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It’s hard to believe we are coming to the end of another busy year! I am proud to say that 2012 was a year of many achievements for our faculty and students. The department has also undergone some significant changes. Due to our first real snowstorm in years (an actual 12 inches), I am forced to slow down and reflect on some major highlights of 2012 for the Department of Entomology.

**Global Connections -- Felicia Christy** (Assoc. Administrator) and I thought we should showcase the many International Visiting Scholars we hosted this year. These scholars include Dr. Nicolas Desneux, a Research Scientist with the French National Institute for Agricultural Research (INRA), hosted by Dr. George Heimpel, Dr. Panagiotis (Panos) Milonas (Greece) and Juliano Farias (Brazil), hosted by Dr. David Andow. In addition, we have an increasing number of popular “sandwich PhD” International visitors, gaining experience to augment their graduate degrees in their host countries. This year, Carla Dutra (Brazil) and Zdenka Svobodová (Czech Republic) were hosted by Dr. Hutchison. To round out this International year, Dr. Aziz Lagnaoui, from Morocco, (former student of Emeritus Professor, Dr. Ted Radcliffe) was our Hodson Alumni Award recipient. Aziz, now with the World Bank, gave a great seminar on the many challenges of implementing a variety of IPM Programs in developing countries.

**Insect Museum** – Our Insect Museum has grown considerably, this year, thanks to three unique contributions, and a lot of extra work by Museum Director, Dr. Ralph Holzenthal and Curator, Dr. Paul Tinerella. After a year of planning and remodeling in Hodson Hall, a new Aquatic Insect Collection from the USGS, is being prepared for entry. This collection will add ~2 million specimens to the current 4.5 million. We also received a donation of ~5000 slides of midges (Chironomidae) from Dr. Jim Sublette and family. Dr. Sublette is a world authority on Chironomidae. This is the remaining material from Dr. Sublette's large donation of slides (70,000+) given to the Insect Collection ~3 years ago. This, gives us one of the most diverse chironomid collections in the world. Finally, Dr. Bill Scharf, who received his PhD in the 1960s under Roger Price, made a significant donation. His research interests are in ornithology, mammalogy, and entomology. He donated a large collection of fleas (ca. 5000 slides) and established an annuity with the University Foundation for future support of the Insect Collection. All of the slides from Dr. Sublette's former donation and Dr. Scharf's recent donation have been scanned and digitized and are available at insectcollection.org. Stay tuned for more about the Digitization of the entire collection which is well underway, and will be fully rolled out in 2013!

To date, all UMSP Insect Collection specimens are digitized and/or computerized. Glass microscope slides scanned include 639,885 specimens, insect drawers imaged (5,943 drawers) total 1,477,755 pinned specimens (Odonata, dragonflies and damselflies- preserved in envelopes are included in this total), and glass vials (label data and card catalog scanned only), include data for 1,710,444 specimens. The grand total for UMSP: 3,828,104 specimens. This does not include the new Aquatic (NAWQA) collection that awaits unpacking and curation. A total of 12 software apps are now operational, each constructed for image processing and data acquisition. The new Insect Collection database: DeCOR - Digital entomology Collections Object Repository is operational. The interface is available in Zooming Format at: http://www.insectcollection.umn.edu.

In addition to the many Graduate Student awards this year (see pg. 9), Dr. Karen Mesce received the prestigious Ada Comstock Award. This award & lecture was established to acknowledge and honor the scholarly accomplishments and leadership of distinguished women faculty. For the sciences, only one award is given out every two years. Karen’s lecture was entitled, "Two Brains Are Better Than One: How Small Brains Make Big Decisions," and presented an overview of her original and imaginative approach to understanding how neuronal networks develop and function. One might call her research “art in scientific communication. Her work has revolutionized thinking about the plasticity of the nervous system--capturing functional changes of individual invertebrate neurons (in teal-colored caterpillars, OCD honey bees and leeches!) under hormonal or neurotransmitter control in a visually compelling context.”

