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# HEXAPOD HERALD

Vol. 30, No. 3

Entomology Department, University of Nebraska-Lincoln

August 2018

## Congratulations

**Bryant Gabriel** received his M.S. degree on August 11, 2018. He worked under the supervision of **Dr. Troy Anderson**, and his thesis title was “Gut symbiont viability in honey bees exposed to agrochemical stressors”. Bryant plans on continuing research on microbiomes applying what he has learned from insects on humans to help treat gut-related disease. Bryant is originally from Cleveland, OH.

**Camila Oliveira Hofman** was awarded her Ph.D. degree on August 11, 2018. Camila worked under the supervision of **Drs. Lance Meinke** and **Julie Peterson**. Her thesis title was “Characterization of the natural enemy community, with emphasis on entomopathogens, in pest management of western corn rootworm (*Diabrotica virgifera virgifera*) in west central Nebraska”. Camila will be a postdoc research associate working with Dr. David Shapiro-Olan at the USDA-ARS, Southeastern Fruit and Tree Nut Research Laboratory in Byron, GA.” She is originally from Barreiras, Bahia, Brazil.

The following students, who also graduated August 11, 2018, were in the online masters degree program:

**Mark Bashaw** is a senior noncommissioned officer in the United States Air Force. He is responsible for all pest management operations while at their home station and while deployed. Mark’s squadron protects Air Force personnel from health effects and the base infrastructure from damaging pests. He is looking at potentially joining the Army to become a military medical entomologist. His master’s degree project was “Disease Vector and Pest Ecology Profile of Ethiopia”.

**Kent Chittenden** works as a home inspector, which includes looking for, of course, wood destroying insects. He also worked as a professional naturalist in northwestern Iowa, starting the first environmental education program. Kent’s master’s degree project was a children’s book entitled, “Joel’s Journey: An Insect Adventure in Yellowstone and Grand Teton National Parks”. Kent lives in Indianola, IA.

**Alexandria Hammel** (pictured below, far left) currently works at Nestlé Purina in St. Louis as a Senior Quality Specialist in Quality Assurance on the Downstream Quality Team. Ali works with companies that purchase Purina products, helping them improve their food safety programs, of which pest management is a big part. Her master’s degree project was “Understanding and Controlling the Red Legged Ham Beetle (*Neocropia rufipes*)”. Ali lives in Belleville, IL.



Brewer, Hammel



Brewer, Hofman



Bashaw



Chittenden

## Congratulations con't.

**Steve Helm** has worked as a wildlife biologist for over 20 years, mostly in his home state of Oregon, with the Army Corps of Engineers in Portland. Steve said he enjoyed the program very much. He found it very interesting, and thought the teaching was excellent. Steve also has a master's degree in wildlife from Louisiana State University. His master's degree project was "Some Aspects of Woodpecker Predation on the Spruce Beetle in Colorado".



**Sarah Zuehlke** plans to continue a career in entomology and continue working as a contractor for the Smithsonian in the Entomology Department. In 2017, Sarah had her illustration of a grapevine beetle selected in a juried show for display in the Artists at Work show at the S. Dillon Ripley Center at the Smithsonian in Washington, D.C. Sara created the life color pencil illustration while enrolled in the Scientific Illustration class at UNL taught by Lana Johnson. Her master's degree project was "Scientific Illustrations of Beetles from Maryland and Virginia". Sarah lives in Millersville, MD.



## Department Buzz

The good news is that 2019 is shaping up to be a good year for Entomology. We are looking forward to **Dr. John Ruberson's** start as department head on January 1. We are extremely pleased that he accepted the offer to join us and look forward to his leadership. John is currently the Chair of the Entomology Department at Kansas State University and has a background in biological control.

January 1 is also notable in that **Dr. Matthew Smart** will be transitioning from his current position with the USGS to an Assistant Research Professor position in Entomology. He will add a valuable landscape perspective to our already world class Bee Health and Beneficial Insect Team. He will be teaching graduate insect ecology and beekeeping.

