



Personnel News

In March, **Nick Miller** joined the USDA Agricultural Research Service as a Postdoctoral Associate. He will develop molecular markers for western corn rootworm and conduct population genetics studies on this insect. He will also explore marker development for western bean cutworm, and will be involved with the European corn borer gene flow project.

Clint Moody, an honors undergraduate student (Engineering major), conducted a research project in the Bonning lab. Clint worked with **Wendy Sparks** to look at baculovirus proteins involved in virus binding to the insect gut.

Joel Coats and **Richard Hellmich** hosted for five weeks **Julia Górecka**, a Borlaug Fellow from the Department of Applied Entomology, Warsaw Agricultural University, Warsaw, Poland. Julia learned methods to investigate possible effects of genetically-modified maize on non-target insects with an emphasis on laboratory bioassays.

Richard Hellmich is currently hosting a Visiting Scholar from China, **Dr. Zhenying Wang**, a Senior Scientist at the Institute of Plant Protection, Chinese Academy of Agricultural Sciences in Beijing, China.

S. Sivakumar left the Bonning lab to take a postdoctoral position with Dr. Peter Reubens, Biochemistry, Biophysics and Molecular Biology.

Publishing Activity

Newly Published

Beerntsen, B.T., **L.C. Bartholomay**, and R.J. Lowery. 2007. Penetration of the mosquito midgut is not required for *Brugia pahangi* microfilariae to avoid the melanotic encapsulation response of *Armigeres subalbatus*. *Veterinary Parasitology* 144: 371-374.

Awards and Honors

Bryony Bonning was made co-leader of the Plant Sciences Institute Crop Protection Research Initiative.

Carol Pilcher and **Kristine Schaefer** were invited to serve on the Pesticide and Fertilizer Advisory Committee. This committee acts as a technical advisory group to the Secretary of Agriculture.

Nina Richtman was awarded the 2007 Richardson Research Incentive grant for her proposal "Investigation of the physiological impact of a *Bacillus thuringiensis* toxin on the black cutworm that enhances baculovirus pathogenicity." Nina will receive \$2,500 toward research costs. Nina was also awarded an Iowa State University Teaching Excellence Award. The purpose of these awards is to recognize the accomplishments of the top 10% of teaching assistants.

Boyapalle, S., N. Pal, W.A. Miller, and **B.C. Bonning**. 2007. A glassy-winged shartpshooter cell line supports replication of *Rhopalosiphum padi virus* (Dicistroviridae). *J. Invertebr. Pathol.* 94(2): 130-139.

Cai, L., J.A. Koziel, and **M.E. O'Neal**. 2007. Determination of characteristic odorants from *Harmonia axyridis* beetles using in vivo solid phase microextraction and multidimensional gas chromatography mass spectrometry-olfactometry. *J. Chromatogr. A.* 1147: 66-78. Note: This paper was featured in over 12 popular-press articles in March and April. It was also featured on the "60-second science" podcast of Scientific America (http://podcast.sciam.com/daily/sa_d_podcast_070327.mp3) on March 27, 2007.

Courtney, G.W. 2007. Review of "Yeates, D.K. and B.M. Wiegmann (editors). 2005. The Evolutionary



Biology of Flies. Columbia University Press, New York. 430pp.” *Annals of the Entomological Society of America*.

Gibson, J.F. and **G.W. Courtney**. 2007. Revision of the net-winged midge genus *Horaia* Tonnoir and its phylogenetic relationship to other genera within the tribe Apistomyiini (Diptera: Blephariceridae). *Systematic Entomology* 32: 276-304.

Greenberg, S.M., A.N. Sparks Jr, J.W. Norman Jr, R. Coleman, J.M. Bradford, C. Yang, **T.W. Sappington**, and A. Showler. 2007. Chemical cotton stalk destruction for maintenance of host-free periods for the control of overwintering boll weevil in tropical and subtropical climates. *Pest Management Sci.* 63: 372–380.