In addition to all these accomplishments, we had a very successful national search for a new Extension Soybean Entomologist & Assistant Professor. This position was made possible by a unique partnership between the Minn. Soybean Growers, University of Minnesota Extension, and our College of Food, Agriculture, and Natural Resource Sciences (CFANS). I am pleased to announce that Dr. Bob Koch, a graduate of our program, has accepted this position and will be joining us on January 3rd, 2013. Bob brings an excellent balance of ecological and pest management research, and outreach experience, including 5+ years working with the Invasive Species Group of the Minn. Dept. of Agriculture. I want to thank the entire Search Committee, including co-chairs Roger Moon and Marla Spivak for their excellent work.

Best wishes for a Safe and Great New Year!
Our research reaches far and wide, and this year, we have the honor of introducing you to some of our visiting scholars and researchers who are bringing an international flair to the Department of Entomology.

Dr. Panagiotis (Panos) Milonas
Associate Research Scientist, Benaki Phytopathological Institute, Greece
*Fulbright Fellowship, September-December 2012*
Andow, Insect Ecology Lab

Invasive insect species may have detrimental ecological and economic impact through a variety of mechanisms. In Greece, 194 insect species have been recognised as invasive. Quantitative analysis and incorporation of uncertainty into these models is generally recognised as future need. Therefore, within this research proposal we aim to develop modelling approaches for ERA that incorporate uncertainty analysis into qualitative methods and begin developing more quantitative models associated with invasive species that have recently introduced or threaten to be introduced to Greece.

Juliano Farias
Department of Entomology, University of Sao Paulo, Piracicaba
*Brazilian CAPES Foundation, September 2012 - January 2013*
Andow, Insect Ecology Lab

Bt corn has been planted throughout Brazil for about 4 years to control the Lepidopteran pest complex. One of the key pests is fall armyworm, Spodoptera frugiperda. I have been studying the genetics and distribution of resistance to Cry1F toxin in this species and have used an F2 screen to identify resistance alleles from populations throughout Brazil. During my visit, I will analyze these data and write up results for publication.

Dr. Nicolas Desneux
Research Scientist
INRA Sophia Antipoles, France (INRA is like the USDA of France)
Heimpel Lab

Dr. Desneux (Nico) is well-known for his work in the areas of biological control and ecotoxicology. His work at the INRA in France focuses on biological control of pest species that are invasive to Europe as well as the sublethal effects of insecticides to biological control agents and pollinators. Nico spent time in the Heimpel lab as a post-doc in 2006-7 during which time he did some very innovative work on host range in soybean aphid parasitoids. He is back now as a visiting scientist to continue research on host specificity and related topics.
Carla Dutra

Carla, a PhD student at the Universidade Federal da Grande Dourados (UFGD), Dourados-MS, Brazil, spent 6 months in the Hutchison lab (2011-2012), studying the tritrophic influence of Bt corn on fall armyworm larvae and *Harmonia axyridis* predation. The research reflects her long-term interest in ecological risk assessment of transgenic crops on non-target predator species. Soon after her departure in February, the research was published (Dutra et al. 2012, PLoS One), and was included in her dissertation. Also, Carla and Zdenka Svobodova (below), were 2 of 3 graduate student winners of the International GM Crops Conference (ISBGMO), St. Louis, MO, in September.

Zdenka Svobodová

Zdenka is a PhD student at Entomologický ústav BC AV ČR, Institute of Entomology, & Přírodovědecká fakulta JČU, Faculty of Science University of South Bohemia, České Budějovice, Czech Republic. Following the ISBGMO meetings in September, she spent 3 months in Hutchison’s lab this fall semester. Zdenka continued working on the tritrophic Bt maize system with fall armyworm and *Harmonia*. However, she modified the protocol to allow for maximum daily consumption rates by *Harmonia*, and generated some interesting results. This work will continue as she returns to her lab in the CR; this will also be a chapter in her dissertation. Congratulations also to Zdenka!