We also anticipate the start of an insect biologist position in 2019 with an emphasis on teaching and extension. The insect biologist will be at the forefront of the transition of the insect science major to a One Health emphasis. An excellent slate of candidates is scheduled to interview in September.

**Gary Brewer**  
**'lame duck'**  
**Department**  
**head**



As for myself, I am excited to be returning to the faculty after 12 years as department head. I will be expanding my current research in livestock entomology and the Salt Creek tiger beetle and looking to contribute to the beneficial insect team. On the educational front, I will be more involved in science literacy and will be teaching, especially in the refreshed Insect Science major.

### **Hutchins Nominated for USDA Undersecretary**

**Dr. Scott Hutchins**, global leader of integrated field sciences for Corteva Agriscience, has been nominated by President Donald Trump to be USDA's undersecretary for research, education and economics. "USDA now has four highly qualified nominees awaiting action in the Senate Agriculture Committee. It is my hope the committee moves expeditiously to consider these highly qualified individuals as soon as possible," said Agriculture Secretary Sonny Perdue. Scott is an adjunct professor in the Entomology Department at UNL.

# Welcome

**Bridget Gross** is a new master's student who will be working under the supervision of **Drs. Doug Golick** and **Judy Wu-Smart**. Bridget received her B.A. degree in environmental science from The College of Wooster this past spring. Bridget will be documenting the impact of Women in Beekeeping workshops and learning circle cohorts on beekeepers' and landowners' implementation of science-based beekeeping practices and land stewardship. She will also serve as the department coordinator for science literacy efforts. Her hometown is Vermilion, Ohio.

**Annie Krueger** will be a new doctoral student working under the supervision of **Dr. Troy Anderson**. Annie received her B.S. degree in zoology from the University of Wyoming. Her research will be focused on better understanding chemical and environmental stressors on monarch butterflies, with the aim to maximize conservation efforts.

Online M.S. students for Fall 2018: : **Jonathan Bishop**, LaGrange, GA; **Christina Chapman**, Austin, TX; **Jenna Chappell**, Belton, TX; **Jennifer Chavez**, Gunnison, CO; **Marissa D'Almada Remedios**, Palm Harbor, FL; **Quinn Kender**, Doylestown, PA; **Morgan Kerr**, Inver Grove Heights, MN; **Joshua Shoemaker**, Carlsbad, CA; **Michelle Triminio**, Savoy, TX; **James Walker**, Lantau Island, New Territories, HONG KONG; **Timothy Wucherer**, Alma, WI.

New Insect Science majors for this fall are: **Caitlin Aubushon**, Omaha, NE; **Hunter Brophy**, Aurora, NE; **Fiona Callahan**, Naperville, IL; **Erica Engel**, Omaha, NE; **Cait Gates**, Lincoln, NE; **Grace Lowe**, Murray, NE; **Tim Thielen**, Fremont, NE. Insect science minor - **Lauren Becher**, Omaha, NE.

The Agroecosystems Entomology Lab in North Platte has welcomed three international student interns for the months of June through December 2018. Each student will present a poster at the upcoming ESA conference in Vancouver this November. They are being co-advised by **Dr. Julie Peterson**, **Dr. Katie Swoboda Bhattarai** (post-doc), and **Samantha Daniel** (graduate student/tech).

**Sara Salgado Astudillo** is from Joya de los Sachas, Orellana, Ecuador. She has a bachelor's degree in agricultural science from the University of Zamorano. Her project focuses on the release and monitoring of the parasitoid wasp *Trichogramma ostriniae* to target the pest western bean cutworm.

**Franklin Oswaldo Dubón Garcia** is from Sonsonate, El Salvador. He has a bachelor's degree in agricultural and production science from the University of Zamorano. His project focuses on abundance and diversity of pollinators and pests in conservation plantings near agricultural fields.

