

HEXAPOD HERALD

Vol. 28, No. 3

Entomology Department , University of Nebraska-Lincoln

July 2016

Welcome New Faculty

Dr. Troy Anderson will be joining the Entomology Department in August as an associate professor with a research and teaching appointment. His primary responsibilities will be to develop a research and teaching program that uses integrative tactics including modern molecular, genetic, biochemical, and “omics” tools to understand key physiological functions of insects or related arthropods. Troy received his B.S. and M.S. degrees in Biological Sciences from Wichita State, and his Ph.D. degree in Entomology from Kansas State. He was a Post-Doctoral Fellow at the Department of Entomology at Virginia Tech from 2006-2008 and an assistant professor in the Department of Biology at the University of Texas at Tyler, TX from 2008-2010. He has been in the Entomology Department at Virginia Tech since 2010.

A. Justin McMechan (officially Doctor on August 15) will be joining the Department in August as an extension assistant professor with a extension and research appointment. His responsibilities will be to develop a national caliber extension and research crop protection program developing best practices with designed integration of crop protection and cropping system practices in eastern Nebraska rainfed and irrigated production systems. His office will be located at the ARDC (ENREC). Justin received his B.S. degree in Agronomy from the University of Minnesota in 2009, and his M.S. degree entomology in 2012 from UNL. He graduated from UNL’s Doctor of Plant Health Program this spring and will receive his Ph.D. degree from UNL this summer.

Dr. Ana Vélez joined the department this month as an assistant professor with a research and teaching appointment. Ana’s primary responsibilities will be to develop a research and teaching program that is recognized nationally and internationally in insect toxicology which contributes to organizational missions such as Stress Biology, Healthy Agroecosystems, and Cropping System Pesticide Resistance Management. She received her B.S. degree in Biology from the Pontifica Universidad Javeriana, Colombia, her M.S. degree in Entomology from the Universidad Nacional de Colombia, and her Ph.D. in Entomology from UNL in 2013. She was a Postdoctoral Research Associate in the Entomology Department from 2013 - 2015 and has been a research assistant professor in the department for the past year.

“I am really excited to start my new position at the Department of Entomology, and I am looking forward to continuing my research on a better understanding of insect control technologies and teaching the insecticide toxicology course this fall.”

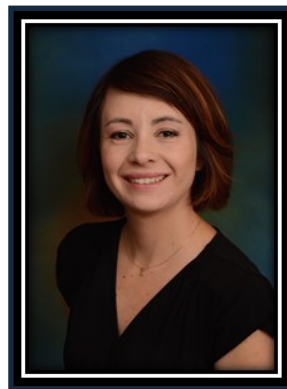
- Dr. Ana Vélez



Dr. Troy Anderson



A. Justin McMechan



Dr. Ana Vélez

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ESA-NCB Award Winners

Dr. Tom Weissling received the 2016 ESA North Central Branch Distinguished Achievement Award in Teaching at the meeting held in June. Tom has been the coordinator of the online masters degree program since he joined the department in 2006 and in 2015 added coordinator duties for the department insect science undergraduate degree program. He is an instructor for undergraduate and graduate courses and serves as an advisor for undergraduate and graduate students. Tom also develops literacy and outreach programs related to arthropod ecology and conservation. His primary focus is documentation of insect diversity on milkweed plants in Nebraska, and he is working with graduate students to develop related citizen science projects such as Milkweed Watch.

Justin McMechan was announced as a recipient of the 2016 ESA North Central Branch J.H. Comstock Graduate Student Award at the meeting in Cleveland, OH. Justin graduated from the Doctor of Plant Health Program at UNL in May and will be graduating with a Ph.D degree in Entomology from UNL in August. The combination of these doctoral programs has allowed Justin to take an interdisciplinary approach in his dissertation research to address risk assessment of over-summering hosts for the wheat-mite-virus complex in winter wheat. The award includes a \$1,000 cash prize, along with an all-expense-paid trip to the national meeting in Orlando, FL in September, where the certificate will be presented.