Dr. Yumi Kumagai

Postdoctoral Research Associate
Kurtti/Munderloh Lab

Dr. Yumi Kumagai, a native of Tokyo, joined us in September this year. Most recently, she worked at the Thailand-Japan Research Collaboration Center in Bangkok, but before that, she was a postdoctoral scientist at Ohio State University. There, her research focused on the mechanisms whereby *Ehrlichia chaffeensis*, a tick-borne pathogen that causes ehrlichiosis, introduces substances into host cells that control the host response. She further participated in investigating related disease agents, such as *Anaplasma phagocytophilum* and *Neorickettsia sennetsu*, and has authored and co-authored 23 publications (8 as first author) in top journals such as Journal of Bacteriology and Infection and Immunity.
Dr. David Andow spent a large portion of his year in various countries around the world. He has graciously agreed to share with us a few photos and stories.

**Japan, March 24-29, 2012.** After landing in Tokyo, I took the trains to visit Dr. Keizi Kiritani at his apartment at a hot springs on the Izu Peninsula. The next day, I traveled with him by shinkansen (the view of Mt. Fuji was spectacular) to Nara, where we attended the annual meeting of the Japanese Society of Applied Entomology and Zoology, held directly across the street from the famous Nara Deer Park. Dr. Kiritani, who is an honorary member of the ESA, was feted at a special symposium held in his honor, and I gave a talk to explain how he had influenced my work. In addition to many interesting talks in Japanese, I learned about a new research project to study the ecological impacts of the Fukushima nuclear power plant disaster.

**Vatican. June 23- July 1, 2012.** I was invited by the Papal Counsel for Justice and Peace to talk about the role of GMOs in reducing hunger and improving food security for the poor. Bishops and Cardinals comprised about half of the audience, and the rest were priests and lay people active in the Church. There was considerable interest in my topic, and the talk and ensuing discussion lasted 3 hours. The Counsel is following up on these discussions and we have recently been in contact.

**Brasilia, Brazil. July 4 - August 5, 2012.** The purpose of this visit was to set up a new research project on agroforestry for small-scale producers in Brazil. Frances Homans (Department of Applied Economics) also visited for about 10 days during my visit so that we could coordinate a biological and an economic component for this new research. Our colleagues in Brazil have been conducting research on agroforestry for several years, and we were fortunate to visit some of their study farms. As a test case, we will be examining the practices of about 140 strawberry producers in the Federal District around Brasilia.

During December 2011, David Andow traveled to Madrid, Spain to collaborate with Pedro Castañera's research group at the Centro de Investigaciones Biológicas (CIB) on understanding why *Sesamia nonagrioides* (Mediterranean corn borer) has not evolved resistance to Bt corn in Lleida in northeast Spain. He will be collaborating on IRM problems in Spain for the next few years.
Dr. George Heimpel has embarked upon a new research project that is taking him to the Galapagos Islands and to Trinidad & Tobago. The research involves an avian parasite – the muscid fly *Philornis downsi* - that is invasive in the Galapagos and attacking Darwin’s finches and other endemic birds. This fly lays its eggs into bird nests and the hatching larvae (maggots) feed on the nestlings, often killing them. As is common for invasive species, *P. downsi* is having a devastating effect in its introduced range (Galapagos) but much less of an impact in its native range, which includes Trinidad & Tobago. Dr. Heimpel is exploring the possibility of introducing a specialized parasitoid of *Philornis* from Trinidad to the Galapagos in an effort to protect Darwin’s finches from this invasive fly. The research has involved 2 trips to Galapagos and 3 to Trinidad & Tobago over the last year and a half.
Commissioner of Agriculture Visits Kells Lab

On September 10, 2012 Minnesota’s Commissioner of Agriculture, Dave Frederickson, visited the University of Minnesota, Department of Entomology to tour Dr. Stephen Kells’ lab and learn about the bed bug research and extension program. The Let’s Beat the Bug! Campaign is being supported by the Minnesota Department of Agriculture and the U.S. Environmental Protection Agency.

Commissioner Frederickson was joined by Dean Durgan and Senior Associate Dean Ponce de León as well as various staff from MDA and UMN. The visit began with a brief presentation by Dr. Kells on general bed bug information and covered the cutting edge research being completed by Dr. Kells and his graduate students. Ms. Shindelar, the community health coordinator, followed up with a presentation introducing the Let’s Beat the Bug! Campaign, its successes and work that still needs to be completed. Following a brief discussion Dr. Kells led a tour of his lab which provided the Commissioner and Deans with an opportunity to see where and how the bed bug research is being completed.