**Gloria Melotto** is from Piracicaba, São Paulo, Brazil. She is currently completing a bachelor's degree in agricultural engineering at the Universidade Estadual Paulista "Júlio de Mesquita Filho" - UNESP Botucatu. Her project focuses on using video recordings to better understand hatching and larval dispersal behavior of western bean cutworm.



Gross



Krueger



Salgado Astudillo



Dubón Garcia



Melotto

## Welcome con't

**Dr. Alfonso Emanuel Carrizo** is a Fulbright postdoctoral scholar from Argentina who is working with **Dr. Ana Vélez** in the Toxicology Lab for three months. Alfonso holds a Ph.D. in Biological Sciences from the University of Tucuman, Argentina. Currently, he is a Postdoctoral Fellow of the National Council of Investigations and Techniques (CONICET) and Assistant Professor in the Department of General Microbiology at the National University of Jujuy, Argentina. His research in Argentina is orientated to find new regional bacterial strains of *Bacillus thuringiensis* with applications in biological control of insects and nematodes. Alfonso will be trained on the use of RNA interference as a pest management tool and will research the role of Adenosine Deaminases Acting on RNA (ADARs) on insecticides' toxicity on the western corn rootworm.



## Student News

**Jeffrey Cluever** has been awarded a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship for \$5,000 for 2018-2019. Jeff is working under the supervision of **Drs. Jeff Bradshaw** and **Bob Wright**.

**Bryant Gabriel** was awarded an American Chemical Society AGRO Division 2018 Education Award. Bryant, who graduated this August, was working under the supervision of **Dr. Troy Anderson**

**Bridget Gross** has received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship for \$3,000 for 2018-2019. Bridget is working under the supervision of **Drs. Doug Golick** and **Judy Wu-Smart**.

**Ethan Hoffart**, an Insect Science major, has received a 2018 IANR ARD Undergraduate Student Research Project award for \$2,500. Ethan is working with **Drs. Julie Peterson** and **Katharine Swoboda Bhattarai** on the project, "Evaluation of the effects of cover crops on the infestation rate, yield damage, and pupal development of western bean cutworm (*Striacosta albicosta*) in corn fields".

**Gabriela Inveninato Carmona**, along with her advisor, **Dr. Justin McMechan**, was awarded \$11,716 for the project, "Evaluating the Impact of Insecticides on Arthropods in Cover Crop to Corn Transitions" from the Graduate Student program of the USDA-NCR-SARE. The Graduate Student Grant program is a competitive grant program to fund graduate student projects that address sustainable agriculture issues.

**Annie Krueger** has been announced as a 2018 Foundation for Food and Agriculture Research (FFAR) Fellow for 2018-2021 and will receive an award of \$10,000 per year towards professional development activities coordinated by the FFAR Fellows Program lead institution, North Carolina State University. Annie was also awarded an Othmer Fellowship in the amount of \$4,000 for the next three years. Annie is working under the supervision of **Dr. Troy Anderson**.

**Camila Oliveira Hofman** has received The Robert O'Neil Award for Outstanding Ph.D. Student in Biological Control sponsored by the International Organization for Biological Control, Nearctic Regional Section. Camila will be recognized at the IOBC-NRS meeting and mixer held at the ESA Annual Meeting in November in Vancouver, British Columbia. She will receive a cash award of \$500 and will give a presentation summarizing her research at the IOBC meeting. Camila, who graduated this August, was working under the supervision of **Drs. Lance Meinke** and **Julie Peterson**.

**Jordy Reinders** has been awarded an Othmer Fellowship in the amount of \$4,000 for the next three years. Jordy is working under the supervision of **Dr. Lance Meinke**.

**Jennifer Williams** was awarded an American Chemical Society AGRO Division 2018 Education Award. Jen is working under the supervision of **Dr. Troy Anderson**.

