

HEXAPOD HERALD

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Entomology Department , University of Nebraska-Lincoln

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Welcome

Blessing Ademokoya is a new doctoral student who will be working under the supervision of **Drs. Tom Hunt** and **Bob Wright**. Blessing received her bachelor's degree in biology in 2009 from The Federal University of Technology, Akure, Nigeria, and her masters degree in entomology in 2016 from Auburn University. Her research project will involve stink bug biology, ecology and IPM in Nebraska cropping systems.

Sajjan Grover is a new doctoral student who will be working under the supervision of **Dr. Joe Louis**. Sajjan received his bachelor's degree in agronomy in 2013 from Punjabi University, Patiala—Punjab, India, and his masters degree in entomology in 2016 from Punjab Agricultural University, in Ludhiana, India. Sajjan's research will focus on characterizing sorghum genes involved in resistance against different feeding guilds of insect pests.

Surabhi Gupta Vakil is a new doctoral student who will be working under the supervision of **Dr. Judy Wu-Smart**. Surabhi received her bachelor's degree in agriculture in 2010 and her masters degree in entomology in 2012 from Himachal Pradesh Krishi Vishvavidyalaya, Palampur, India. After receiving her masters, Surabhi served as an agriculture officer (plant protection) in the State Department of Agriculture, then as an assistant professor at Lovely Professional University. She also served as Senior Research Associate at the All India Coordinated Research Project on honeybees and pollinators at the Indian Agricultural Research Institute in New Delhi. Surabhi will be on a multistate Hatch grant to examine effective in-field and edge-of-field landscape enhancement options for decreasing agrochemical exposure and increasing pollinator and beneficial insect habitat while maintaining or improving production and land stewardship services for NE growers.

Kayla Mollet, a new masters student originally from Vermillion, SD, will be working under the supervision of **Dr. Judy Wu-Smart**. Kayla received her bachelor's degree in natural resources from Oregon State University in 2009. Between there and here, among other things, she served in the Peace Corps in the Dominican Republic, worked at the University of Minnesota in the Entomology Department as a junior scientist, and finally in June 2014, moved to North Platte to work for **Dr. Julie Peterson** as a lab technologist. She will be working on a collaborative grant with Judy and Dr. Walter Schacht (Agronomy and Horticulture Department) funded by the NE Department of Roads to examine the impact of establishing wildflower islands on roadsides on wild bee communities and developing recommendations for seeding rates for sustainable pollinator-friendly management of roadsides.

Mariana Sánchez Londoño is a new masters student who will be working under the supervision of **Drs. Joe Louis** and **Ana Vélez**. Mariana will also be supporting departmental teaching. Mariana received her bachelor's degree in biology in 2015 from the Universidad de Caldas, Manizales, Colombia. She had worked as a research assistant for the International Park of Creativity in Colombia for the past nine years. Her research will focus on evaluating CO₂ and other chemoreceptors important for host finding in western corn rootworm larvae.

Matthew Welter, a new masters student, will be supporting departmental teaching and also conducting research under the supervision of **Drs. Lance Meinke** and **Ana Vélez**. Matt received his bachelor's degree in agricultural biochemistry in 2016 from Iowa State University. His research will focus on evaluating the use of adult western corn rootworms for susceptibility monitoring of field populations to RNAi.



Ademokoya



Grover



Gupta Vakil



Mollet



Sánchez Londoño



Welter

Welcome con't.

Online M.S. Students: Spring 2017: **Caroline Adesida**, Havertown, PA; **Eric Honerlaw**, Vernon Hills, IL; **Jonathan McGhee**, Long Beach, CA; **Jennifer Morris**, Mondamin, IA; **Joshua Robinson**, College Station, TX; **Rebekah Rogers**, Berryville, VA

Dustin Scholl is the new apiary manager for the Bee Lab. He will assist **Dr. Judy Wu-Smart** in managing the bee colonies and equipment for research and teaching purposes as well as assist with student training, beekeeping workshops, and extension and outreach education.



Faculty News

Dr. Troy Anderson is the chair of the Entomology Department's Curriculum Committee and is the CASNR Curriculum Representative.

Dr. Shripat Kamble has been approved for Emeritus status effective January 1, 2017.

Dr. Justin McMechan was appointed to the Graduate Faculty at UNL effective last September, 2016.

Dr. Susan Weller has been installed as the ESA President for 2017.

Dr. Judy Wu-Smart was awarded the first annual BugFest travelling trophy for the new exhibit "Inside the Hive", a look at what the different casts of bees do while they are inside a bee hive. Visitors were amazed and fascinated and voted this as the most popular new exhibit. Undoubtedly this will stimulate a little competition next year at BugFest to be the next to take home the oxidized mosquito.