Overall the visit was very successful, Commissioner Frederickson and his staff left with a greater knowledge of bed bugs and their impact on society. Greg Buzicky, Director of the Pesticide and Fertilizer Management Division at MDA said “It was wonderful to get a chance to see, and hear, the challenges, the accomplishments and great strides in understanding this pest. The outreach is cutting edge and having a huge impact on people’s lives.”
The 2011 Annual Honey Sale, our major fundraising event, was bigger than ever with a number of new items added to the merchandise roster including notecards boasting illustrations done by students in Dr. Ralph Holzenthal’s Scientific Illustration of Insects course and silk scarves hand dyed by the graduate students using cochineal scale insects. All of these items, along with the usual honey (of course!), beeswax candles, and calendars (also made using illustrations from Dr. Holzenthal’s course) will be available again at this year’s Annual Honey Sale (5-7 December 2012) – be sure to get your honey, notecards, calendars, and scarves before they sell out!

In the spring we were pleased to bring Alex Wild, a renowned insect photographer and biologist at the University of Illinois, as our invited seminar speaker. While here, Alex gave an incredible seminar, put on an insect photography workshop, had lunch with the graduate students, and joined us for our monthly Pig’s Eye. We had a great time while he was here and look forward to seeing more photographs and research from Alex.

As the spring semester came to a close, Frenatae hosted the first Departmental Pig Roast! Dr. Ralph Holzenthal was gracious enough to lend us the use of his fantastic backyard for this event, which followed the Annual Students vs. Faculty Softball Game. Both events were a total blast…the Pig Roast was some good eating!

At the Hodson Awards we were quite pleased to award Dr. Tim Kurtti with this year’s FAME Award (Faculty Award for Mentorship in Entomology). Congratulations, Tim – we hope you’ve been able to enjoy your tick etching wine glasses (etchings courtesy of our own Judy Wu)!

Dr. Alyssa Anderson, Ph.D. – Len Ferrington
Dr. Thelma Heidel, Ph.D. – Ragsdale/Heimpel

Entomology Student Organization Frenatae

Officers for 2012-2013
President: Heather Cummins
Vice President: Theresa Cira
Treasurer: Joe Kaser
Honey Sale Coordinator: Judy Wu
Secretary: Lindsey Christianson
Faculty Meeting Representative: Jessica Miller
Social Media Coordinator: Gretchen Wilbradt
Student Seminar Committee: Derek Rosenberger
COGS Representatives: Alex Egan & Lesley Tyleczak

Jessica Miller (L), and Theresa Cira (R) on a collecting trip.
**Graduate Student Awards**

**Alyssa Anderson – 2012:** Torske Klubben Graduate Fellowship for Minnesota Residents; Society for Freshwater Science Endowment Award – Systematics Fund; Dayton Bell Museum Fund Research Fellowship. 2011: Graduate Student Block Grant Travel Fellowship; Best Student Oral Presentation Award (18th International Symposium on Chironomidae); Morris and Elaine Soffer Rockstein & Graduate School Fellowship.

**Renata Borba – 2012:** NAPPC – Pollinator Partnership Grant, NCR-SARE Graduate Student Grant.

**Megan Carter – 2012:** Graduate School Summer Block Grant Fellowship, Dept. of Entomology.

**Theresa Cira – 2012:** MGK Fellowship

**Lindsey Christianson – 2011:** President’s Prize (1st Place, M.S. Poster Presentation (student competition), National ESA Meeting, Reno, NV.

**Heather Cummins – 2012:** Dayton Bell Museum Fund Fellowship, Block Travel Grants.

**Joel Gardner – 2012:** Dayton Bell Museum Fund Fellowship.

**Thelma Heidel – 2012:** Midwest Organic & Sustainable Education Service (MOSES) Student Scholarship. 2011: Ceres Trust Graduate Student Research Initiative Grant, University of Minnesota CFANS Graduate Student Scholarship. Morris and Elaine Soffer Rockstein & Graduate Fellowship for Entomology PhD Students, Runner-up, Ph.D. student paper competition 10-minute talks, NCB-ESA 2011 Annual Meeting; NCB-ESA 2012 Student Travel Award; Midwest Organic & Sustainable Education Service (MOSES) 2012 Student Scholarship.