Students awarded scholarship funds from CASNR are: **Makayla Burg** - the Ephriam and Veallon Hixson Memorial Scholarship; **Braden Wojahn** - the Earl & Bertha Ramsey Memorial Scholarship; and **Paola Perez**, the Insect Science Scholarship.

## Publications

**Basnet, Sanjay and Shripat T. Kamble. 2018.** RNA Interference of the Muscle Actin Gene in Bed Bugs: Exploring Injection Versus Topical Application of dsRNA Delivery. *J. Ins. Sci.* doi: 10.1093/jisesa/iey045

**Basnet, Sanjay and Shripat T. Kamble. 2018.** Silencing of Four Genes Involved in Chromatin Remodeling by RNA Interference Adversely Affects Fecundity of Bed Bugs (Hemiptera: Cimicidae). *Journal of Medical Entomology.* doi: 10.1093/jme/tjy112

**Ingram, Erin, and Douglas Golick. 2018.** The Six-Legged Subject: A Survey of Secondary Science Teachers' Incorporation of Insects into US Life Science Instruction. *Insects*, 9(1), 32; doi:10.3390/insects9010032

Karp D.S., et al. (**Peterson J.A.** author #113 of 157). 2018. Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. *Proc. Natl. Acad. Sci. USA.* 115(31): 7863-7870. doi: 10.1073/pnas.1800042115. [Article featured on issue cover]

**Koch, K.G., T. Donze-Reiner, L. M. Baird, J. Louis, K. Amundsen, G. Sarath, J. D. Bradshaw, and T. Heng-Moss. 2018.** Evaluation of greenbug and yellow sugarcane aphid feeding behavior on resistant and susceptible switchgrass cultivars. *BioEnergy Research*, 11(3): 480-490. DOI: [10.1007/s12155-018-9914-3](https://doi.org/10.1007/s12155-018-9914-3)

**Lynch, Louise I., Jenny M. Dauer, Wayne A. Babchuk, Tiffany Heng-Moss, and Douglas Golick. 2018.** In Their Own Words: The Significance of Participant Perceptions in Assessing Entomology Citizen Science Learning Outcomes Using a Mixed Methods Approach. *Insects*, 9(1), 16; <https://doi.org/10.3390/insects9010016>

**Mollet, Kayla A., Jonas Victor de Macedo, Grace E. Hirzel, Camila Oliveira-Hofman and Julie A. Peterson. 2018.** Evaluation of seed treatments and at-plant soil insecticides for the control of wireworms (Coleoptera: Elateridae) in field corn, 2015. *Arthropod Management Tests*, 43(1), doi: 10.1093/amt/tsy089.

Nalam, Vamsi, **Joe Louis**, Monika Patel, and Jyoti Shah. 2018. *Arabidopsis*-Green Peach Aphid interaction: rearing the insect, no-choice and fecundity assays, and electrical penetration graph technique to study insect feeding behavior. *Bio-protocol*, 8 (15): e2950. DOI: [10.21769/BioProtoc.2950](https://doi.org/10.21769/BioProtoc.2950)

Nalam, Vamsi, **Joe Louis**, and Jyoti Shah. 2018. Plant defense against aphids, the pest extraordinaire. *Plant Science*, DOI: [10.1016/j.plantsci.2018.04.027](https://doi.org/10.1016/j.plantsci.2018.04.027)

Otto, Clint R. V., Haochi Zheng, Alisa L. Gallant, Rich Iovanna, Benjamin L. Carlson, **Matthew D. Smart**, and Skip Hyberg. 2018. Past role and future outlook of the Conservation Reserve Program for supporting honey bees in the Great Plains. *Proc. Natl. Acad. Sci. USA.* 115(29): 7629-7634.

## Blast from the Past

Dr. Connie Reimers-Hild has been named the interim leader of Rural Futures Institute. She assumed the role after the June 30 retirement of Chuck Schroeder, founding executive director of the institute.

