

Bugged

FROM
MSU DEPARTMENT
OF ENTOMOLOGY

SUMMER 2010



All insect images: Dave Cappaert, MSU

FROM THE CHAIR

It's been a while since we produced a newsletter, so let me introduce you to the first issue of *Bugged*, the newsletter of the Michigan State University Department of Entomology. *Bugged* is designed to provide our alumni and friends with a regular update of the Department's activities.

A lot has happened in the Department since our 100-year anniversary celebration in 2007, and this year in particular has been a banner year for us. We welcomed back to the Department Dr. Larry Olsen, who has taken on the important role of associate chairperson. We also welcomed a vegetable entomologist, Dr. Zsofia Szendrei, our first new faculty member in three years. Faculty, staff and students won many MSU, regional, national and international awards. We had a record number of contracts and grants awarded to faculty, including several from the National Science Foundation and National Institutes of Health. We had the first Linnaean Games team in recent memory.

The Department is strong and growing. We now have 21 regular faculty, seven fixed-term faculty, 13 academic specialists and 24

technical research staff. We have 22 undergraduate students, up from two just a few years ago, due to the tremendous efforts of Drs. Chris DiFonzo and Walt Pett, our undergraduate advisors. There are 35 graduate students in the Department (of which 20 percent are international), 21 visiting research associates, six emeriti, and seven outstanding office professionals.

The Department is at the forefront of MSU's efforts to provide solutions for some of the world's most challenging problems through teaching, research, extension and outreach. To help meet the needs of Michigan's students, we offer the only undergraduate minor and major option in the College of Agriculture and Natural Resources, our lead college (we are also based in the College of Natural Science). Our students choose from 15 undergraduate and 13 graduate courses, and starting with forensic entomology, we are beginning to offer on-line courses. We enjoy strong collaboration with partners in MSU Extension and the Michigan Agricultural Experiment Station.

Our research and extension cover a very wide spectrum of activities: systematics; apiculture; biomed-

cal, forensic, forest, fruit, turfgrass and molecular entomology; insect toxicology; integrated pest management; ecology and ecosystems management; biological control; invasive species ecology and management; specialty crop entomology and nematology; pesticide education and policy; and public science education. We work very closely with a large number of commodity groups in Michigan. We also play a major role in international research and extension. For example, a recent survey indicated that 24 percent of the department's collaborations are international and [are located on six of the seven Continents](#).

We are also very proud of our outreach activities, including the Bug House (which had 7,000 visitors last year), Insect World Science Camp, InsectaPodCast, and a new Butterfly Flight Room.

I hope you enjoy being *Bugged*!

Sincerely,

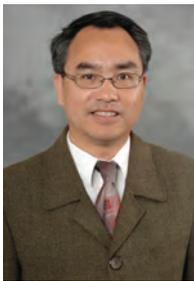
Ernest S. Delfosse
Professor and chairperson

RESEARCH & PROJECTS

Entomology professor **Karim Maredia** is the lead coordinator of a five-year, \$10.4 million grant from the **Bill & Melinda Gates Foundation** to connect African biosafety regulators with advances in technology. The New Partnership for Africa's Development and Michigan State University collaborate in this initiative aimed at reducing poverty through improved agricultural practices. The project is one of nine agricultural development projects totaling \$120 million to address long-term food security. See www.nepadbiosafety.net/

Dengue fever threatens 2.5 billion people each year and there is no vaccine or treatment. **New research by MSU entomologists has found that a bacterium can stop dengue viruses from replicating in the mosquitoes.**

Zhiyong Xi, assistant professor of entomology and the study author, reports that in nature, about 28 percent of mosquito species harbor *Wolbachia* bacteria, but the mosquitoes that are the primary transmitters of dengue, *Aedes aegypti*, have no *Wolbachia* in them. *Wolbachia* is able to stop the dengue virus from replicating. If there is no virus in the mosquito, it can't spread to people, so disease transmission is blocked. In earlier work, Xi and colleagues introduced the *Wolbachia* bacterium into *Aedes aegypti* by injecting embryos with this parasite. They have been able to maintain the bacterium in the mosquitoes in the laboratory for nearly six years because it is passed from mothers to offspring. The research is published in the April 1 issue of the journal *PLoS Pathogens*. [Read more](http://news.msu.edu) at news.msu.edu.