Grants

Robert Wright

AMVAC.....	\$15,000
<i>"Insect Management Industry"</i>	
Valent.....	\$26,000
<i>"Research Insect Management"</i>	

Dr. Brett Ratcliffe received a grant of \$20,819 from The National Geographic Society for research on the Dynastinae (Coleoptera: Scarabaeidae) of Ecuador. He will be conducting field and museum research in Ecuador this month.

Congratulations

Dr. Jeff Bradshaw received the Innovative Extension Specialist Award at the Fall Nebraska Extension Conference in Kearney held this past November. The award provides recognition of outstanding contributions by an Extension Specialist in the program area(s) relative to his/her assignment. The award recognizes imaginative leadership in developing and carrying out programs in cooperation with Extension Educators and other Extension Specialists as appropriate.

Dr. Julie Peterson received the Early Career Leadership Award from the UNL Epsilon Sigma Phi Chapter at the Fall Nebraska Extension Conference In November. This award is presented by the chapter to deserving extension professionals who exemplify personal integrity, teamwork, program leadership, and work/life balance.

Dr. Ana Vélez was named by DuPont as one of eight young faculty members to its 2016 Class of DuPont Young Professors. Recognizing promising research talent, the company will provide this group of international faculty with more than \$350,000 during the next two years to support their research that advances basic science knowledge to address global challenges in food, energy and protection.

Dr. Bob Wright has been selected as the recipient of the Gamma Sigma Delta Award for Excellence in Extension. Gamma Sigma Delta is a national honor society that promotes high scholarship among students and professionals.

Student News

Louise Lynch received her Ph.D. degree December 16, 2016, under the supervision of **Dr. Doug Golick**. Her dissertation title was "Science Experiences of Citizen Scientists in Entomology Research". Louise, while searching for the perfect job, is instructor for the online insect biology course this spring for the Department.

Adriano Pereira received his Ph.D. degree December 16, 2016 under the supervision of **Dr. Lance Meinke**. His dissertation title was "Assessing the risk of resistance evolution, adult and larval susceptibility, and sublethal effects after exposure of corn rootworms to vacuolar ATPase-A and Snf7 dsRNAs". Adriano accepted a post-doc position working with Dr. Bruce Hibbard in the Plant Genetics Research Unit, USDA/ARS in Columbia, MO.

Insect Science graduates were **Andy Matz**, Omaha, NE; **Michael Krueger**, and Insect Science minor, **Whitney Lovegrove**, Fairmont, NE. Whitney, who was an agronomy major, will be on an internship in Yakima, WA this summer, scouting hops for Perrault Farms. She will be monitoring powdery mildew, spider mites, aphids, weevils, etc. and observing/collecting data on beneficial predatory insects.

The following online masters degree students graduated December 16, 2016:

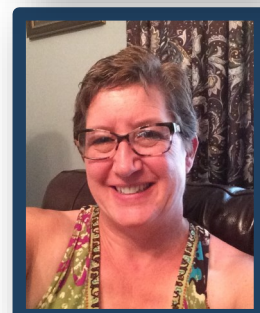
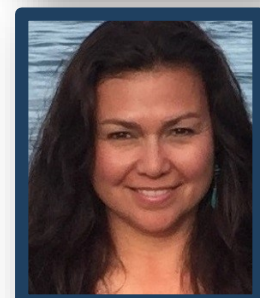
Hillary Guzik is a microscopist at the Albert Einstein College of Medicine in Bronx, NY where she hopes to combine her masters degree in entomology and her knowledge of microscopy on research on insect borne infectious diseases. She is particularly interested in tick borne diseases such as Lyme disease and hopes to further the public knowledge in areas as this. Her masters degree project was "Imaging the Oocyst in the Midgut of the Mosquito." The PI she was working under is looking into gene mutations that lead to the oocyst not fully being able to develop thus the mature plasmodia parasites cannot leave the midgut, thus halt the infection rate of the disease. Halting the disease within the insect in comparison to the current practice of treating the disease in humans is a pretty interesting approach to which she hopes may be feasible for irradiation of many insect borne infectious diseases.

Gabriela Harvey has been a biologist at Coachella Valley Mosquito and Vector Control District in Southern California since 2005. Thanks to the Insect ID and Natural History course, she is now able to identify insects that the public brings in to the District. Her masters degree project, "Evaluation of the Red Imported Fire Ant" was used to revise their District's Red Imported Fire Ant Standard Operating Procedures. The project assessed the most effective time for vector control technicians to conduct surveillance and make treatments to control *Solenopsis invicta* in the Coachella Valley. Gabriela says she is so grateful and proud to be a Husker and will continue to integrate what she learned at UNL and apply that to her work experience skills, so that she can continue to provide safe, effective, and knowledgeable vector control to the public.