Li, H., H. Tang, R.L. Harrison, and **B.C. Bonning**. 2007. Impact of a Basement Membrane-Degrading Protease on Dissemination and Secondary Infection of *Autographa californica* Multiple Nucleopolyhedrovirus in *Heliothis virescens* L. *J. Gen. Virol.* 88: 1109-1119.

Liu, Z., L. Ho, and **B.C. Bonning**. 2007. Localization of a *Drosophila melanogaster* homolog of the putative juvenile hormone esterase binding protein of *Manduca sexta*. *Insect Biochem. Molec. Biol.* 37(2): 155-163.

Schmidt, N.P., M.E. O’Neal, and J.W. Singer. 2007. Alfalfa living mulch advances biological control of soybean aphid. *Environ. Entomol.* 36: 416-424.

Publications in Press

Bradshaw, J.D., M.E. Rice, and J.H. Hill. 2007. No-choice preference of *Cerotoma trifurcata* (Coleoptera: Chrysomelidae) to potential host plants of bean pod mottle virus (Comoviridae) in Iowa. *J. Econ. Entomol.* (in press).

M-Y Choi, H. Lim, K.C. Park, R. Adlof, S. Wang, A. Zhang, and **R. Jurenka**. 2007. Identification and biosynthetic studies of the hydrocarbon sex pheromone in *Utetheisa ornatrix* (Lepidoptera: Arctiidae). *Journal of Chemical Ecology*, (in press).

Courtney, G.W. and R.W. Merritt. 2007. Diptera (non-biting) in fresh waters. In G.E. Likens (editor-in-chief), *Encyclopedia of Inland Waters*. Elsevier Limited, Oxford, UK. (in press)

Kim, K.S., B.W. French, **D.V. Sumerford**, and **T.W. Sappington**. 2007. Genetic diversity in laboratory colonies of western corn rootworm (Coleoptera: Chrysomelidae), including a non-diapause colony. *Environ. Entomol.* (in press)

Liu, Z., N. Pal, and **B.C. Bonning**. Potential ligands of DmP29, a putative juvenile hormone esterase binding protein of *Drosophila melanogaster*. *Insect Biochem. Molec. Biol.* (in press)

Miller, N.J., M. Ciosi, **T.W. Sappington**, S.T. Ratcliffe, J.L. Spencer, and T. Guillemaud. 2007. Genome scan of *Diabrotica virgifera virgifera* for genetic variation associated with crop rotation tolerance. *J. Appl. Entomol.* (in press).

Philip, J., E. Fitches, R.L. Harrison, **B.C. Bonning**, and J.A. Gatehouse. 2007. Characterisation of functional and insecticidal properties of a recombinant cathepsin L-like proteinase from flesh fly (*Sarcophaga peregrina*), which plays a role in differentiation of imaginal discs. *Insect Biochem. Molec. Biol.* (in press).

Platt, K.B., **B.J. Tucker**, P.G. Halbur, S. Tiawsirisup, B.J. Blitvich, F.G. Fabiosa, **L.C. Bartholomay**, and **W.A. Rowley**. 2007. West Nile virus viremia in eastern chipmunks (*Tamias striatus*) sufficient for infecting different mosquitoes. *Emerg Infect Dis.* Jun; [Epub ahead of print].

Ragsdale, D., B.P. McCornack, R.C. Venette, B.D. Potter, I.V. Macrae, E.W. Hodgson, **M.E. O’Neal**, **K.D. Johnson**, R.J. O’Neil, C.D. DiFonzo, T.E. Hunt, P. Glogoza, and E.M. Cullen. 2007. Economic threshold for soybean aphid *Aphis glycines* Matsumura (Hemiptera: Aphididae). *J. Econ. Entomol.* (in press).