Zhiyong Xi



Huang



Dong

Professors Ke Dong and Zachary Huang are making groundbreaking discoveries that could help protect honeybees from devastation by *Varroa* mites. They have for the first time been able to produce in the laboratory proteins that help channel sodium ions through cell membranes of the parasitic mites. The research, using cellular frog eggs, also found these proteins react to chemicals differently than the sodium channel proteins in honeybees, a finding that could be a key to controlling the mites. [Read more](http://news.msu.edu) at news.msu.edu.

MSU Entomologists have formed a team in a \$1.25 million effort to bring better pest management to Central Asia. The agriculture in Kyrgyzstan, Tajikistan and Uzbekistan suffers from overuse of pesticides and limited crop diversity. Entomology professor Karim Maredia organized this USAID CRSP IPM project to improve production of tomatoes, wheat and potatoes during this 5-year renewal grant. Others on the project team from the department include Drs. George Bird, Doug Landis, Walt Pett and IPM communications specialist Joy Landis. Read more about their international partners and activities at their web site and blog accessible at: <http://www.ipm.msu.edu/central-asia.htm>.



AWARD-WINNING DEPARTMENT

Emeritus Professor **George Bird** was named the 2010 Distinguished Service Award by the Michigan Potato Industry Commission, and received the 2010 30-Year Service Award from MSU Extension.

Professor **Karim Maredia** was awarded MSU's top international award, the 2010 Ralph Smuckler Award, for his global research and teaching. [Read more](http://news.msu.edu) at news.msu.edu.

Professor **Ned Walker** received the prestigious Founders' Memorial Award from the Entomological Society of America, and gave an invited presentation honoring George Craig.

Associate professor **Rufus Isaacs** received the 2009 MSU Extension Outstanding Specialist award for his leadership in integration of biological controls and novel chemicals to assist Michigan's small fruit growers.

Howard Russell, entomologist for MSU Diagnostic Services, received a 2010 MSU All-University Academic Specialist Award from the University President and Provost.



MSU President Lou Anna Simon and Entomology Chair Del Delfosse congratulate Karim Maredia.

PEOPLE

MSU Enviro-weather coordinator **Beth Bishop** was recognized as an outstanding academic specialist by the Michigan Association of Extension Specialists. Beth has a highly respected record of service to the vegetable industry as a research associate with Professor emeritus **Ed Grafius**.

Doctoral student **Rachel Olson** won a first place award from the Entomological Society of America for her systematic display presentation at the 2009 annual meeting. Olson is a student of **Anthony Cognato**.

Anna Fiedler, doctoral student in **Doug Landis'** lab, received the J.M. Comstock Award from the NC Branch of the Entomological Society of America.

Linda Gallagher and **Jason Seward** received awards from MSU honoring their long-term service (30 and 15 years, respectively).

Entomology students received awards at the annual student-hosted picnic. Department Chair Del Delfosse presented awards to:

- **Ryan Kimbirauskas** (R. Merritt) – Robert Dreisbach award for outstanding accomplishment in the total Ph.D. program.
- **Anna Fiedler** (D. Landis) – Robert Dreisbach award for outstanding accomplishment in the total Ph.D. program.
- **Sarah Smith** (A. Cognato) – Paul Wooley Award for outstanding accomplishment in the total MS program.
- **Lesley Schumacher-Lott** (G. Bird) – Eugenia McDaniel Award for excellence, dedication and accomplishment in teaching.
- **Loren Wernette** (G. Bird) – Gordon Guyer Award for outstanding achievements in extension.
- **Rachel Olson** (A. Cognato) – 2009 Bug House Volunteer of the Year.