Linda Johns will continue to work as the program manager for the Pesticide Applicator Training Program, the Pesticide Product Registrations Program, and the Vertebrate Pest Control Program with the Montana Department of Agriculture. Her job is all about ensuring that pesticides are available for use and do not pose an unreasonable adverse effect on human health or the environment. A few of the Associations/Organizations she is currently involved in include: Vice-President on the Board of Directors for the Association of Structural Pest Control Regulatory Officials (ASPCRO), Rodenticide Chair of the ASPCRO, Western Region Director of the American Association of Pesticide Safety Educators, and Board of Director on the Certification & Training Assessment Group. The title of Linda's masters degree project was "The Ins and Outs of the Pesticide Registration Process and Why It's Important to the End-User".



L-r, Lovegrove, Lynch, Pereira

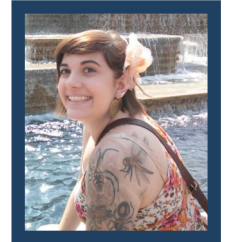


Student News con't.

Dr. Paul Narguizian is a professor with the Department of Biological Sciences at California State University in Los Angeles, CA. Paul is planning on offering and teaching an upper division Introduction to Entomology lecture and lab course for the biology majors at Cal State L.A. This course has not been taught since the early 1990s. His research lab has also taken on a new focus—archaeoentomology. Archaeoentomology is the area of quaternary entomology which deals with insects from archaeological contexts. These range from reconstructions of natural and anthropogenic contexts to reconstructions of climate. Insects from archaeological sites are recovered from soil samples retrieved from suitable contexts during the excavation. The title of Paul's masters degree project was "Development of BIOL 4540: Entomology and BIOL 4541: Entomology Lab".



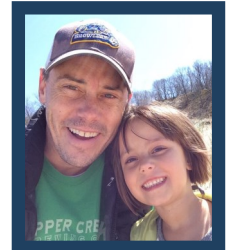
Kaylen Reilley-Hanks is employed by Midwest Environmental Consultants, which is based in Missouri but provides services throughout the Midwest. She will be working with Convoy of Hope on a vector control project in an area of Haiti that was damaged by Hurricane Matthew. She is also expecting her first child this spring. Kaylen's masters degree project was "Evaluation of Triatomine sp. Control Methods".



Rachel Woods' masters degree project was "Woods Family Farm Integrated Pest Management Plan". It focused on various pest management strategies she and her husband could implement for their small scale farm in central Iowa. Rachel says their farm is very small in regards to most farms - they run a small CSA (community supported agriculture) where they provide members with fresh produce and chicken eggs on a weekly basis during the growing season. They also raise pasture hogs. It's mostly a hobby farm that allows them to make a little side money while attempting to live off the food they grow/raise. However, Rachel will mainly be using her degree to continue her work at DuPont Pioneer where she focuses on Environmental Risk Assessments by characterizing the safety of our products on target and non-target arthropods.



Erich Zinser will continue his work as a parasitology scientist at Zoetis, (formerly Pfizer Animal Health) which focuses on the discovery and development of drugs that manage the parasites of livestock and companion animals. His masters degree project was "Cryogenic Preservation of *Dirofilaria immitis* Microfilariae, and Subsequent Survival." He is pictured here with daughter, Amelia.



Kyle Koch received the North American Colleges and Teachers of Agriculture Graduate Student Teaching Award of Merit Certificate.

Matthew Welter was selected to receive the Chancellor's Fellowship award for Entomology. Chancellor's Fellowships are designed to assist departments with the recruitment of superior graduate students by adding fellowship funds to an assistantship. Matt will receive, in addition to the departmental assistantship, a \$4,000 fellowship per year for up to two years.

Ellis Johnson and **Alex Lehmann**, insect science majors, were each awarded a scholarship from the Earl & Bertha Ramsey Memorial Fund. Ellis also received a scholarship from the Ephriam and Veallon Hixson Memorial Fund. **Laura Gatch**, also an insect science major, was awarded a scholarship from the Insect Science Scholarship Fund.

Blast from the Past

Pat Wagner is now an entomology field specialist, based in Rapid City, S.D. Pat is in charge of insect-related problems in the area, focusing on rangeland and crops. He also handles some urban calls and is involved in extension and outreach. He educates farmers, ranchers and stakeholders about insect problems and how to resolve issues. His skills will also be used to develop applied on-farm research and demonstrations, conduct pesticide applicator training, facilitate presentations and workshops, and evaluate the impact of the program.

Pat received his bachelor's degree in insect science from Iowa State in 2014 and his masters degree in entomology from UNL in 2016.



