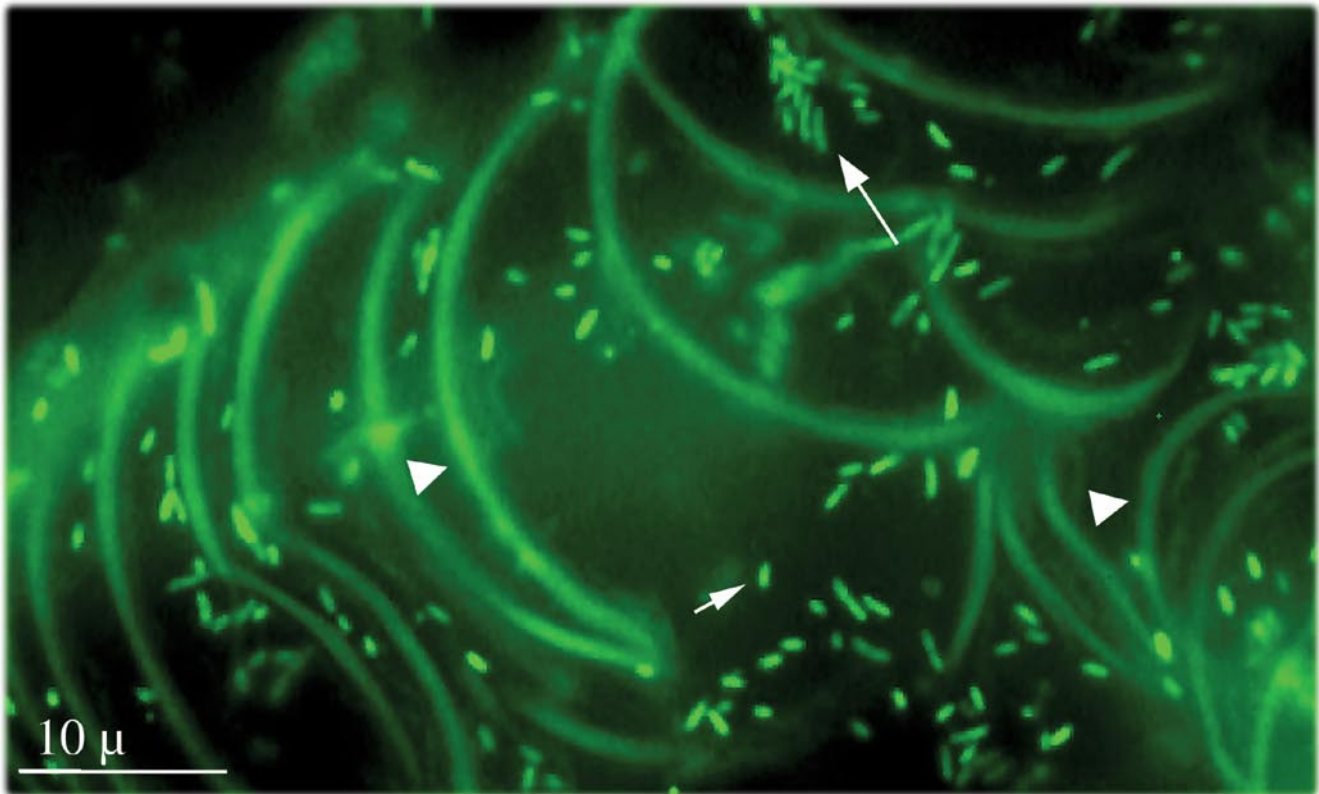




# DEPARTMENT OF ENTOMOLOGY

Newsletter 2006

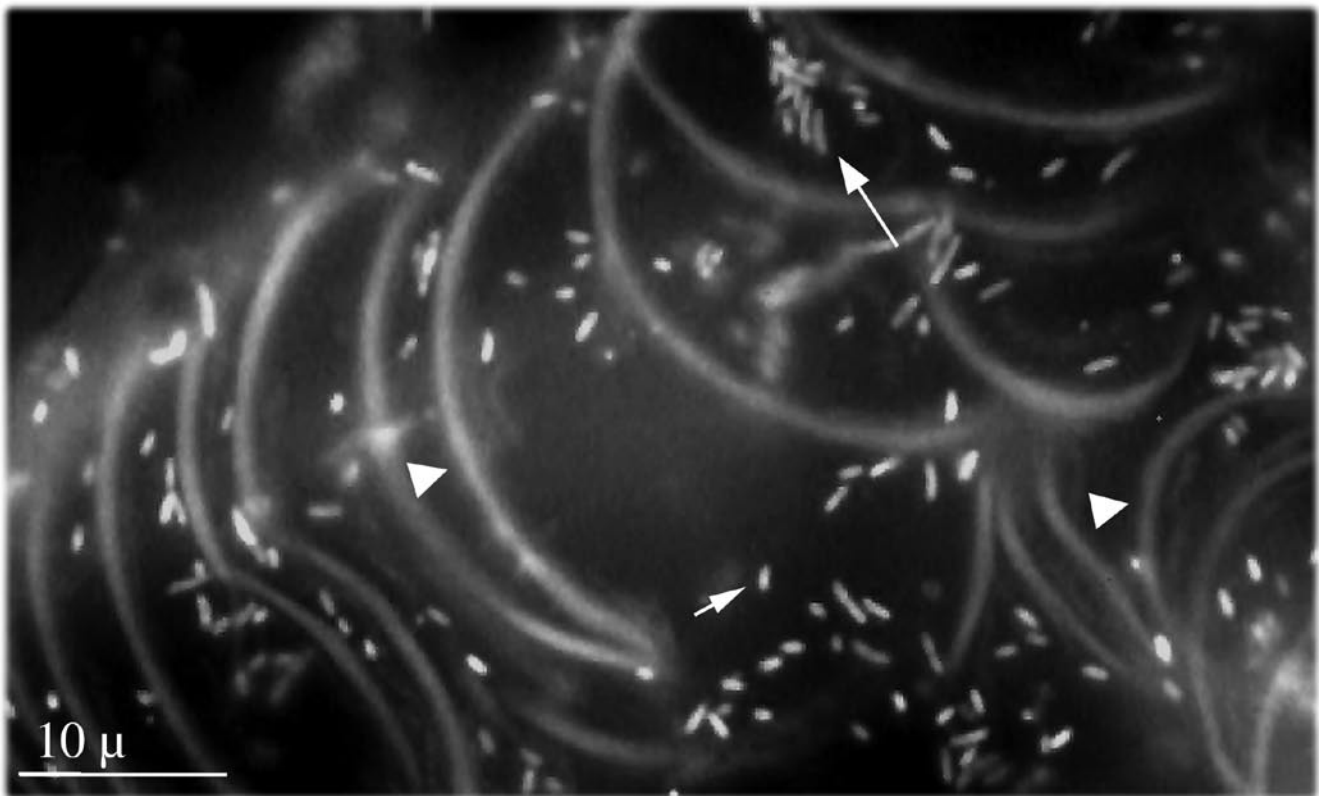
## Arthropods and Microorganisms



Symbionts and Pathogens come into view

UNIVERSITY OF MINNESOTA

# About the cover picture: Arthropods and Microorganisms Symbionts and Pathogens come into view



Tracheal tissue of the tick *Ixodes scapularis* infected with *Rickettsia monacensis* transformed to express green fluorescent protein. The fluorescent protein allows clear visualization of Rickettsial microorganisms. Arrows - *R. monacensis*; Arrowheads - green autofluorescence of tracheal taenidia. Photo courtesy of Gerry Baldrige and the Kurtti/Munderloh Laboratory.



College of Food, Agricultural  
and Natural Resource Sciences

UNIVERSITY OF MINNESOTA



# Welcome from the Department Head

Mark E. Ascerno



## Dear alumni, friends and colleagues:

A new college was born on 1 July 2006. The College of Agricultural, Food and Environmental Sciences (COAFES) and the College of Natural Resources (CNR) were merged into the College of Food, Agricultural and Natural Resource Sciences (CFANS). CFANS is now under the direction of our new Dean, Allen Levine.

Entomology has been assigned to the Environmental Science, Policy and Management Cluster in CFANS. The Cluster includes the departments of Fisheries, Wildlife and Conservation Biology; Forest Resources; and Soil, Water and Climate. Additional members include the Water Resources Center and the Bell Museum of Natural History. Two other Clusters were formed in CFANS. The Plant Sciences Cluster consists of Agronomy and Plant Genetics, Horticultural Science, Plant Biology, and Plant Pathology. The Food, Nutrition and Animal Sciences Cluster is made up of the Department of Food Science and Nutrition, and the Department of Animal Science. A goal of the Clusters is to provide opportunities for intellectual exchanges focused on critical themes that cross departmental boundaries. The Clusters are intended to be fluid. Therefore, Entomology will be active in all Clusters because of our many strong programs related to plants, animals and foods.