**Andrea Hefty – 2011 - 2012:** NSF-IGERT Fellowship.

**Joe Kaser – 2010 - 2012:** NSF-IGERT Fellowship.

**Petra Kranzfelder – 2012:** Master’s, Professional, and Doctoral International Research Grant; Dayton-Wilkie Natural History Fellowship, Bell Museum of Natural History; Graduate School Summer Block Grant Fellowship, Dept. of Entomology. 2011: Graduate School Summer Block Grant Fellowship, Dept. of Entomology; Allan Peterson & Graduate School Fellowship for M.S. Students, Dept. of Entomology; Block Grant Travel Award, Dept. of Entomology; Scholarly Travel Award, Graduate and Professional Student Assembly.

**Fraser McKee – 2012:** Research Poster Competition, 2nd Place, Western Insect Work Conference, British Columbia.

**Amy Morey – 2010-2012:** NSF-IGERT Fellowship. 2012: NCB-ESA Graduate Scholarship, NSF-RCN FORECAST travel grant, NCB-ESA Presidential Student Travel Scholarship. 2011: President’s Prize (2nd Place) Poster Competition, National ESA Meeting, Reno, NV; Marion-Brooks Wallace Fellowship.

**Adela Oliva Chavez – 2012:** Lydia and Alexander Anderson Fellowship (The Graduate School); GAPSA International Travel Award.

**Matthew Smart – 2012:** North Dakota Honey Promotion Fund.


Selected Publications


Dutra, C. C., R. L. Koch, E. C. Burkness, M. Meissle, J. Romeis, W. D. Hutchison, and M. G. Fernandes. 2012. *Harmonia axyridis* (Coleoptera: Coccinellidae) exhibits no preference between Bt and non-Bt maize fed

**Spodoptera frugiperda** (Lepidoptera: Noctuidae). PLoS ONE 7(9): e44867. doi:10.1371/journal.pone.0044867.


Selected Publications


Dr. Abdelaziz (‘Aziz’) Lagnaoui is a distinguished alumnus of the College of Food, Agricultural, and Natural Resource Sciences (CFANS), University of Minnesota. He received his M.S. in 1990 and Ph.D. in 1991 in the Department of Entomology from the University of Minnesota. Dr. Edward (Ted) B. Radcliffe served as his Major Professor for both degrees. As a graduate student, Aziz was a Linnaean Games Team Member representing the Department of Entomology at the Entomological Society of America (ESA) conferences from 1986 through 1989. The team won in both 1986 and 1988.

In 1991, Dr. Lagnaoui went to work for the International Potato Center's (CIP) Regional Office for North Africa and the Middle East, based in Tunis. In this capacity he worked to develop collaboration between national programs in the region and took the lead in coordinating research activities. From 1997 to 2002, Dr. Lagnaoui was project leader for integrated pest management (IPM) for root and tuber crops at the CIP, based in Lima, Peru. In this position, he directed IPM research and training programs worldwide, and has now worked in more than 30 countries.

Dr. Lagnaoui has been widely published and acknowledged throughout his distinguished career for his ability to work across cultures and disciplines. Since his first position with the International Potato Center (CIP) in Tunisia and Peru, to his current position, Aziz has taken on increasingly challenging agricultural and community development mandates. He is currently the Senior Pest Management Policy Adviser for the Quality Assurance and Compliance Unit of the Environmentally and Socially Sustainable Development Group (ESSD) with the World Bank, Washington, D.C. In this capacity Dr. Lagnaoui works with some of the world's poorest countries on sustainable development by creating partnerships among public, private, and non-governmental sectors.

In 2003, he was awarded the prestigious University of Minnesota Distinguished Leadership Award for outstanding achievements. On May 14th, the Department of Entomology honored Dr. Lagnaoui with the 2012 Hodson Graduate Alumni Award, University of Minnesota.