We are pleased to announce that Dr. Larry Olsen has accepted the assignment of associate chair of the Department and is also interim coordinator for the [Integrated Pest Management \(IPM\) Program](#) and the [Pesticide Safety Education Program](#). Olsen most recently was MSU Extension's state agriculture leader.

Dr. Zsofia Szendrei became the Department's new vegetable entomologist in August 2009.

She was formerly a research associate at Rutgers University where she conducted research on the role of blueberry and cranberry plant volatiles in IPM. She earned her Ph.D. with **Rufus Isaacs** at MSU studying the potential for behavioral and cultural manipulation of Japanese beetle (*Popillia japonica* Newman, Coleoptera: Scarabaeidae) populations. Visit her lab web site at: <http://vegetable.ent.msu.edu/>.



Congratulations to our 2010 Entomology graduates. Our undergraduates include:

- **Eric Galbraith** begins MS studies this fall with [Anthony Cognato](#) working on asilid systematics.
- **Patrick Kelly** has been accepted into the Epidemiology Program at the University of



Dreisbach recipients Anna Fiedler and Ryan Kimbirauskas.

Iowa to work on leishmaniasis.

- **Tony Vanwoerkom** is starting an MS with [John Wise](#) investigating the impact of tree fruit injections on pest insects.

Congratulations to those finishing graduate degrees (lead professors indicated in parenthesis).

Masters degree

- Matthew Aardema (Scriber) will begin doctoral studies at Princeton University.
- Emily Campbell (Merritt) is working as a research technician in the Merritt laboratory.
- Chenin Limback (McCullough) plans to continue studies in a doctoral program.
- Andrew Pike (Xi) will start a doctoral program at Johns Hopkins University.
- John Stone (Olsen) will continue to work with MSU's Pesticide Safety Education program.
- Vianney Willot (Grieshop) will enter a doctoral program at Purdue University.

Doctor of Philosophy

- David Epstein (Gut) will continue as Tree Fruit IPM Integrator for MSU's IPM Program.
- Anna Fiedler (Landis) – Plans to be announced.
- Aaron Smith (Cognato) – Plans to be announced.

Thanks to our undergraduate advisors [Chris DiFonzo](#) and [Walt Pett](#); graduate program director Jim Miller, and graduate/undergraduate secretary, Heather Lenartson-Kluge, for their dedication to our students.

It is with regret we note the deaths of four former members of our department. **Dr. E.C. "Bert" Martin** passed away in December, **Dr. Julius "Hoffy" Hoffman** on April 14, **Dr. Angus "Gus" Howitt** on April 24, and **Dr. R. Jean Stout** on April 26. The four remind us of the depth and breadth of expertise and wonderful personalities that have graced our Department. They are truly missed.


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ALUMNI NEWS

Maria Davis, Ph.D., former student of **Dave Smitley**, has been named vice president and dean for academic affairs at [Olivet College](#). Davis was selected through a national search and previously served as chair of the Natural and Physical Sciences Department.

Mollie McIntosh, Ph.D., is a new assistant professor in the Department of Biology at Xavier University in Cincinnati. McIntosh was most recently a post-doc with **Rich Merritt** on the Africa Buruli ulcer project and earned her doctorate with Merritt.



THE BUG HOUSE

Bring a future entomologist to the Department's [Bug House](#). Here's what's happening this summer.

- Open three Friday's 10 AM - 2 PM: June 18, July 23, August 20. We've opened a new Butterfly Flight Cage for the summer.
- See www.bughouse.msu.edu for half-day Bug Camps June 26 or August 14 and Insect World Science Camp July 18-21. Registration information and directions are available at our web site: www.bughouse.msu.edu

WE'D LIKE TO HEAR FROM YOU...

Please keep us informed using this email address: entnews@msu.edu. Or call the business office at **517-355-4663**.

- **Would you like to share your email address with us?** We'll save trees and budgets by sending you an email linking to future newsletters.
- **Got news to share?** We want to celebrate the successes of our alumni and former department members. Please let us know where entomology is taking you today.