After 30 years at the University of Minnesota and 14 years as Department Head, I have decided to apply for a semester leave. If approved, my goal is to reacquaint myself with the many changes that have occurred in the sciences and to spend time on providing leadership for the IPM<sup>3</sup> Consortium. The IPM<sup>3</sup> Consortium developed out of the need to provide more integrated pest management training for federal and non-federal pest managers. The Consortium (comprised of federal agencies and university partners) is in the process of developing

a three-tiered distance delivery training system, consisting of a core IPM module: 1st tier includes pre-introductory pest biology modules; 2nd tier includes entomology, plant pathology, weed science, and vertebrate biology, and specialty topics modules; 3rd tier includes landscape and turf, structural, public health, invasive species, rangeland weeds, weeds of natural areas, biological control, and special needs (museums/historical buildings, etc.).

After 8 years of outstanding service, Jenni Snyder, lead accountant and all-around terrific person, has taken a new position in the University of Minnesota Extension Service. We will all miss Jenni, but wish her the very best in her new position.

Entomology and the Department lost two valued colleagues and friends with the passing of Dr. Larry Cutkomp and Dr. Edwin Cook. Larry Cutkomp is recognized internationally for his research on the inhibition of insect, fish and mouse adenosine triphosphatases (ATPases) by various insecticides, especially chlorinated hydrocarbons. He is also known for his work on the sensitivity of circadian rhythms in insects exposed to insecticides. In addition to these areas, Dr. Cutkomp conducted research on temperature-toxicity relationships of synthetic pyrethroids, sterilization of fruit flies, aerial application of insecticides, and chemical management of stored-product insects. In all, he published more than 100 research papers. He also taught courses in Economic Entomology, House and Garden Insects, Principles of Economic Entomology, Insect Toxicology, and Insecticides and Their Action. Ed Cook taught courses in Insect Morphology, Aquatic Entomology, Insect Taxonomy, and Entomophagous Insects, among others. He was director of the University of Minnesota Insect Collection and helped build it into one of the most important insect collections in North America. Dr. Cook maintained a life-long interest in flies, with a special emphasis on the family Scatopsidae, the scavenger flies. He also worked on the homology of the complex mouthparts and cephalic structures across the Diptera. In all, Dr. Cook published 97 papers covering primarily Diptera, but also aphids, lice, beetles, bees, mites, and roaches, among other groups.

The Outstanding Civil Service/Bargaining Unit/Support Staff Award program was combined with the Fall Welcome. Clear skies and mild temperatures prevailed as some 60+ people honored this year's award winners, Diana Ritchmond and Eric Burkness, and welcomed 14 new students, staff, and visiting faculty.

Once again we are asking for tax-deductible contributions in support of excellence in graduate education. Please consider adding your name to the growing list of proud alumni supporters. Go to page 25 of the Newsletter for endowment possibilities.

Please stay in touch. Visit our website (<http://www.entomology.umn.edu/>) and let us know what you think. While you are at it, use the Contact Us link under News from Alumni and Friends to tell us what is going on in your life. We would love to share your experiences with other Newsletter readers.

I extend my personal invitation to nominate an alumnus for the Ninth Hodson Alumni Award. A nomination form is enclosed for your convenience.

Our Fourteenth Annual Alumni Gathering was held in Indianapolis, Indiana at the National Meeting of the Entomological Society of America. The Department mixer for alumni and friends was from 7:00 - 8:30 p.m. on Monday, 11 December 2006 in the Mt. Rushmore A room of the Hyatt Regency Hotel. Thank you to everyone who was able to attend.

UNIVERSITY OF MINNESOTA  
DEPARTMENT OF ENTOMOLOGY  
*Alumni Reception*  
7:00 - 8:30 p.m.  
Monday, 11 December, 2006  
Hyatt Regency, Mount Rushmore A



**Spread the word!**

Indianapolis ESA Meeting

## Departmental Changes

### Welcome:

**Jessica Barnes**, Accounting assistant.

**Alejandro Costamagna**, Post-Doc, Ragsdale Lab

**Nicholas Desneux**, Post-Doc, Heimpel Lab

**Karl Gruber**, EEB Ph.D. Student with George Heimpel

**Garima Gupta**, Post-Doc, Krischik Lab

**Chris Kulhanek**, M.S. Student with Stephen Kells

**Darci Lambert**, Master of Ag student with Vera Krischik

**Katie Lee**, M.S. Student with Marla Spivak

**Shannon McCrindle, Jr.** Scientist, Andow Lab

**Amanda Roe**, Post-Doc, Weller Lab

**Brian Schuetz**, M.S. Student with Len Ferrington

**Kelly Smith**, M.S. Student with Stephen Kells

**Espenser Soares**, Visiting Professor from Brazil.

**Areca Treon, Jr.** Scientist, Andow Lab

### Farewell:

Suzanne Wold-Burkness

Mario Carrillo-Vilchez

Melanie Goetsch

Erin Hodgson

Abdullah Ibrahim

Jenni Snyder

Timothy Stodola

Jennifer White

Claudia Zwahlen

# In Memoriam

## Larry K. Cutkomp

### 1916-2006

by Dr. Subramanyan Bhadiraju, Alumnus



Dr. Laurence Kremer Cutkomp, Professor Emeritus of Entomology, University of Minnesota, passed away peacefully after a brief illness on February 20, 2006, surrounded by his family members at Regions Hospital in St. Paul. He was 90 years old.

Dr. Cutkomp was born on January 24, 1916, in Wapello, Iowa. He received his B.A. in Biology from Iowa Wesleyan College in 1936. After working for a year as a laboratory assistant in Zoology at the University of Cincinnati, Dr. Cutkomp moved back to Iowa to work for the USDA on management of grasshoppers until 1939. Dr. Cutkomp received his Ph.D. in entomology from Cornell University in 1942 with specialization in insect toxicology, economic entomology, and ornithology. Before joining the Entomology Department at the University of Minnesota as an assistant professor in 1947, Dr. Cutkomp served as a research fellow at the University of Pennsylvania, research associate at the University of Minnesota, and as an associate entomologist for the Tennessee Valley Authority doing mosquito control work. He was promoted to associate professor in 1953 and attained the rank of professor in 1960. He retired from the University of Minnesota in 1986.

Dr. Cutkomp taught undergraduate and graduate courses and conducted research for more than 40 years at the University of Minnesota, and trained 16 M.S. and 13 Ph.D. students. He taught courses in Economic Entomology, House and Garden Insects, Principles of Economic Entomology, Insect Toxicology, and Insecticides and Their Action. He authored or co-authored more than 90 extension and popular articles on economic insects, both injurious and beneficial. However, he is recognized internationally for his research on the inhibition of insect, fish, and mouse adenosine triphosphatases (ATPases) by various insecticides, especially chlorinated hydrocarbons and circadian rhythms in sensitivity of insects exposed to insecticides. In addition to these areas, Dr. Cutkomp conducted research on temperature-toxicity relationships of synthetic pyrethroids, sterilization of fruit flies, aerial application of insecticides, and chemical management of stored-product insects. In all, he published more than 100 research papers. Dr. Cutkomp coauthored a *Glossary of Pesticide Toxicology and Related Terms* in 1984 with N. Eesa, his former Ph.D. student (Thomson Publications); the second edition was published in 1994. Two of his books include *How to Know the Immature Insects* with H. F. Chu, published in 1992 (W. C. Brown Publishing), and *Senses and Moves in Insects*, a book for high school students, published in 2005 by Xlibris.

Dr. Cutkomp traveled internationally on behalf of the Food and Agriculture Organization, World Health Organization, and the International Atomic Energy Agency in Vienna, Austria. Many of the countries he visited include Egypt, Israel, Lebanon, Tanzania, India, Pakistan, China, Italy, United Kingdom, Switzerland, Poland, Greece, Germany, Panama, Nicaragua, El Salvador, Costa Rica, Honduras, Korea, Japan, Philippines, and Thailand.

Dr. Cutkomp was a soft-spoken and caring person. He kept physically fit by walking every day, playing handball, cross-country skiing, biking, bowling, and swimming.

Dr. Cutkomp is survived by his wife, Ethel B. Longley of St. Paul, daughters Kay (Dave) Bahan of Mechanicville, New York, Terry (Esi) Ostovar of Asheville, North Carolina, and Lee (Dan) Ross of Hovland, Minnesota, and son Kent (Deb) Cutkomp of Minneapolis, grandchildren Andrew Cutkomp, Kayhan and Payam Ostovar, Naseem Ostovar (Gideon) Alston, and great grandchildren Braden and Whalen Alston.

A memorial service was held on April 29 at Unity Church in St. Paul.

# In Memoriam Edwin F. Cook 1918-2006

by Dr. Ralph Holzenthal



Dr. Edwin F. Cook, Professor Emeritus of Entomology, University of Minnesota, passed away on July 13th, 2006, in St. Paul, Minnesota. He was 87 years old.