Student Award Winners

Camila Oliveira Hofman—1st Place, Ph.D. poster competition

Matheus Ribeiro—3rd Place, Ph.D. poster competition

Elliot Knoell—2nd Place, M.S. poster competition

Kaitlin Chapman—1st Place, Ph.D. paper competition

Adriano Pereira—3rd Place, Ph.D. paper competition

Patrick Wagner—1st Place, M.S. paper competition

Westen Archibald—2nd Place, M.S. paper competition

Camila Oliveira Hofman and **Kaitlin Chapman** each received a NCB-ESA Presidential Student Travel Scholarship to support their travel to the meeting.

Grants

Julie Peterson

Monsanto	\$13,617
<i>“New traits for western bean cutworm control”</i>	
DuPont	\$5,000
<i>“Reduced risk pesticides for western bean cutworm control and impact on non-target beneficial arthropods”</i>	
Valent	\$6,000
<i>“Management of spider mites in field corn”</i>	

Robert Wright

FMC Agricultural Products	\$18,000
<i>“Insect Management Research”</i>	

Etsuko Moriyama, Hideaki Moriyama, and **Ana María Vélez** have received funding from the Nebraska Corn Board in the amount of \$49,998 for the project, “Validation of CO₂ Receptors for Western Corn Rootworm Control by RNAi”.



Lindsay Overmyer



Eduardo Valentin Cruzado



Clebson dos Cantos Tavares

Student News

Lindsay Overmyer is a new masters student who will be working under the supervision of **Dr. Gary Hein**. Lindsay received her bachelor's degree in agronomy this spring from Wilmington College, Wilmington, OH. Her research here will involve investigating the ecological relationships between corn and the wheat curl mite and its associated viruses. Lindsay was awarded a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship in the amount of \$3,000 for this coming academic year.

Eduardo Valentin Cruzado will be working on a masters degree under the supervision of **Dr. Jeffrey Bradshaw** at the PHREC in Scottsbluff, NE. Eduardo received his bachelor's degree in agronomy from the University of Puerto Rico in 2011. His project will focus on the conservation of beneficial insects in agricultural landscapes, particularly in dry edible beans. Activities will focus on agricultural practices or management procedures in dry edible beans (through varietal selection, landscape design, etc.) that prepare this environment for resilient and profitable agriculture by maximizing arthropod ecosystem services.

Clebson dos Cantos Tavares joined **Dr. Tom Hunt's** lab (Haskell Ag Lab, Concord, NE) as a visiting scholar in June 2016. He received his bachelor's degree from the Universidade Federal de Viçosa (UFV), Brazil earlier this year and began a masters program at UFV under the supervision of **Dr. Eliseu José Guedes Pereira** (Ph.D. 2006, **Siegfried**) in March. Clebson will be working on a noctuid marking technique while at UNL, a project that also involves another past student, **Dr. Silvana Paula-Moraes** (Ph.D. 2012 **Hunt, Wright**). Silvana works for EMBRAPA Cerrados in Brasilia, Brazil.

New online masters degree students starting this fall are: **Robert Lefevre**, APO, AP; **Colin Park**, Portland, OR; **Krishna Woerheide**, Lutsen, MN

Justin McMechan and **Debora Montezano** have each received a David H. & Anne E. Larrick Memorial Student Travel Award. Justin's award was for travel to the Annual Meeting of the North Central Branch of the ESA held in June. Debora's award is for travel to the 2016 - XXV International Congress of Entomology in Orlando, FL, Sept. 25 - 29, 2016.

Ellis Johnson has been awarded UCARE 2016-2017 funding for his project, "Importance of *Arabidopsis thaliana* myzus persicae-induced lipase1 gene in defense against cabbage aphids (Hemiptera)". **Dr. Joe Louis** is Ellis' advisor.

Congratulations!

Dr. Dave Taylor, USDA-ARS-AMRU, and an adjunct professor in the Entomology Department, received the Lifetime Achievement Award at the 60th Annual Livestock Insect Workers Conference June 26 - 29, 2016, in Oklahoma City, OK. The Lifetime Achievement Award is sponsored by Bayer Animal Health and recognizes a scientist for outstanding contributions to animal health and productivity.

Dr. Jaime Molina-Ochoa, an adjunct professor in the Entomology Department, has been recognized as the "Best Professor 2016" at the Universidad de Colima, Tecomán, Colima, México, where Jaime is a veterinarian in the School of Veterinary Medicine and Livestock. Jaime stated in an email announcing the award "You know very well, the importance your contributions made in my academic, scientific, and familial life. I want to let you know, that I thank you all forever."