Publications

Enders, Laramy S. and **Nicholas J. Miller.** 2016. Stress-induced changes in abundance differ among obligate and facultative endosymbionts of the soybean aphid. *Ecology and Evolution* 6(3): 818–829. Doi: 10.1002/ece3.1908.

Koch, R.L., B.D. Potter, P.A. Glogoza, E.W. Hodgson, C.H. Krupke, J.F. Tooker, C.D. DiFonzo, A.P. Michel, K.J. Tilton, **T.J. Prochaska**, J.J. Knodel, **R.J. Wright**, **T.E. Hunt**, B. Jensen, A.J. Varenhorst, B.P. McCornack, K.A. Estes, and J.L. Spencer. 2016. Biology and Economics of Recommendations for Insecticide-Based Management of Soybean Aphid. *Plant Health Progress* 17: 265-269.

Peterson, Julie A., John J. Obrycki, and James D. Harwood (2016) Spiders from multiple functional guilds are exposed to Bt-endotoxins in transgenic corn fields via prey and pollen consumption, *Biocontrol Science and Technology*, 26(9): 1230-1248, <http://dx.doi.org/10.1080/09583157.2016.1193591>

Ray S., **S. Basu**, L.J. Rivera-Vega, F.E. Acevedo, **J. Louis**, G.W. Felton, and D.S. Luthe. 2016. Lessons from the far end: caterpillar frass-induced defenses in maize, rice, cabbage and tomato. *J. Chem Ecol*, Vol. 42 (11): 1130-1141.

Rodrigues, Thais B., Etsuko Moriyama, Hang Wang, **Chitvan Khajuria**, and **Blair D. Siegfried.** 2016. Carbon dioxide receptor genes and their expression profile in *Diabrotica virgifera virgifera*. *BMC Research Notes* 9:18 DOI 10.1186/s13104-015-1794-4.

Smart, M.D., R.S. Cornman, D.D. Iwanowicz, J.S. Pettis, M. McDermott, M.S. Spivak, and C.R.V. Otto. 2017. A Comparison of Honey Bee-Collected Pollen From Working Agricultural Lands Using Light Microscopy and ITS Metabarcoding. *Environmental Entomology*, DOI: <http://dx.doi.org/10.1093/ee/nvw159>.

Valencia, Arnubio, Haichuan Wang, Alberto Soto, Manuel Aristizabal, Jorge W. Arboleda, Seong-il Eyun, Daniel D. Noriega, and **Blair Siegfried.** 2016. Pyrosequencing the midgut transcriptome of the banana weevil *Cosmopolites sordidus* (Germar) (Coleoptera: Curculionidae) reveals multiple protease-like transcripts. *PLoS ONE* 11(3): e0151001. Doi: 10.1371/journal.pone.0151001

Vélez A.M., Elaine Fishilevich, Natalie Matz, Nicholas P. Storer, Kenneth E. Narva, and **Blair D. Siegfried.** 2017. Parameters for Successful Parental RNAi as An Insect Pest Management Tool in Western Corn Rootworm, *Diabrotica virgifera virgifera*. *Genes*, 8(1), 7; doi:10.3390/genes8010007.

Wosula, E.N., A.J. McMechan, C. Oliveira-Hofman, S.N. Wegulo, and **G.L. Hein.** 2016. Differential transmission of two isolates of *Wheat streak mosaic virus* by five wheat curl mite populations. *Plant Disease* 100: 154-158.

Wu-Smart, Judy and Marla Spivak. 2016. Sub-lethal effects of dietary neonicotinoid insecticide exposure on honey bee queen fecundity and colony development. *Scientific Reports* 6, 32108; doi: 10.1038/srep32108

Condolences

Dr. Kenneth P. Pruess, 84, of Lincoln died December 11, 2016. He was born June 21, 1932 in Troy, Indiana to Elmer and Clara (Grass) Pruess. Kenneth graduated from Purdue University in 1954 and earned his doctorate from The Ohio State University in 1957. He married Neva Currie on June 15, 1963. Dr. Pruess was Professor Emeritus at the University of Nebraska. He was at the North Platte Experiment Station 1957-1965, Entomology Department at UNL 1965-1997 and Entomology Department UNL Emeritus 1997 until the time of his death, continuing his research until December 8, 2016. He taught and researched range land grasshoppers, army cutworms, computer modeling for pest management, aquatic insects, black fly taxonomy and alfalfa weevil taxonomy. Dr. Pruess was an academic coach for the Entomology Department's Linnaean Team, which is part of an entomology graduate student competition. His memberships include being a 60 year member of the Entomological Society of America, North American Black Fly Association, Lincoln Stamp Club, American Philatelic Society, American Revenue Association, American Topical Association and Cornhusker Fly Fishers.



Our sincerest sympathy to Neva and family.