Dr. Cook was born on September 11th, 1918, in San Francisco, California. He attended San Mateo Jr. College in 1941 and received his B.A. in Biological Sciences from Stanford University in 1943. He remained at Stanford for both his Master's and Doctoral degrees, obtaining his Ph.D. in 1948. At Stanford he was a student of Dr. Gordon F. Ferris, one of the leading insect morphologists of the 20th century, and founder and editor of the influential journal *Microentomology*. Ferris emphasized the importance of detailed morphological study of insects, especially of small insects such as lice, aphids, and scales as well as those in the lesser known insect orders. Dr. Cook's first publications, beginning in 1943, were published in *Microentomology* and dealt with detailed morphological observations of the head morphology of beetles and flies. His Ph.D. study "The Evolution of the Head in the Larvae of the Diptera"

(*Microentomology* 14: 1-57, 1949) is still regarded as the definitive reference on the homology and evolution of the cephalic structures of larval flies. In it, Dr. Cook worked out the homology of the complex mouthparts and cephalic structures across the order, from the complete, more primitive structures found in larvae of the long-horned flies (such as crane flies, mosquitoes, and midges), through the lower Brachycera (soldier flies, horse flies), to the highly modified "cephalopharyngeal skeleton" of the larvae (maggots) of higher muscoid flies. Dr. Cook maintained a life-long interest in flies, with a special emphasis on the family Scatopsidae, the scavenger flies. His 1956 paper on phantom midges is still considered the primary reference for the group and his 1981 contributions on the families Scatopsidae, Chaoboridae, and Synneuridae in the *Manual of Nearctic Diptera* are modern day classics. In all, Dr. Cook published 97 papers covering primarily Diptera, but also aphids, lice, beetles, bees, mites, and roaches, among other groups. His last paper, on the midge genus *Polypedilum*, was published in 2000 with his former Ph.D. student D.E. Maschwitz.

Dr. Cook joined the University of Minnesota in 1949 as an Instructor and attained the rank of Professor of Entomology in 1964. He retired in 1985. While at the University he taught courses in Insect Morphology, Aquatic Entomology, Insect Taxonomy, and Entomophagous Insects, among others. He was also director of the University of Minnesota Insect Collection and helped build it into one of the most important insect collections in North America. He trained 19 Ph.D. students and 14 Master's students at the University of Minnesota, who themselves have gone on to establish productive careers in entomology and other disciplines.

Those who knew Dr. Cook and who worked and studied with him will always remember him as a kind and gentle man. In his file in the Department of Entomology at the University of Minnesota is a letter of recommendation for Dr. Cook written by Prof. Ira L. Wiggins, Stanford University, dated July 8th, 1949, that states,

"As to his personality, I know of few people who are as even-tempered as he is, and no one who gets along with his students, and his colleagues, any better than he does. He is patient and sympathetic with his students but is by no means "soft," for he holds them to high standards of achievement. He is thoroughly honest and completely dependable. He possesses a fine sense of humor and a sunny outlook on life. He is cooperative and never shirks his responsibilities to his students, his colleagues or to the institution employing him."

This letter was written when Dr. Cook was 31 years old and they are qualities he maintained throughout his long and remarkable life.

Dr. Cook is survived by Ferne Cook, his wife of 57 years; by his sons Thomas Atkins, Matthew Cook, and Jonathan Cook; by his daughters Robin Atkins and Roxanna Cook-Sussan; by his four grandchildren Andrew Cook, Lane Cook, Margaret Cook, and Jackson Cook-Sussan; and by his children's spouses Robert, Jennifer, Karen, Julie and Chris.

A memorial service was held on July 18, 2006 at the Falcon Heights United Church of Christ, Falcon Heights, Minnesota.

# Frenatae News

Jeremy Chacón, President, 2006-2007 and Moriya Rufer, President, 2005-2006

## 2006-2007 Officers:

President: **Jeremy Chacón**

Vice President: **Chris Kulhanek**

Secretary: **Tederson Galvan**

Treasurer: **Karrie Koch**

COGS Rep: **Mary Rogers, Brian Schuetz**

As the 2006-2007 school year begins, we look back at last year's activities. Our annual honey and candle sale was again a great success. We sold all of the honey and 80% of the candles, generating a \$2,000 profit. We used this income over the year to sponsor activities for students and staff.

We designed Frenatae t-shirts this year. After days of brainstorming and revising, we decided on the design below. There are still shirts available in short sleeve or long sleeve, black or white. Contact the Frenatae officers to purchase one.

Entomology students volunteered their time at many elementary schools last spring, giving presentations on how fun and useful insects are. We also promoted careers in Entomology and brought collections of pinned insects to show the elementary students. Entomology students also had fun helping out Phil Clausen with the Insect Collection's "Insect Zoo" at the Minnesota State Fair. Thanks to all the students who volunteered their time for these events!

Frenatae's FAME Award went to Roger Moon this year. The FAME award was initiated to recognize faculty members in the Department of Entomology who exceed graduate student expectations. FAME winners are honored for their mentoring of all students in the department, not just their advisees. Thanks to Roger for all he does for us students!

This September, Frenatae elected the new 2006-2007 officers. Congratulations to: Jeremy Chacón, President; Chris Kulhanek, Vice President; Tederson Galvan, Secretary; Karrie Koch, Treasurer; Brian Schuetz, COGS rep; and Mary Rogers, COGS rep.

This fall, we have already had a Frenatae social event with great turnout. On Sunday, September 18, about 20 students went canoeing down the St. Croix river. It was a beautiful day, and everyone had an enjoyable time.

This semester, we are working on redesigning our website in time for this year's honey sale. We hope to make it easier to use and update. Also, it should make preordering for the honey sale easier. Stay tuned for the new and improved website!

<http://www.tc.umn.edu/~frenatae/>



This year, we have many fun and serious events in the works. The new officers are already planning the annual honey and candle sale, scheduled for November 30- December 2. We are working on inviting local guest speakers and possibly a non-local guest speaker for Entomology Departmental seminars. Additionally, Frenatae will be periodically hosting practice sessions for presentations and critique sessions for posters. We are also planning many student activities such as a winter sledding outing (to show the new students who aren't from Minnesota that winter can be fun!) and another student vs. faculty/staff softball game rematch in the spring. Let us know any other suggestions you may have by emailing us at [frenatae@umn.edu](mailto:frenatae@umn.edu)!

Finally, we are sad to lose our recent graduates to the "real world" although luckily, some of them stayed on as post-docs in the Entomology Department! We also welcome many new students this year as our family continues to grow. Welcome Brian, Chris, Katie and Kelly!

## *Blood, Sweat, & Tears Tour*

Taxonomy and Systematics	Insect Museum
Ornamental IPM	Hodson 409
Medical Entomology	Cargill 250
Stored Products & Urban Entomology	Hodson 511
Chironomid Research Group	Alderman 139
Fruit and Vegetable IPM	Hodson 533
Control of Invasive Species	Hodson 542
Insect Microbiology	Hodson 540
Chemical Ecology of Forest Insects	Hodson 239
Insect Molecular Biology	Hodson 441
Insect Neurobiology	Hodson 440
Biocontrol and Parasitoids	Hodson 513
Insect Ecology	Hodson 241
Honeybee Lab	Hodson 530



 *Coming to a lab near you!* 

# Graduate Student Changes

## Graduations

**Darren Blackford**, M.S. (Advisor: Steven Seybold)  
The Effects of Thinning of White Spruce, *Picea glauca* (Moench) Voss, Plantations on the Spruce Budworm, *Choristoneura fumiferana* (Clem.) (Lepidoptera: Tortricidae).

**Jeffrey Davis**, Ph.D. (Advisors: Ted Radcliffe, David Ragsdale) Identifying and Mapping Novel Mechanisms of Host Plant Resistance to Aphids and Viruses in Diverse Potato Populations.

**Lina Flor**, Ph.D. (Advisor: Tim Kurtti) Interaction of an Entomopathogenic Fungus and Black-Legged Ticks, *Ixodes Scapularis* (Say) (Acari: Ixodidae).

**Kamal Gandhi**, Ph.D. (Advisors: Steven Seybold and Daniel Gilmore) The Responses of Sub-boreal Forest Insects to a Catastrophic Wind-disturbance Event and Subsequent Fuel-reduction Practices in Northeastern Minnesota.

**Joshua Mattila**, Ph.D. (Advisor: Tim Kurtti) Cellular and Humoral Immune Responses of *Rickettsia peacockii* Infected *Ixodes scapularis* and *Dermacentor andersoni* (Acari: Ixodidae) Cells.

**Emory Matts**, M.S. Plan B (Advisor: Vera Krischik)

**Anne Wasmund**, M.S. (Advisor: Ralph Holzenthal)  
A Revision of the Neotropical caddisfly genus *Rhyacopsyche* (Trichoptera: Hydroptilidae).

## New Graduate Students

**Chris Kulhanek** (M.S.) Advisor Stephen Kells  
**Katie Lee** (M.S.) Advisor Marla Spivak  
**Brian Schuetz** (M.S.) Advisor Len Ferrington  
**Kelly Smith** (M.S.) Advisor Stephen Kells

### From the Archives:



A 'magic lantern' slide from the early days of the Department, possibly taken by Otto Lugger.