Reimers-Hild has served in the role of associate executive director since May 2015, leading several strategic priorities and initiating the evaluation efforts of the institute. Prior to her role at the institute, Reimers-Hild served as unit leader of the Kimmel Education and Research Center in Nebraska City.

While at Kimmel, Reimers-Hild consulted with more than 20 businesses and hospitals in the areas of leadership and innovation, attained more than \$1 million in investments and financial support for Nebraska Extension programming and authored more than 50 publications, including two books.

Reimers-Hild holds a doctorate in human sciences with a focus on leadership studies, a **master's degree in entomology** and a bachelor's degree in natural resources from the University of Nebraska-Lincoln. She also holds a certificate in strategic foresight from the University of Houston, a certified professional coach designation from the International Coach Academy and a strengths coaching certification through Gallup.



Reimers-Hild

Story and photo from UNL *Nebraska Today*.

## Publications con't

**Paulsen, M. J. 2018.** Revision of the obesus species group of the stag beetle genus *Nigidius* MacLeay (Coleoptera: Lucanidae: Lucaninae: Figulini). *Insecta Mundi* 0624: 1-13.

**Pinheiro, Danielle H., Ana M. Vélez, Elane Fishilevich, Haichuan Wang, Newton P. Carneiro, Arnubio Valencia-Jiménez, Fernando H. Valicente, Kenneth E. Narva, and Blair D. Siegfried. 2018.** Clathrin-dependent endocytosis is associated with RNAi response in the western corn rootworm, *Diabrotica virgifera virgifera* LeConte. *PLoS One*, 13(8): e0201849.

**Ratcliffe, B. C. 2018.** A monographic revision of the genus *Gymnetis* MacLeay, 1819 (Coleoptera: Scarabaeidae: Cetoniinae). *Bulletin of the University of Nebraska State Museum* 31: 1-250.

**Smart Matthew D., Clint R. V. Otto, Benjamin L. Carlson, and Cali L. Roth. 2018.** The influence of spatiotemporally decoupled land use on honey bee colony health and pollination service delivery. *Environ. Res. Lett.* 13(8): 1-11.

Stepanovic, Strahinja V., Chuck Burr, **Julie A. Peterson**, Daran Rudnick, Cody F. Creech, and Rodrigo Werle. 2018. Field pea response to seeding rate, depth and inoculant in west-central Nebraska. *Agronomy J.* 110 (4), 1412-1419. Doi: 10.2134/agronj2017.10.0600

**Tiroesele, Bamphitlhi, Steven R. Skoda, Thomas E. Hunt, Donald J. Lee, Muhammad Irfan Ullah, Jaime Molina-Ochoa, and John E. Foster. 2018.** Morphological and genetic analysis of four color morphs of bean leaf beetle. *J. Ins. Sci.* 18(2): 39; 1-8. Doi: 10.1093/jisesa/iey016

Vickrey, Trisha, **Douglas Golick**, and Marilyne Stains. 2018. Educational Technologies and Instructional Practices in Agricultural Sciences: Leveraging the Technological Pedagogical Content Knowledge (TPACK) Framework to Critically Review the Literature. *NACTA Journal*, 62(1).

## Grants

### **Shripat Kamble**

BASF Corporation .....\$ 4,000  
"Subterranean Termite Project"

### **Lance Meinke**

Sipcam Agro USA, Inc ..... \$10,000  
"Diabrotica Biology and Ecology"

Marrone Bio Innovations .....\$ 6,000  
"Diabrotica Biology, Ecology, and Management "

Bayer US ..... \$ 3,000  
"Diabrotica Biology, Ecology, and Management "

### **Robert Wright**

AMVAC Chemical Corp. .... \$17,000  
"Insect Management Research"

Syngenta Crop Protection ..... \$10,000  
"Insect Management Research"

FMC Corporation ..... \$14,000  
"Insect Management Research"

**SAVE THE DATE—BUGFEST 2018, September 30, 2018, 1 - 4 p.m. Entomology Hall, East Campus, UNL**