Reardon, B.J. and **T.W. Sappington**. 2007. Effect of age and mating status on European corn borer (Lepidoptera: Crambidae) moth dispersal from small-grain aggregation plots. *J. Econ. Entomol.* 100: (in press).

Sparks, W.O., **L. Bartholomay**, and **B.C. Bonning**. Insect Immunity to Viruses. In: *Insect Immunology*, N.E. Beckage, Ed. Academic Press. (in press)

Peter Stern, Lian Yu, **Man-Yeon Choi**, **Russell Jurenka**, and Ada Rafaeli, 2007. Molecular modeling of the binding of Pheromone Biosynthesis Activating



Neuropeptide (PBAN) to its receptor. *Journal of Insect Physiology*, (in press).

EXTENSION, EDUCATIONAL, TECHNICAL PUBLICATIONS

Bradshaw, J.D., M.E. Rice, and J.H. Hill. 2007. Seed treatments in soybean: managing bean pod mottle virus, IC-498(8), Iowa State University, Ames, Iowa.

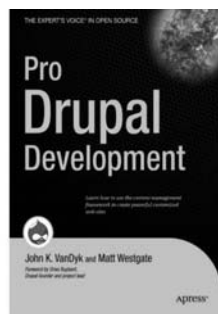
Bradshaw, J.D., M.E. Rice, and J.H. Hill. 2007. Seed treatments in soybean: managing bean leaf beetles, IC-498(7), Iowa State University, Ames, Iowa.

Joyce Hornstein and Janis Stone. PAT 43 - Personal Safety in the Greenhouse.

Liljegren, C., M.H. Shour, and A. Flickinger. 2007. Emerald ash borer: Iowa's 2006 surveillance effort. *The Iowa Horticulturist*, Spring 2007. pages 16-17.

Linda Naeve revised the following publications: Donald Lewis, Mark Gleason, Jim Pease, Bob Hartlzer, and Joyce Hornstein, *CS 12 - Fruit and Vegetable Pest Management, Category 1D - A Guide for Commercial Pesticide Applicators* and Mark Shour *CS 23 - Public Health Pest Control, Category 8 - Iowa Commercial Pesticide Applicator Manual*.

John VanDyk published *Pro Drupal Development* (Apress, 428 pages) with coauthor Matt Westgate. Matt was a computer programmer/analyst for the entomology department from 2001 to 2005. Drupal is the software that powers entomology's numerous web sites, which collectively received over 25 million hits in the month of April. The book documents how the content management system works and provides best practices for developing websites. It was released in April and is currently in its third printing.



Research, Inc. The purpose of this symposium is to allow for discussion between academic researchers and industry representatives to facilitate industry sponsorship of university research.

Jeff Bradshaw traveled to Tucson, AZ, from March 7-9 to present research to industry concerning soybean pest management at Syngenta's seed-treatment conference.

Joel Coats traveled to Research Triangle Park, NC, from February 6-9 in order to serve on the U.S. EPA Review Board of Scientific Counselors, Pesticide Subcommittee. From February 21-22, he was in Midland to give a toxicology presentation and discussion at Dow Corning. He traveled to Chicago, IL, from March 24-29 to attend to National Meeting of the American Chemical Society. Six graduate students also participated by giving platform presentations on their research: **Lindsey Gereszek, Keri Henderson, Dingfei Hu, Hirofumi Kosaki, Gretchen Paluch**, and **Kelsey Prihoda**. From April 17-20, Dr. Coats traveled to Duluth, MN, to serve on a Review Panel for evaluating U.S. EPA Mid-Continent Ecological Laboratory.

Gregory Courtney traveled to the Coweeta Hydrological Lab in Franklin, NC, from March 10-17 for a Spring Break field trip for the Aquatic Insects Class (A Ecl/Ent 425/525). **Rebecca Brown, Samantha Lei, Matthew Wihlm, Nick Behrens**, and **Eric Whitted** were among the 11 students who participated.