## Frenatae and Faculty, 1930



1) Mrs. Roy Campbell; 2) Mrs. Marie Priestersback; 3) Mrs. Margit Paulson Jacobson; 4) J. M. Rasck; 5) M. C. Tanquary; 6) A. G. Ruggles; 7) W. A. Riley; 8) R. N. Chapman; 9) Filippo Silvestri; 10) Frances Smith Sierk; 11) C. E. Mickel; 12) Lillian Barron Lenholt; 13) H. L. Parten; 14) H. G. Ahrens; 15) J. D. Winter; 16) O. Wilford Olsen; 17) T. L. Aamodt; 18) Maynard Johnson; 19) Lynn Baumhofer; 20) Roy H. Nagel; 21) L. Courtney Fife; 22) R. W. Dawson; 23) E. W. Jones; 24) Robert E. Wall; 25) Reed Christenson; 26) Erdman Braun; 27) Roy Campbell; 28) Heber E. Donohoe; 29) Earl Murdock; 30) Hal Gray; 31) Dwight Buchanan; 32) Carl T. Schmidt; 33) Horace O. Lund;



# What's New in Urban Extension Entomology

by Jeff Hahn

My position is different from others in the department in that I have a 100% extension appointment. My area of expertise is urban entomology, especially insects associated with homes, yards, and gardens. My responsibilities have evolved over the years and currently my primary audiences are master gardeners, extension staff, professional applicators, and the media. I use a combination of programs, publications, and web site information to educate these audiences.

I have increased the number of programs for master gardeners over the last couple of years to help them better answer public questions. Because there is no longer a dedicated service on the University campus for the public to send questions or samples (the Yard and Garden Clinic closed in 2003) and I generally am not able to take homeowner questions and samples, people are directed to county extension offices where extension staff and volunteer master gardeners help them.

I teach master gardeners on several different levels. I give them their initial entomology education during their core course classes when they first become master gardeners. I also teach a number of advanced classes for them, including Household Insect Control and Garden Insect Management, one- or two-day classes combining both lecture and hands on labs. I also help instruct them, along with horticulturists and plant pathologists, in an ongoing series of 'update' training programs (affectionately known as 'No Master Gardener Left Behind') conducted systematically across the state. Additionally, I am invited to speak at various county master gardener monthly meetings and county Horticulture Education Day programs.

Starting sometime in late November or early December, a redesigned and improved gardening web site, that I had a small role in developing, will take the place of the Yard and Garden Line. This web site will be more attractive and easier to navigate. There will also be a number of new features, including picture galleries on the front page to help people diagnose plant problems as well as to identify insects they encounter. I am putting the insect galleries together while Michelle Grabowski (Horticulture Regional Extension Educator) and myself are assembling the diagnostic pages. The site is scheduled to be at the following url, [www.extension.umn.edu/gardeninfo](http://www.extension.umn.edu/gardeninfo).

This was a good year for interviews with radio, television, and print media. The most popular topics were yellowjackets, bed bugs, boxelder bugs, and termites in mulch.



# New BL3 Plant Pathogen Containment Facility

By Zhishan Wu

On September 6, 2006, the University of Minnesota (UMN) and the Minnesota Department of Agriculture (MDA) held a groundbreaking ceremony for an important research facility on the UMN St. Paul campus. This biosafety level 3 (BL3) Plant Pathogen Containment Facility is adjacent to the existing BL2 Insect Quarantine Facility at 1907 Dudley Avenue. In the BL2 facility, Entomology faculty have several research projects which include: soybean aphid (*Aphis glycines*) biological control using parasitoids introduced from Asia (China, Japan and South Korea), garlic mustard (*Alliaria petiolata*) biological control using plant damaging weevils imported from Switzerland and Germany, and invasive potential of exotic bark beetle (Mediterranean Pine Engraver *Orthotomicus erosus*, currently only reported from California) in Minnesota.



Groundbreaking ceremony on September 6, 2006

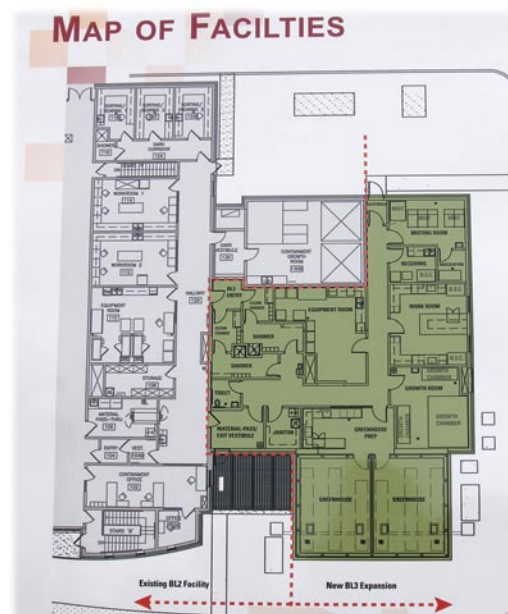


Ongoing construction site with existing BL2 facility in the back

The new BL3 containment facility will allow scientists to research invasive disease organisms such as Asian soybean rust, sudden oak death, new races of stem rust on small grains and insect-vectored diseases that, if they reach Minnesota, could cause extensive crop and forestry losses. Important features in the facility include secure entry (card reader), shower out, four negative pressurization zones with pressure indicators, biological safety cabinets, comprehensive waste treatment systems, HEPA (High Efficiency Particulate Air) filtered air handling system, emergency power supply, and containment greenhouses with double-paned, insulated and tornado code compliant glass.

The \$3.2 million in state bonds to build this 4,500 SQ FT facility was obtained through the joint efforts of the UMN, the MDA, and the MN Soybean Growers Association at the Legislature. The state bonding funds are supplemented by a \$1.6 million match by the UMN and financial support from the MN Soybean Growers Association. Construction will be completed in 2007 and the facility will be operational in 2008. The new BL3 facility will be the only facility of its kind in the Midwest. Currently, only three BL3 facilities in the U.S. are allowed to work with and conduct research on exotic plant pathogens.

Professor David Ragsdale and Adjunct Assistant Professor Zhishan Wu are members of the BL3 Facility Planning Committee that is in charge of the predesign, design and supervision of the project. Dr. Wu, already serving as quarantine officer for the BL2 facility, will also serve in that capacity in the new facility.



Schematic map of existing BL2 and new BL3 facilities

## Radcliffe Lab

The Radcliffe/Davis Laboratory is now focused solely on aphid transmitted potato viruses and potato host plant resistance (to green peach aphid, potato aphid, *Potato leafroll virus* and *Potato virus Y*).

Laboratory personnel this year were Professor Ted Radcliffe, who will begin his 45<sup>th</sup> year with the department on 1 January (apparently, this is the only job he was ever able to get), Post Doctoral Associate Jeff Davis (Ph.D. 2006, University of Minnesota), and Senior Laboratory Technicians Nick Milanowski, Aaron Charlson, and through June, Frida Tosi. In September, Jeff and Lori Davis welcomed their first-born, William.

The ultimate goal of our research is to reduce virus spread through durable host plant resistances to green peach aphid, potato aphid, PVY and PLRV, and to use marker assisted selection to advance cultivar breeding. Green peach aphid resistance has been mapped and appears to be segregating to chromosomes I, VI, and VIII. This material also contains two PVY resistance genes, *Ry<sup>adg</sup>* and *Ry<sup>sto</sup>*, as well as *PLRV.1*, a marker for PLRV resistance. We are now using marker assisted selections to pyramid genes for aphid and virus resistance into current cultivars.

## Ragsdale Lab

The soybean aphid team said good-bye to one of its members this summer, Dr. Erin Hodgson, who took an Assistant Professor position at Utah State University, Logan, Utah. Erin was sorely missed this summer as the soybean aphid was still abundant and there was a lot to accomplish. Joining the Ragsdale lab and Team Soybean Aphid was Alejandro Costamagna. Alejandro finished his Ph.D. at Michigan State working on soybean aphid natural enemies and is working in Minnesota on soybean aphid. He is leading the effort to identify which soybean selections produced by soybean breeders in the region remain aphid resistant or tolerant and how the combination of natural enemies and host plant resistance affect soybean aphid population growth.

The other members of the lab, Brian McCornack (Ph.D. student and full-time technician) and Michele Yoder (M.S.) are putting the final touches to their research and both hope to graduate in early 2007. Karrie Koch (M.S.) is diligently working on entomopathogenic fungi that are associated with soybean aphids and evaluating how fungicides used against soybean rust (an exotic fungus that entered the U.S. in 2004) interact with beneficial fungi.

Work is continuing in the quarantine facility on campus to complete the host range testing of weevils of European origin for garlic mustard biocontrol in collaboration with Drs. Jeanie Katovich and Roger Becker and Dr. Luke Skinner (former Ragsdale lab graduate and DNR exotic species program manager). We hope to have the approval from the Technical Advisor Group (TAG) to release weevils in Fall 2007. Purple loosestrife biocontrol program evaluation is the subject of Michele Yoder's M.S. thesis as is the evaluation of feeding niches in European buckthorn in the upper Mississippi river basin.