Jennifer Shaughney will receive the Edwards Prize presented for the best published masters thesis on beetles at the Coleopterists Annual Meeting in Orlando, FL next September. Jen received her masters degree from UNL in 2015, under the supervision of **Dr. Brett Ratcliffe**.



Publications

Brust, Mathew L. and **W. Wyatt Hoback.** 2016. Predominately Left-Dominant Mandibular Chirality in Coleoptera. *The Coleopterist Bulletin* 70(1):181-184.

Esashika, Danilo A.S., Miguel Michereff-Filho, **Cristina S. Bastos**, Alice K. Inoue-Nagata, Antônio M. Dias, and **Matheus G.P.M. Ribeiro.** 2016. Susceptibility of *Bemisia tabaci* biotype B to insecticides. *Hortic. bras.* 34(2):189-195.

Fishilevich, Elane, **Ana M. Vélez**, Nicholas P. Storer, Huarong Li, Andrew J. Bowling, **Murugesan Rangasamy**, Sarah E. Worden, Kenneth E. Narva, and **Blair D. Siegfried.** 2016. RNAi as a pest management tool for the western corn rootworm, *Diabrotica virgifera virgifera*. *Pest Management Science*. doi: 10.1002/ps.4324.

Ratcliffe, B.C. 2016. The scarab collections at the University of Oslo, Norway (ZMUN) and the Institut Royal des Sciences Naturelles de Belgique, Belgium (IRSNB). *Scarabs* 80: 6-11.

Ratcliffe, B.C. 2016. *Trox paulseni* (Coleoptera: Trogidae), a new species from Nebraska and Kansas, USA. *Insecta Mundi* 0482: 1-6.

Smart, Matthew D., Jeff S. Pettis, Ned Euliss, and Marla S. Spivak. 2016. Land use in the Northern Great Plains region of the US influences the survival and productivity of honey bees. *Agriculture, Ecosystems, and Environment* 230:139-149.

Tan, Sek Yee, Murugesan Rangasamy, Haichuan Wang, Ana María Vélez, James Hasler, David McCaskill, Tao Xu, **Hong Chen, Jessica Jurzenski,** Matthew Kelker, Xiaoping Xu, Kenneth Narva, and **Blair D. Siegfried.** 2016. RNAi induced knockdown of a cadherin-like protein (EF531715) does not affect toxicity of Cry34/35Ab1 or Cry3Aa to *Diabrotica virgifera virgifera* larvae (Coleoptera: Chrysomelidae). *Insect Biochemistry and Molecular Biology*. doi:10.1016/j.ibmb.2016.06.006.

Ullah, Muhammad Irfan, Muhammad Arshad, Muhammad Afzal, Samina Khalid, Muqadas Saleem, Irfan Mustafa, Yasir Iftikhar, **Jaime Molina-Ochoa** and **John E. Foster.** 2016. Incidence of *Spodoptera litura* (Lepidoptera: Noctuidae) and its feeding potential on various citrus (Sapindales: Rutaceae) Cultivars in the Sargodha Region of Pakistan. *Florida Entomologist* 99(2):192-195.

Vélez, Ana María, Chitvan Khajuria, Haichuan Wang, Kenneth E. Narva, and **Blair D. Siegfried.** 2016. Knockdown of RNA interference pathway genes in western corn rootworms (*Diabrotica virgifera virgifera* LeConte) demonstrates a possible mechanism of resistance to lethal dsRNA. *PLoS One*. e0157520.

Vélez Ana M., Neetha Nanoth Vellichirammal, Juan Luis Jurat-Fuentes, and **Blair D. Siegfried.** 2016. Cry1F resistance among lepidopteran pests: A model for improved resistance management? *Current Opinion in Insect Science*. 15:116-124.

Insect Science Club Officers for 2016-2017

President - Laura Gatch

Vice-President - Lisa Keys

Secretary/Treasurer - Makenzie Nansel

TRAVEL

Dr. Ana Vélez and **Adriano Pereira** visited the Monsanto Headquarters in St. Louis, MO, and the USDA/ARS in Columbia, MO, last April to learn optimization of western corn rootworm larvae bioassays and explore potential collaborations. At Monsanto, they visited with **Dr. Chitvan Khajuria**, a former research assistant professor in the Insect Toxicology Lab, and research entomologists Michael Pleau, and Oliver Ilagan. At the USDA, they met with Drs. Bruce Hibbard, Tom Coudron, and Kent Shelby, as well as Ph.D. student Dalton Ludwick.