Dr. Ted Radcliffe addressing the attendees of the Hodson Alumni Award and Graduate Student Recognition Event
Call for Nominations

2013

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 2013 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 March 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.

❖ The award will not be bestowed on the same person more than once in ten years.

Nominations will be accepted at any time, but must be received by 15 February to be considered for the current year’s award. Nominations not previously selected will be held for 2 years (these may be updated by the deadline).

The awardee will be selected by the Awards Committee of the Department of Entomology.

To be eligible for the 2013 Award, nominations must be received by 15 February, 2013. The Award will be presented at a Department Honors Day in May 2013.

Nominations should be sent to:
William D. Hutchison, Professor and Head
Dept. of Entomology
University of Minnesota
1980 Folwell Ave, Rm 219
St. Paul, MN 55108
Email: hutch002@umn.edu
Support the Next Generation of Entomologists!

Guarantee the successful future of the Department of Entomology by including us in your estate plans.

The Department of Entomology provides world-leading research and education that inspires society to value the environmental contributions of insects and their relatives, and to use best management practices to protect our food, health, and environment. Our students and faculty are well positioned to provide practical and creative solutions to everyday problems not only in Minnesota but throughout the world. We believe in the need to build on this history.

You can help guarantee our future success by including the Department of Entomology in your estate plans. A gift in your estate leaves a legacy and at the same time may provide* tax savings. You may direct your gift to a specific area of research, students or to the Department’s greatest needs (see web link below).

Many alumni and friends of the Department of Entomology have received great satisfaction from including the department in their charitable gift plans. We hope you will join them by including us in your future plans as well.

The generosity of alumni and friends has created several fellowships and scholarships including:

- **MGK Fellowship** in Pest Management
- **Morris and Elaine Soffer Rockstein** Graduate Fellowship (Fund #7616)
- **Sping & Ying-ngoh Lin** Graduate Fellowship (Fund #5257)
- **Allan Peterson** Graduate Fellowship
- **Marion Brooks-Wallace** Graduate Fellowship (Fund #8543)
- **Granovsky Pest Management** Scholarship

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

**Cynthia Cashman**  
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*Please consult with your own tax advisor or attorney.

We also invite you to consider gifts to generate momentum for the proposed “Bee Research and Discovery Center.”

For information, see [www.BeeCenter.umn.edu](http://www.BeeCenter.umn.edu) or contact **Dr. Marla Spivak** (spiva001@umn.edu).

Fellowships and scholarships that anyone can contribute to are indicated by a **Fund #**. Please specify the Fellowship and Fund# with your check/gift. If you want to contribute to a Fellowship or Scholarship without a fund letter, contact Dr. Bill Hutchison. With just a few clicks of the mouse, gifts can now be made easily, by visiting the new on-line giving page at our department web site. Please see: [http://www.entomology.umn.edu/Giving/index.htm](http://www.entomology.umn.edu/Giving/index.htm)

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*Dr. Karen Mesce receiving her Ada Comstock from Dr. Peg Lonnquist, Women’s Center Director, Office of Equity and Diversity, University of Minnesota.*
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.

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Production Editor: Felicia Horan

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Editor: Tomi Olayiwola  
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Public Relations Committee  
Bill Hutchison (Chair), Jeff Hahn, Karen Mesce, Mike Herron, Lee French, Ann Fallon (ex-officio)

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St. Paul Student Center

Upcoming Meetings:

NCB-ESA Annual Meeting  
June 16-19, 2013, Rapid City, SD

ESA National Meeting (& Alumni Mixer)  
Nov. 17-20, 2013, Austin, TX

Meeting Websites, see:  
http://www.esancb.org/  
http://www.entsoc.org/
TICK-BORNE PATHOGENS

Uli Munderloh, Tim Kurtti and the Tick Lab team use genetic tools to label live tick-borne pathogens, such as those that cause human anaplasmosis, with fluorescent dies, and to identify traits responsible for causing disease. Their lab at the University of Minnesota is the first to develop such tools.