## Fallon Lab

Ann Fallon's lab has recently graduated three M.S. students: Lingzhi Ma, Lei Li and Yongjiao Zhai. Lei Li worked on *Aedes albopictus* ribosomal proteins RpS3 and RpS6. Based on sequence analysis, she showed that mosquito RpS3 lacks a critical glutamine residue associated with DNA repair activity in homologous *Drosophila* proteins. Our evidence suggests that the DNA repair activity attributed to RpS3 in *Drosophila* is in fact unique to *Drosophila*, and is not shared by mosquitoes, or by other insects for which RpS3 sequences are available in the databases.

## Fallon Lab, Continued

On the side, Lei sequenced cDNAs encoding RpS6 from various insects in the Culicomorpha, and contributed to Ann's overall analysis of the lysine rich, low complexity C-terminal extension that occurs in mosquito RpS6 proteins. First observed by Vida Hernandez in 1999, the presence of a C-terminal extension on the RpS6 protein appears to be a molecular synapomorphy for the Culicomorpha.

To explore the resemblance between the RpS6 C-terminal extension, or tail, and histone H1 proteins, Yongjiao Zhai cloned and sequenced the *Anopheles stephensi* histone H1 gene. Zhai's analysis showed that the resemblance between lysine-rich tails on RpS6 and histone H1 proteins most likely results from convergent evolution.

Lingzhi Ma worked on the cell cycle protein known as proliferating cell nuclear antigen (PCNA), and showed that PCNA co-immunoprecipitates 29 and 35 kDa proteins from cells representing different growth states. Thus, PCNA provides a tool for recovering less abundant proteins that regulate the mosquito cell cycle. Anna Gerenday is following up these results, by focusing on an ~ 27 kDa cell cycle inhibitory protein known as "dacapo" in *Drosophila melanogaster*. Dacapo is evolving rapidly among insects, and plays an inhibitory role in the mitotic cell cycle.

Using PCR-based approaches, Anna cloned dacapo cDNA, characterized the exon-intron organization of the dacapo gene in the *Aedes aegypti* genome, and identified peptides for commercial antibody production. Anna has also followed up on Ling's clone of the mosquito Cdk4 cDNA, by cloning the Cdk2 cDNA. These cDNAs encode proteins that interact with cyclins D and E, respectively, to affect progression of cells into the DNA synthesis phase of the cycle.

Karen Moline-Shih is wrapping up her Ph.D. research evaluating DNA synthesis in mosquito fat body. She has recently reviewed the insect and vertebrate literature relative to observations that adult female mosquito fat body may undergo changes in ploidy that accompany the vitellogenic cycle. These observations were originally described by Hagedorn and co-workers (Dittmann et al., 1989, *Archs Insect Biochem Physiol* 12, 133).

Ann has moved back into the lab to optimize conditions for culturing the intracellular bacterium, *Wolbachia*, in mosquito cell lines, by manipulating nutrient availability and cell cycle conditions. *Wolbachia* has a streamlined genome, and derives its amino acids from the insect host cell. In mosquitoes, *Wolbachia* is best known for its role in cytoplasmic incompatibility and its potential for driving transgenes into mosquito populations.

## Great moments in Entomology!

Did you see this excerpt in *Science* (Vol. 313, p. 25, 2006)? It seems that the water-beetle journal *Latissimus* published a landmark paper in 1998 describing an attraction of water beetles to the roof of a red car. Scientists from the University of Budapest have now re-investigated why aquatic insects tend to lay their eggs on dark-colored vehicles. G. Horváth and E. Loránd, of the University of Budapest, counted aquatic insects that landed on red, black, yellow and white plastic sheets laid out in a marshy area. During 3 hours, 700 insects landed on red; 398 on black; 88 on yellow; and 43 on white sheets. They also measured reflection and polarization from automobiles of the same colors.

Horváth and Loránd published their findings in the July 7 issue of the *Proceedings of the Royal Society B*. It seems that insects detect water based on the horizontal polarization of reflected light, which best matched light reflected from red and black cars. Thus, environmentally-concerned visitors to wetlands should drive light-colored cars to avoid confusing insects, which might otherwise waste eggs by mistakenly ovipositing on non-aqueous reflective surfaces. Alternatively, dirty cars would pose less danger to aquatic insects!

# Honors and Awards

**Will Bouchard, 2005 - 2006:** Doctoral Dissertation Fellowship, Graduate School, University of Minnesota; 2006: The Morris and Elaine Soffer Rockstein and Graduate School Block Grant Fellowship, University of Minnesota.

**Crystal Boyd, 2006 - 2007:** Selmer Birkelo Scholarship, College of Liberal Arts, University of Minnesota.

**Jeremy Chacón, 2006-2009:** EPA-STAR Fellowship for Graduate Environmental Study.

**Lourdes Chamorro-Lacayo, 2006 - 2007:** Doctoral Dissertation Fellowship, Graduate School, University of Minnesota.

**Michelle DaCosta, 2005 - 2006:** GK-12 Fellowship, University of Minnesota; 2005: Marion Brooks-Wallace and Graduate School Block Grant Fellowship, for excellence at the Ph.D. Level, University of Minnesota.

**Jeff A. Davis, 2005:** 3rd place, graduate student paper competition, "Identifying resistance to aphids in crosses with somatic fusions of *Solanum tuberosum* L. and *Solanum bulbocastanum* Dun. 89th Annual Meeting of the Potato Association of America, Calgary, Alberta, Canada; President's Prize, 10-minute student competition presentation, "Identifying and mapping mechanisms of host plant resistance to aphids in potato," National ESA Meeting, Ft. Lauderdale, Florida; **2006:** 2nd place: 10-minute paper presentation (Ph.D. student competition, sections Ca,Cc,D), for his presentation "Impaired Stand Favors PVY Spread in Potato." 2006 NCB-ESA Meeting, Bloomington, IL; 3rd place Graduate Student Paper Competition: Identifying and mapping resistance to green peach aphid, *Myzus persicae* (Sulzer) in potato. 90<sup>th</sup> Annual Meeting of The Potato Association of America, Madison, WI.

**Tederson L. Galvan, 2006:** 2nd place: 10-minute paper presentation (Ph.D. student competition), for his presentation "Enumerative and binomial sequential sampling plans for the multicolored Asian lady beetle in wine grapes." 2006 NCB-ESA Meeting, Bloomington, IL.

**Andy Graves, 2006 - 2007:** Doctoral Dissertation Fellowship, Graduate School, University of Minnesota.

**Cynthia Hsu, 2005 - 2006:** Doctoral Dissertation Fellowship, Graduate School, University of Minnesota; 2005: Minnesota Center for Community Genetics Summer Research Grant, University of Minnesota; Minnesota Center for Community Genetics Travel Grant, University of Minnesota.

**Yang Hu, 2005:** Minnesota Center for Community Genetics Summer Research Grant, University of Minnesota.

**Kathleen Lee, 2006:** The Sping and Ying-ngoh Lin Graduate Fellowship, University of Minnesota.

**Carrie Olson, 2005:** President's prize for her Section A2 student competition poster, "Evolution of wing pattern and mimicry in neotropical tiger moths (Lepidoptera: Arctiidae)." National ESA Meeting, Ft. Lauderdale, Florida.

**Gary Reuter, 2006:** Wisconsin Honey Producers Beekeeper of the Year Award.

**Desi Robertson, 2006 - 2007:** GK-12 Fellowship, University of Minnesota.

**Moriya Rufer, 2006:** Allan Peterson and Graduate School Block Grant Fellowship, for excellence at the M.S. level, University of Minnesota; Dayton-Wilkie Natural History Funds Grant, Bell Museum of Natural History; GAPSA Travel Award; Office for University Women Travel Award.

**Brian Schuetz, 2006:** The Sping and Ying-ngoh Lin Graduate Fellowship, University of Minnesota.

**Claire Serieyssol, 2006:** Dayton-Wilkie Natural History Fellowship, Bell Museum of Natural History.

**Emily Tenczar, 2006:** Dr. Alexander A. Granovsky Pest Management Scholarship.

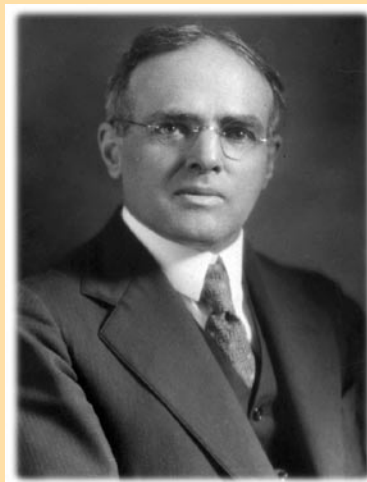
**Jen White, 2005:** NIH-Postdoctoral Excellence in Research and Training (PERT) Fellowship at the University of Arizona.

