate in the Corn Rootworm Technical Committee (NCR-46) Annual meeting, January 22-25.

**Jeffrey Beetham** presented a poster in January at the Colorado Keystone Research Conference on Innate Immunity. The poster title was "PSA role in *Leishmania* resistance to complement lysis"; authors L. Lincoln, M. Ozaki, S. Gaddam, J. Donelson, J. Beetham.

**Rebecca Brown and Amanda Jacobson** traveled to the southwestern United States over spring break as part of the Ecology and Evolutionary Biology Extended Field Trip course (EEB 585).

**Joel Coats** attended the annual meeting of the American Chemical Society in San Diego, CA, and served as a Councilor representing the Agrochemicals Division, March 10-18. He served on the Science Advisory Board of the V Institute for Environmental Human Health at Texas Tech University in Lubbock, TX, March 29-31 and traveled to Chicago, IL, April 19-21, to teach in a workshop on Mosquito Control.

**Greg Courtney, Vladimir Blagoderov and Matt Petersen** traveled to Franklin, TN in southern Appalachia over spring break as a part of the Aquatic Insects class (AEcl/Ent 425/525); March 12-19.



**Jerry DeWitt** traveled to Washington, DC, to work at the USDA on the National Sustainable Agriculture Program, January 18-27 and attended the Review Committee Meeting for Regional SARE proposal reviews in Kansas City, MO, January 31-February 2. He was then the keynote speaker at the Nebraska Sustainable Agriculture Society's Annual Meeting in Grand Island, NE, February 3-5. Jerry traveled to Washington, DC, to work at the USDA on Portfolio Development for Plant Protection review, February 10-14, and presented a seminar at Lawrence University in Appleton, WI, February 15-17.

Jerry traveled to Lacrosse, WI, to teach at the Upper Midwest Organic University, February 23-26. He attended the NC Administrative Council Meeting for NC SARE in Oconomowoc, WI, March 7-12. He worked on the National Sustainable Agriculture program at the USDA in Washington, DC, March 22-28 and presented a Sustainable Agriculture Lecture at Mars Company in Washington, DC, April 22-25.

**Jerry DeWitt** and **Carol Pilcher** attended the Regional IPM Coordinators Meeting in Saint Louis, MO, April 11-14.

**Russ Jurenka** attended a grant panel meeting for the Binational Agriculture Research Development (BARD) fund, January 30-February 1, in Atlanta, GA.

**Matt O'Neal** was an invited panelist member during a Learning center "Meeting the challenges of the soybean variant" at the 24-26 February 2005 Commodity Classic held in Austin, Texas. The learning center addressed grower concerns regarding rotation-resistant western corn rootworm and the potential injury to rotated corn following soybeans. He also served as the state representative for the annual meeting of the multi-state project S1010 (Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems), 13-16 March 2005 at Williamsburg, Virginia. He reported on current status of soybean insect pests in Iowa and ongoing research projects.

**Rich Pope** attended the Pesticide Waste and Container Disposal Meeting Group of SFIREG, a member of the Environmental Protection Agency, in Washington, DC, April 23-24.

**Tom Sappington** Attended and presented research progress at the joint NC-205 (European corn borer) and NCR-46 (corn rootworm) technical committee meetings, Beltsville, MD. Jan 23-28, and attended workshop on agricultural remote sensing, and planned upcoming cooperative experiments, EPA, Cincinnati, OH April 14-15.

**Mark Shour** traveled to Raleigh, NC, to represent Iowa State at the Agricultural Health Study National Advisory Panel meeting, March 3-4.

## International Travel

**Vladimir Blagoderov** participated in the International Paleontomological Conference in Johannesburg, RSA December 19-February 19.

**Joel Coats** traveled to Chiang Mai, Thailand to present an invited talk at the Fourth International Conference on Biopesticides, visited field sites for mosquito repellency study, and visited the Thai Department of Agriculture in Bangkok, February 10-20.

**Elliot Krafur** traveled to London, England to meet with collaborators on NIH and Leverhulme supported projects at the London School of Hygiene and Tropical Medicine, January 20-24. He also traveled to Cape Town, South Africa, February 3-12, to carry out genetic and physiological research with colleagues at the University of Stellenbosch and then went on to Ethiopia to give presentations at a workshop and surveyed field research sites.

**Wayne Rowley** attended the American Mosquito Control Association's Annual Meeting in Vancouver, BC, Canada, where he presented a research paper, April 2-7.

**Jon Tollefson** represented Iowa State University at the annual Entomology Department Chairs Regional Meeting (NCA-15) in Mexico City, Mexico, February 5-10. He also traveled to Belgrade, Serbia to coordinate travel and host the Iowa State University Mentors during a visit to the institutions and faculties of the Serbian, Montenegrin, and Bulgarian Borlaug Young Scientists Fellows Program, April 4-13.

**John VanDyk** and **Matt Westgate** traveled to Antwerp and Brussels, Belgium, February 22-28 to attend the first annual Drupal conference. John organized the conference with Dries Buytaert, the Belgian founder of the Drupal open-source content management system. John led a two-day workshop on "Metadata and Content Construction" and presented "Metadata-Driven Workflow" at the Free and Open Source Software Developer's European Meeting in Brussels. Matt Westgate presented "Drupal as an E-Commerce Platform". Drupal is the software behind the web presence of entomology and plant pathology.

## **Other**

### ***North Central ESA meeting***

Several members of the department represented Iowa State University at the North Central Branch Meeting of the Entomological Society of America in West Lafayette, IN, March 20-23.

Attendees Included: **Jeff Bradshaw**, **Joel Coats**, **Nina Richtman**, and **Jon Tollefson**

Presenters Included: **Patti Anderson**, **David Dorchout**, **Kevin Johnson**, **Ben Kaeb**, **Betsy Matos**, **Tyasning Nusawardani**, **Matt O'Neal**, **Marlin Rice**, **Nick Schmidt**, and **Gretchen Schultz**.

### ***Soybean Aphid Task Web Site***

The recently formed Soybean Aphid Task Force at Iowa State University has unveiled a new web site ([www.soybeanaphid.info](http://www.soybeanaphid.info)). This new site is supported by the Corn/Soybean Initiative and hosted by the Department of Entomology. **Matt O'Neal** serves as the editor, consolidating soybean aphid research and extension information produced at Iowa State University as well as linking the site to relevant sites within the North Central Region.