Greg Courtney traveled to Birmingham, AL, from March 27-April 1, to attend the Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) conference. Courtney participated in the MANRRS Career Fair, in which he organized and manned a booth aimed at recruiting students into Entomology, Ecology & Evolutionary Biology (and other interdepartmental graduate programs in the life sciences), and the College of Agriculture.

Jessica Davis traveled to Washington, DC, from December 27-January 7 to visit the United States Natural History Museum to look at crane fly specimens and to take out a loan for continuing research.

Elliot Krafzur traveled to Ames, IA, from April 15-21 to visit and manage his laboratory and to carry out additional project research.

Out-of-state Travel

Bryony Bonning, Man Yeon Choi and **Junwei Zhu** traveled to Washington, DC, from February 12-14 to attend a meeting for the Consortium for Plant Biotech-



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Donald Lewis traveled to Washington, DC, from April 23-26 to serve on a Pest Management Alternative Program review panel for the USDA, CSREES.

Zhiyan Liu traveled to Philadelphia, PA, from March 7-11 to attend and present a poster at the Annual Meeting for *Drosophila* Research.

Beth Minner traveled to Reno, NV, from February 26-March 3 to attend the Pesticide Stewardship Alliance 2007 Conference.

Linda Naeve attended the Agriculture Health Study National Advisory Panel meeting in Durham, NC, February 22-23, 2007.

Wayne Ohnesorg traveled to Urbana, IL, from January 15-18 to identify specimens in the field for his master's research.

Matt O'Neal attended as the State representative to the S-1010 (Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems) meeting in Portsmouth Virginia on March 11-13. S-1010 is a multi-state funded research project that focuses on the insect pest of soybean in the North Central and Southern regions of the US. O'Neal also served on the technology review panel for the Southern Regional IPM 2007 research and extension proposals from January 25-26.

Gretchen Paluch traveled to Orlando, FL, from April 2-5 to present research at the American Mosquito Control Association meeting.

Carol Pilcher traveled to Chicago, IL, from January 23-25 to attend the National IPM Evaluation Subcommittee Meeting, of which she is the chair. She also traveled to Ames, IA, from January 30-February 4 to conduct Private Pesticide Applicator Training Meetings in Lee County and Van Buren County, to tape commercial pesticide applicator training segments, and to attend meetings on campus for PME and PAT. She was also in Ames February 12-16 to attend Iowa Soybean Association Meetings, to present Private Pesticide Applicator Training Meetings, to coordinate the Commercial Ag Pesticide Applicator Training Meeting, and to attend an Interdepartmental Meeting. From February 19-20, she was in Albia, IA, to assist with the Private Pesticide Applicator Training Meeting. She returned to Ames from February 26-March 3 to

attend meetings, to tape the Handlers Program, and to present at the IPM Scout School. On March 5, she traveled to Indianapolis, IN, to present a pesticide applicator presentation on early season pesticide safety. She then went to Sacramento, CA, from March 11-14 to provide IPM evaluation training for the California IPM program. From March 20-22 she was back in Ames to provide private training to Iowa legislators and to conduct meetings. Again from March 25-30, she was in Ames to attend to PME meetings, CSI meetings, and ANR In-Service meetings. She traveled to Minneapolis, MN, from April 9-11 to attend NCERA 201 Meeting and to present IPM Evaluation Update. From April 22-27, she was in Ames to complete annual performance evaluations for PME team members, to attend meetings, and to attend the Women's Leadership Conference.

Marlin Rice traveled to Wilmar, MN, from February 19-20 as he was invited to give a presentation to chemical/seed company representatives on management of corn rootworms. He traveled to Champaign, IL, from April 2-3 to attend the executive committee meeting of the Entomological Society of America.