## From the Archives:



Left: A combination of two 'magic lantern' slides regarding Dr. William A. Riley

Right: Dr. William A. Riley, Division Chief, Division of Entomology and Economic Zoology, (now called Dept. of Entomology) University of Minnesota, 1918-1925 and 1930-1944



## Hodson Graduate Alumni Award Recipient, 2006

### Dr. Kyung Saeng Boo



Dr. Kyung Saeng Boo, Professor of Insect Physiology at Seoul National University, was born on the Korean island of Cheju. He received his B.S. from Seoul National University (1964) and his M.S. (1968) and Ph.D. (1973) at the University of Minnesota under A. Glenn Richards.

Dr. Boo is internationally renowned for his work with insect antennal structures and pheromones and for his promotion of Korean and Asian agricultural sciences. He is a member of the Korean National Academy of Science and Technology and a fellow of the Royal Entomological Society (London). He has served as Science Ambassador for the Korean Science Foundation and President of several prominent Korean and International scientific societies. He is a recent recipient of the Sangrok Research Award for his research accomplishments in insect chemical ecology, molecular biology and physiology. He was an Honorary Professor at Yanbian University, China.

Dr. Boo held postdoctoral positions at the University of Toronto (1973 to 1976) and the University of Guelph (1976 to 1978). He returned to Korea in 1978 and since has been instrumental in fostering development of the entomological sciences in Korea. He became Professor of Insect Physiology at Seoul National University in 1982 and "... quickly established himself as one of the top entomologists in Korea and became the main communicator of insect science in Korea to the rest of the world with his publications

and students" (Wendell Roelofs, member, National Academy of Sciences).

Dr. Boo has taught general entomology, cell biology, insect physiology, endocrinology and neurophysiology at the University of Seoul, and more recently, courses in chemical ecology, biopesticides, and North Korean agriculture. He has written textbooks on insect physiology, apiculture, pest insects, and entomological terms. He has mentored 42 masters and 7 doctoral students, 19 now holding university positions.

Dr. Boo's research ranges from basic to applied. Upon his return to Korea his research emphasis shifted to insect chemical ecology, the work for which he is best known today. He has analyzed the pheromone compositions of major lepidopteran pests of apples and pears and his research on *Helicoverpa assulta* has been informative about olfaction-related variation across species. His current research involves molecular characterization of a neuropeptide that activates pheromone biosynthesis in *Plutella xylostella*. He has been honored by the International Society of Chemical Ecology for his pheromone research.

Dr. Boo has been an untiring ambassador and spokesman for Korean and Asian science and scientists. He has been Vice President of the Korean Academy of Science and Technology and currently is President of the Korean Association of Societies for Agricultural Societies, President of the Asia-Pacific Association of Chemical Ecologists, and Vice President of the Korean Federation of Scientific and Technical Societies.

We congratulate Professor Kyung Saeng Boo on his magnificent accomplishments, and are honored to present him with the 2006 Hodson Graduate Alumni Award.

## About the Hodson Graduate Alumni Award

The Hodson Graduate Alumni Award in the Department of Entomology, College of Food, Agricultural and Natural Resource Sciences at the University of Minnesota was established in 1998 in memory of Dr. Alexander. C. Hodson. The Award, named in honor of Dr. A. C. Hodson, Department Head from 1960-1974, is intended to annually recognize and honor an outstanding alumna or alumnus of the Department of Entomology. The Award will be presented annually during the Department's Honors Day, which also pays tribute to the achievements of students in the Entomology Graduate Program.

Dr. Hodson was born in Reading, Massachusetts and attended the University of Massachusetts (B.S. 1928), and then the University of Minnesota (M.A. 1931 and Ph.D. 1935). During this graduate student period, he also attended the University of Washington's Puget Sound Biological Station in the summer of 1930 where he studied marine ecology, an experience which was to have a profound influence upon his later career. He studied and worked as a Teaching Assistant, and later as an Instructor, while a graduate student in the Departments of Zoology, and Entomology and Economic Zoology. Through his career in the latter Department, he moved up through academic ranks to Professor and finally to Head of the Department in 1960. In 1962, he was instrumental in changing the Department's name to Entomology, Fisheries, and Wildlife. In 1974, at the age of 68, he retired. Dr. Hodson passed away March 13, 1996 at the age of 89.

# Graduate Student Award Day Pictures, 2006



Everyone enjoyed the reception.



John Luhman and Dharma Sreenivasam.



George Heimpel presenting Dharma Sreenivasam with a special award.



Emily Tenczar, accepting the Dr. Alexander A. Granovsky Pest Management Scholarship.



Susan Weller and Michelle DaCosta (Marion Brooks-Wallace and Graduate School Block Grant Fellowship).



Dr. K.S. Boo and Dr. Mark Ascerno.



Dr. Len Ferrington.



Will Bouchard (Morris and Elaine Soffer Rockstein and Graduate School Block Grant Fellowship, University of Minnesota) and Len Ferrington.



Our award winning graduate students.



Moriya Rufer (Allan Peterson and Graduate School Block Grant Fellowship) and Len Ferrington.

# Hodson Graduate Alumni Award



## Call for Nominations



2007

The Department of Entomology, College of Food, Agricultural and Natural Resource Sciences at the University of Minnesota is proud to announce a call for nominations for the 2007 Hodson Graduate Alumni Award. The Award, named in honor of Dr. Alexander Hodson, Department Head from 1960 - 1974, is intended to annually recognize and honor an outstanding alumna or alumnus of the Department of Entomology. The Award will be presented during the Department's Honors Day which also pays tribute to the achievements of students in the Entomology Graduate Program.

### Nominations are invited based on the following:

- ❖ One awardee will be chosen annually in February and invited to participate in the Department's Honors Day. The award includes travel to St. Paul and related expenses.
- ❖ Nominees must have received a graduate degree in an entomological program from the University of Minnesota. The degree must have been granted at least five years before nomination.
- ❖ Nominees must have demonstrated distinguished accomplishment and leadership in entomology through research, writing, teaching, extension or administration, and related career activities.
- ❖ Nominations consist of a letter highlighting the nominee's accomplishments, a current curriculum vitae, and three letters of support. Only one nomination from the same source will be accepted in a given year.
- ❖ The awardee must be willing to present a seminar during the Department's Honors Day in May, 2007.
- ❖ The award will not be bestowed on the same person more than once in ten years.

Nominations will be accepted at anytime, but must be received by 31 January to be considered for the current year's award. The awardee will be selected by the Awards Committee of the Department of Entomology.

**To be eligible for the 2007 Award, nominations must be received by 31 January, 2007. The Award will be presented at a Department Honors Day in May 2007.**

Nominations should be sent to:

Dr. Mark E. Ascerno  
219 Hodson Hall  
University of Minnesota  
1980 Folwell Ave  
St. Paul, MN 55108



## Recent Publications

- Ambourn, A. K., J. Juzwik, and R. D. Moon. 2005.** Seasonal dispersal of the oak wilt fungus by *Colopterus truncatus* and *Carpophilus sayi* in Minnesota. *Plant Disease* 89: 1067-1076.
- Andow, D. A. in press.** Biological Invasions: Assessment and management of environmental risk. In M. Oka, M. Matsui, T. Shiomi, Y. Ogawa and K. Tsuchiya [eds.], *Biological Invasions in the Asian-Pacific Region*. Food and Fertilizer Technology Center, Taipei, Taiwan.
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- Blahnik, R. J., and R. W. Holzenthal. 2006.** Revision of the genus *Culoptila* (Trichoptera: Glossosomatidae). *Zootaxa* 1233: 1-52.
- Boody, G., B. Vondracek, D. A. Andow, M. Krinke, J. Westra, J. Zimmerman, and P. Welle. 2005.** Multifunctional agriculture in the United States. *Bioscience* 55: 27-38.
- Burkness, E. C., G. J. Gingera, and W. D. Hutchison. 2005.** Impact of simulated insect defoliation and timing of injury on cabbage yield in Minnesota. *Great Lakes Entomologist* 38: 1-12.
- Calor, A. R., R. W. Holzenthal, and D. S. Amorim. 2006.** Phylogenetic analysis of *Notalina* (*Neonotalina*) Holzenthal (Trichoptera: Leptoceridae), with the description of two new species from southeastern Brazil. *Zootaxa* 1131: 33-48.
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# Fall Welcome 2006



Grad Student Brian Schuetz being presented with the 2006 Sping and Ying-goh T. Lin Graduate Fellowship.



Diana Ritchmond received the 2006 Entomology Civil Service/AFSCME award in recognition of her outstanding service to the Department of Entomology and the University of Minnesota.



# Our Faculty

**David A. Andow, Professor:** Ph.D., Cornell U, Insect Ecology, Biological Control, Evolutionary Genetics, Insect Conservation, (612-624-5323), dandow@umn.edu

**Mark E. Ascerno, Professor and Department Head:** Ph.D., Pennsylvania State U, Integrated Pest Management, Floriculture, Greenhouse Biological Control, (612-624-3278), mascerno@umn.edu

**Ann M. Fallon, Professor:** Ph.D., Queens University, Ontario, Molecular Biology, Mosquito Cell Culture, Mosquito Reproduction, (612-625-3728), fallo002@umn.edu

**Leonard C. Ferrington, Professor:** Ph.D. University of Pittsburgh, Aquatic Entomology, (612-624-3265), ferri016@umn.edu

**George E. Heimpel, Associate Professor:** Ph.D., U of California-Davis, Biological Control, Natural Enemy Ecology, (612-624-3480), heimp001@umn.edu

**Ralph W. Holzenthal, Professor:** Ph.D., Clemson U, Systematics, Cladistics, Trichoptera, (612-624-7728), holze001@umn.edu

**William D. Hutchison, Professor and Extension Entomologist:** Ph.D., U of Wisconsin-Madison, Integrated Pest Management, Vegetable Crops, Resistance Management, (612-624-1767), hutch002@umn.edu

**Stephen A. Kells, Assistant Professor:** Ph.D., Purdue University, Urban and Industrial Entomology, Stored Pest Products, (612-625-4798), kells002@umn.edu

**Vera A. Krischik, Associate Professor:** Ph.D., U of Maryland, Integrated Pest Management, Ornamentals, Plant Resistance, Biological Control, (612-625-7044), krisc001@umn.edu

**Timothy J. Kurtti, Professor:** Ph.D., U of Minnesota, Insect Microbiology, Medical Entomology, Insect Pathology, (612-624-4740), kurttt001@umn.edu

**John C. Luhman, Adjunct Assistant Professor:** Ph.D., U of California-Riverside, Minnesota Department of Agriculture, Biological Control, john.luhman@state.mn.us

**Ian V. MacRae, Assistant Professor and Extension Entomologist:** Ph.D., Oregon State U, Integrated Pest Management, Small Grains, Biological Control, GIS, (218-281-8611), macra002@umn.edu

**Karen A. Mesce, Professor:** Ph.D., U of Oregon, Neurobiology, Behavior, Neurohormones, (612-624-3765), mesce001@umn.edu

**William E. Miller, Adjunct Professor:** Ph.D., Ohio State U, Systematics, Ecology, Lepidoptera, (612-624-7493), mille014@umn.edu

**Roger D. Moon, Professor:** Ph.D., U of California-Davis, Livestock Entomology, Population Ecology and Management, (612-624-2209), rdmoon@umn.edu

**Kenneth R. Ostlie, Professor and Extension Entomologist:** Ph.D., Iowa State U, Integrated Pest Management, Corn and Soybeans, Transgenic Plants, (612-624-7436), ostli001@umn.edu

**Susan M. Palchick, Adjunct Associate Professor:** Ph.D., U of California-Davis, Hennepin County Community Health Department, (612-930-2772), palch002@umn.edu

**Edward B. Radcliffe, Professor:** Ph.D., U of Wisconsin-Madison, Integrated Pest Management, Potato and Alfalfa, (612-624-9773), radcl001@umn.edu

**David W. Ragsdale, Professor:** Ph.D., Louisiana State U, Integrated Pest Management, Insect Vectors of Plant Pathogens, Biological Control, (612-624-6771), ragsd001@umn.edu

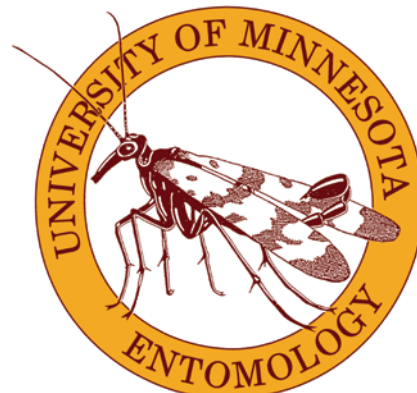
**Marla S. Spivak, Professor and Director of Graduate Studies:** Ph.D., U of Kansas, Apiculture, Social Insects, Evolution of Social Behavior, (612-624-4798), spiva001@umn.edu

**Robert C. Venette, Adjunct Assistant Professor:** Ph.D., University of California-Davis, Ecology (612-625-1956), venet001@umn.edu

**George D. Weiblen, Adjunct Assistant Professor:** Ph.D., Harvard University, Biology Systematics, Co-evolution, (612-624-3491), gweiblen@umn.edu

**Susan J. Weller, Associate Professor:** Ph.D., U of Texas-Austin, Systematics, Cladistics, Lepidoptera, (612-625-6253), welle008@umn.edu

**Zhishan Wu, Adjunct Assistant Professor:** Ph.D., Fujian Agricultural University, Fuzhou, China, Biological Control, Invasive Pests, (612-625-3779), wuxxx092@umn.edu



# Alumni & Friends - College Update

Bill Hutchison and Mary Buschette, Alumni Relations

Keep connected to the University of Minnesota through both the University of Minnesota Alumni Association (UMAA) and the College of Food, Agricultural and Natural Resource Sciences Alumni Society.

M Alumni Online is a web service that includes a directory of more than 300,000 alumni and friends of the U of M. The service also includes career networking tools. All U of M alumni may register for M Alumni Online free of charge and update their own directory listings. UMMA members may search the alumni directory and participate in the career network. Explore M Alumni Online at [www.alumni.umn.edu/MA AlumniOnline](http://www.alumni.umn.edu/MA AlumniOnline).

The College's Alumni Society offers many networking and social opportunities. The **Mentor Program** matches undergrads with professionals in their career interest areas. Alums can also volunteer to provide informational interviews via email and phone. **Classes Without Quizzes** was a half-day seminar that highlights how the research in the College impacts our daily lives (April 1, 2006). The Golf Scramble for Scholarships consists of a golf tournament and silent auction to raise funds for student scholarships (July 10, 2006). More information is available at <http://alumni.cfans.umn.edu>

## Additional resources:

U of M Website - [www.umn.edu](http://www.umn.edu)

U of M Alumni Association - [www.alumni.umn.edu](http://www.alumni.umn.edu)

Entomology & Friends Email list for information and notices of events: Go to <http://www.entomology.umn.edu> and click on link for Alumni mailing list

If you have any questions about activities and events for alumni and friends, or to receive a monthly electronic alumni newsletter, please contact:

Mary Buschette '87  
Director for Alumni Relations  
College of Food, Agricultural and Natural Resource Sciences  
235 Skok Hall  
2003 Upper Buford Circle  
St. Paul MN 55108  
612-624-1745/800-UM-ALUMS  
[mbuschet@umn.edu](mailto:mbuschet@umn.edu)

## Alumni & Friends

The Publicity Committee has a long-term goal of improving communication among alumni and friends of the department. Beginning with the Spring '97 Newsletter, the department renewed its commitment to provide a more consistent forum for keeping you posted with departmental news, with fellow alumni and friends. For those with access to the WWW, we are planning an expanded new series of Alumni & Friends pages which we hope many of you can use to obtain more frequent updates. The newsletter, the WWW page, and the Annual Mixer at the National ESA meeting are three primary ways we hope to improve and maintain communication.

### We Want to Hear from You!

Depending on when you graduated, or last walked the byways of Hodson Hall, you may have a very clear or somewhat fuzzy recollection of our department. You may also have some unique stories and memories of the department that we would enjoy hearing. Regardless of when you last visited, we and our alumni would appreciate any updates you would like to provide, including your current position, address, favorite aspects of your position, travel opportunities, etc. Finally, any suggestions you might have for our department or the newsletter would be appreciated as well.

If you know where some of our alumni are located, please let us know. You may use the update form at the end of this newsletter for other alumni as well as any updates or change of address that you have had.

### Goals:

- Renew commitment to alumni and friends of the University of Minnesota, by providing timely news of departmental and alumni activity.
- Facilitate connections between alumni and friends, and alumni and faculty, by providing updated addresses (including e-mail), and more alumni and friends information in the Newsletter.
- Provide a forum for acknowledging alumni and current graduate student accomplishments.
- Encourage support for program needs within Entomology, with a primary emphasis on Excellence in Graduate Education.

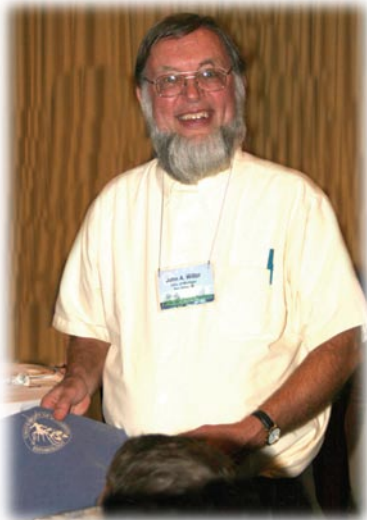
### Suggestions Always Welcome!

#### Contact:

Bill Hutchison  
612-624-1767  
[hutch002@umn.edu](mailto:hutch002@umn.edu)

Alumni and Friends of the Department: If you have not recently sent us an update regarding your varied activities, please do so before the next newsletter! You may send your updates, directly to Janet Moe, by e-mail to: [moexx012@umn.edu](mailto:moexx012@umn.edu), OR feel free to use the form in the back of this newsletter.