Tom Sappington attended and presented research progress at the joint NC-205 (European corn borer) and NCCC-46 (corn rootworm) technical committee meetings, held January 29 to February 2, in Dallas, TX. From February 17-19, Tom attended the USDA NRI annual Project Director workshop for the Arthropod and Nematode Biology program, which was held in Ventura, CA. On April 3-4, Tom attended the PhD Preliminary examination of Megan O'Rourke, at Cornell University, Ithaca, NY.

Kristine Schaefer traveled to Athens, GA, to attend the Southeastern Exotic Pest Plant Council Symposium, March 20-22. She also attended the VII National Stored Product Integrated Pest Management Training Conference in Stillwater, OK, April 18-20.

Jon Tollefson traveled to Savannah, GA, from January 13-15 to participate in the annual regional meeting of the Entomology Department chairs. From February 21-23, he traveled to the Raleigh-Durham, NC, area to participate in Syngenta's "Corn Insect Traits" meeting. From March 12-13, he traveled to Kansas City, MO, to participate in the Bayer Crop Science Corn Entomologist Information Exchange Workshop.



Brad Tucker traveled to Madison, WI, from April 10-12 to visit labs at University of Wisconsin in order to view research techniques associated with *Plasmodium berghei*.

Robert Turnbull traveled to Lacrosse, WI, from February 22-24 to attend the Upper Midwest Organic Farming Conference; vendors with potential Asian Soybean Rust control materials were present at the meeting, which is the focus of the grant. From March 3-7, he traveled to East Lansing, MI, in order to meet with co-PIs on the grant to review progress and next season's plans as well as to attend a conference.

John VanDyk traveled to Sunnyvale, CA, to participate in the Open Source Content Management System summit March 22-24 on the campus of Yahoo!, Inc. John gave a talk titled, "The Future of Actions in Drupal". He also attended the Web Performance and Scalability Workshop held after the conference.

International Travel

Rebecca Brown and **Matthew Petersen** traveled to Antananarivo, Madagascar, from December 27-January 16 for research and collecting of insects.

Stephanie Kadlicko traveled to Belgrade, Serbia, from March 30-April 12 to attend Foreign Pesticide Use Training and to serve as a translator.

Donald Lewis traveled to Costa Rica from March 8-17 as part of Ent/Pl P/Hort 511, Integrated Management of Tropical Crops, to visit the University of Costa Rica and tropical crop production areas in Costa Rica. Entomology students who participated were **Wayne Ohnesorg** and **Jordan Florke**.

Carol Pilcher traveled to Belgrade, Serbia, from March 30-April 8 to attend international pesticide training meetings.

Marlin Rice traveled to Winnipeg, Manitoba, Canada, from March 25-27 to attend and present at the North Central Branch Meeting of the Entomological Society of America.

Tom Sappington traveled on March 17-25, to the Western Corn Rootworm Ecology Expert Panel Workshop, in Nice, France. He also visited the INRA lab in Montpellier, France, to discuss collaborative research on European corn borer.

Jon Tollefson traveled to Belgrade, Serbia, from February 9-14 to meet with Serbian Ministry of Agriculture Pesticides Committee to review training manuals and plan a pesticide safety-training workshop. He also traveled to Winnipeg, Manitoba, Canada, from March 25-28 to participate in the annual meeting of the North Central Branch Meeting of the Entomological Society of America. Again from March 30-April 13, he traveled to Belgrade, Serbia, to conduct and present in a pesticide use and safety workshop. His travels were then curtailed when he became ill and returned to the United States.

Other news

Iowa State University Aphid Research Symposium
Bryony Bonning and **Matt O'Neal** organized the first Iowa State University Aphid Research Symposium on January 19. The purpose of this symposium was to highlight campus-wide research on aphids and to enhance links between aphid researchers across disciplines. The symposium was attended by nine research groups, as well as representatives from the North Central Soybean Research Program, the Iowa Soybean Association (ISA) and the Practical Farmers of Iowa. The symposium was funded in part by the Center for Plant Responses to Environmental Stresses (CPRES) and the ISA.