# Photos from Ft. Lauderdale



More photos from Ft. Lauderdale can be found on our web site!

# Photos from Ft. Lauderdale





# WISDOM IN GENEROSITY

...from the UofM Foundation and the College of Food, Agricultural and Natural Resource Sciences

**Generosity** through wills, trusts, and other kinds of planned gifts promises great things for the future of the University of Minnesota. Alumni and friends have provided funds for scholarships, fellowships, professorships, research and special programs while meeting personal financial goals.

All gifts are truly investments in wisdom—knowledge for a changing world.

They also can be wise financial investments.

## **Name an Endowment and Increase your Income Payments**

**Life income agreements** allow you to create a named endowment and generate an annual income for you and/or other beneficiaries. Tax advantages include increased income (some of which may be tax free), estate tax charitable deductions, and a full or partial bypass of capital gains if you give appreciated securities.

### **Charitable Gift Annuity**

A charitable gift annuity can be established with a gift of \$10,000 and is funded with a gift of cash or marketable securities. You and one other person can receive income from your gift for life—at an annuity rate of up to 11.3%, depending on your age. Your annuity rate and your income tax deduction are based on age at the time the gift is made.

Age	Annuity Rate*	Annuity (Based on \$25,000 gift)	Tax Deduction*
90+	11.3%	\$2,825	\$14,108
85	9.5%	\$2,375	\$12,847
80	8.0%	\$2,000	\$11,874
75	7.1%	\$1,775	\$10,566
70	6.5%	\$1,625	\$9,216
65	6.0%	\$1,500	\$8,093
60	5.7%	\$1,425	\$6,786

\*Rates and tax deduction for two lives will be lower. Tax deduction may vary slightly depending on the month of the gift.

*“I never thought I could make such a wonderful gift.”*

## **Charitable Remainder Trust**

A charitable remainder trust provides the donor or designated beneficiary annual income payments. It combines charitable giving with other financial goals, including life or long-term income and a bypass of capital gains if appreciated property is used. You can establish a charitable remainder trust with a gift of \$100,000 or more by transferring cash, stocks, bonds, and/or real estate to establish the trust. The trust will pay a life income to you and others, at either a fixed amount (annuity trust) or a percentage of the trust’s market value (unitrust).

### **Example:**

John and Mary, both age 65, fund a charitable remainder unitrust with \$100,000 in appreciated securities that originally cost \$50,000. They choose a 5% payout rate and receive a charitable deduction of \$35,069. Their first year income will be approximately \$5,000. Future income will vary with the trust value. Assuming an 8% total return for the trust, the before-tax benefit to them over their life expectancies is estimated to be over \$194,922. After their lifetimes, the remaining principal estimated to be over \$216,953 passes to the Department of Entomology.

## **Charitable Lead Trust**

If you have more income than you need to maintain your lifestyle, and want to support the university before transferring assets to family members, then a CLT may be a good estate-planning tool for you. You can look forward to these benefits when you set up a CLT:

- Provide immediate valuable resources for the University
- Benefit family members with your gift
- Keep the appreciation of your trust assets out of your taxable estate
- Maintain control of the trust assets
- Fund the trust with growth assets and pass appreciation to family members without gift tax
- Shrink or eliminate federal gift and estate taxes on transfers of trust principal to heirs

A Charitable Lead Trust pays income to the University for a term of years, and then transfers assets to your family at a reduced federal gift and estate tax rate. There has never been a better time

to take advantage of this estate-planning tool. The combination of low valued stocks and the lowest IRS AFR (rate used to determine the tax impact of the transfer) create an opportunity to pass what could be significant gain in these stocks to family members at a very reduced estate tax cost.

**Example:**

A stock worth \$200,000 (which was worth \$500,000 two years ago and could return to that value in 10 years or less) could be passed to children in ten years from 8% lead trust at a gift tax cost of \$69,504. If the stock should increase at an even greater rate, all the additional value would be passed on with no additional gift tax cost.

A CLT may be a testamentary lead trust (you invest in the University and then transfer assets to your beneficiaries at reduced or no estate tax) or a grantor lead trust with certain term limit. It is possible to get the trust assets back (a grantor lead trust) after a certain term, often 20 years. However, a grantor lead trust doesn't allow you to save on gift and estate taxes because the assets remain in your estate.

**CREATE A LEGACY THROUGH YOUR WILL OR YOUR RETIREMENT PLAN**

- A substantial gift can be made without affecting your family's current financial security
- Both principal and the income of your assets ARE available to you during your lifetime
- The ultimate use of the funds may be designated as you see fit
- A scholarship or fellowship endowed through a bequest carries in perpetuity the name you designate
- You enjoy the good feelings that come from knowing that your gift will be an investment in wisdom and knowledge
- Tax savings for your estate are maximized.

Legacies make important statements about who we are, what we believe in, the people and institutions who have shaped us, and how we want to be remembered. Leaving a Legacy to the University of Minnesota is a testament to your feelings for the University and ensures that what you experienced will be carried on to future generations.

**Language for a bequest:**

I give, devise, bequeath to the University of Minnesota Foundation, University of Minnesota, Minneapolis, Minnesota 55454 (insert sum, property, or percentage of estate), which shall be used for the support of the College of Food, Agricultural and Natural Resource Sciences, Department of Entomology.

**Designating a beneficiary for I.R.A. and/or Retirement Fund Designation Form:** You may use similar language as a bequest. Check with your fund manager for a designation form to include the University of Minnesota Foundation and your preferred college or department.

*"It gives me a great sense of satisfaction to be able to provide a scholarship long after I'm gone."*

**MORE INFORMATION**

For confidential inquiries concerning cash gifts, or gifts of securities for the Department of Entomology, contact:

Cynthia Cashman  
Director of Development  
CFANS External Relations  
235 Skok Hall  
2003 Upper Buford Circle  
St. Paul, MN 55108  
Ph: 612-624-7489  
Ph: 1-800-775-2187  
Email: [cashman@umn.edu](mailto:cashman@umn.edu)

Along with the UofM's recent emphasis on undergraduate scholarships, we in Entomology are continuing to focus on new gifts and endowments to support Distinguished Graduate Fellowships. Current fellowships and scholarships include the Morris and Elaine Soffer Rockstein Graduate Fellowship, the Sping & Ying-ngoh Lin Graduate Fellowship, the Allan Peterson Graduate Fellowship, the Granovsky Pest Management Scholarship and the Marion Brooks-Wallace Graduate Fellowship.

Please visit <http://www.cfans.umn.edu/alumnidonors.html> for more information.

## HELP US KEEP OUR ALUMNI DATABASE CURRENT!

You do not need to complete this if you recently supplied this information for us.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State & Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

e-mail: \_\_\_\_\_

U of M Degree(s): \_\_\_\_\_ Year: \_\_\_\_\_ Advisor: \_\_\_\_\_

Current Position: \_\_\_\_\_

Institution/Employer: \_\_\_\_\_

Business Address: \_\_\_\_\_

Business Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Previous employment history:

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

Professional/Personal Highlights: \_\_\_\_\_

: \_\_\_\_\_

: \_\_\_\_\_

OK to highlight selected information in next newsletter? *Please circle:*    *yes*    *no*

Please visit <http://www.entomology.umn.edu> and click on the 'Alumni mailing list' link to sign up for the Entomology Alumni and Friends e-mail list.

If you'd like to receive this newsletter electronically, via an e-mailed web link or PDF file, please e-mail Janet Moe ([moexx012@umn.edu](mailto:moexx012@umn.edu)).

***P.S. Please send photos for our next Newsletter!***

Please return to:

Attention: Janet Moe  
Department of Entomology  
219 Hodson Hall, 1980 Folwell Ave.  
University of Minnesota  
St. Paul, MN 55108

# ENTOMOLOGY NEWSLETTER

Fall 2006

Produced for Alumni & Friends of the Department of Entomology, University of Minnesota.

The Entomology Newsletter is an annual publication of the Department of Entomology, University of Minnesota. The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

**Editor:**

- Ann Fallon

**Alumni & Friends Assistant:**

- Janet Moe

**Public Relations Committee - 2006-2007**

- Bill Hutchison, Lee French, Jeff Hahn,  
Chris Kulhanek, Ken Ostlie, Michele  
Yoder.

**Production Editor:**

- Janet Moe

**Circulation:**

- Janet Moe

**Home Page (www):**

- <http://www.entomology.umn.edu>

***Acknowledgments***

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**Department of Entomology**

University of Minnesota  
219 Hodson Hall  
1980 Folwell Avenue  
St. Paul, MN 55108

Phone: (612) 624-3636

Fax: (612) 625-5299

E-mail: [entodept@umn.edu](mailto:entodept@umn.edu)

Web page: <http://www.entomology.umn.edu/>



**Aerial shot of St. Paul Campus showing Hodson Hall in the upper left**