Blast from the Past

Alex Cunningham (M.S. 2006) is a Port Identifier for USDA APHIS PPQ in Miami, FL and is currently one of thirteen identifiers in South Florida, and one of eight entomologists who work in Miami's very busy Pest Identification Lab. They perform identifications of foreign insects and other potential pests found in association with goods imported from other countries. To benefit his agency, Alex is developing a taxonomic specialty in the Noctuid moths of the Neotropics. He now serves as Curatorial Advisor in that taxonomic group for large insect collections at the University of Florida and the National Museum of Natural History.

In terms of live plant material, Miami is the nation's busiest port, receiving large percentages of South and Central American cut flowers, fruits, vegetables, and live plants. During the Federal Fiscal Year 2015, the USDA staff stationed at South Florida processed 51% of all plants imported into the United States, and 52% of all insect, mollusk, weed, and plant disease interceptions from propagative plant material nationwide. Alex says that "Each day is exciting and unpredictable, as we regularly receive rare and undescribed species from all around the world."



Alex with a *Thysania agrippina*

Meet Airene Millsap, an Online Student

I am Airene Millsap, native of the Philippines. My passion for studying insects came from my aunt, who is also an entomologist. She introduced me to the diverse and unique world of insects. I vividly remember the time when she showed me the different kinds of insects they reared in the lab - mostly natural enemies. One of the many insects that really caught my attention was the parasitic wasp, *Trichogramma evanescens*, that successfully controlled the pest population of the Asiatic corn borer, one of the most important corn pests in Asia. I also remember hanging tricho cards in our cornfield and scouting for corn borer eggs and many other insects. With the amount of exposure that I had with insects, they began to fascinate me, which led me to want to learn and understand their importance to humankind and to the environment. I received my bachelor's degree in Agriculture, majoring in Entomology at Central Mindanao University (CMU) Bukidnon, Philippines with a thesis entitled, "The Biology and Predatory Capacity of Green Lacewing (*Chrysopa sp.*) against *Myzus persicae* Sultz of cabbage".



Thus far, my passion for insects has brought me a colorful career path, including years of rearing and mass production of European corn borer and Western corn rootworm as well as other lepidopteran insects at DuPont Pioneer in Johnston, IA. Recently, I had the privilege to expand my role at DuPont Pioneer as a senior research associate in the Gene Efficacy Testing group, where my task is to lead the screening of transgenic plants that are efficacious against major lepidopteran pests of corn. Within my current role, I am able to work with insects and plants in both laboratory and greenhouse settings.

Fortunately, I learned about the distance program at the University of Nebraska Lincoln and immediately knew the area of study I wanted to pursue. Getting my masters degree in Entomology helps deepen my knowledge and understanding in the complex and fascinating world of insects. Continuing my academic pursuit through online education offers flexibility on my schedule between my work and family. Thank you to all the staff of the Entomology Department for all the support and dedication.

Beekeeping Workshops

Beginning beekeeping workshops were held this spring at the Agricultural Research and Development Center (ARDC) near Ithaca, NE with 75 participants, and at the West Central Research and Extension Center (WCREC) near North Platte, NE with 42 participants. The Nebraska Beekeepers Association awarded 8 scholarships for students, along with one parent, to attend one of the workshops. The introductory beekeeping workshop was open to anyone interested in learning about honey bees. The workshop had a mix of lectures, demonstrations, and hands-on activities to teach people about the life history and importance of honey bees. Basic beekeeping techniques and equipment were introduced, and pollinator-friendly plants that promote healthy hives and honey production were identified as well as detailed information on how to start and maintain your own honey bee colony. Honey and beeswax processing was covered, and recipes were provided for making comb honey, candles, lotions, soaps and more.

The Advanced Beekeeping: Pests & Disease Diagnostics workshop was held in June with 38 participants. This workshop was intended for beekeepers who have already had some experience keeping bees and who were interested in learning more about how to identify, monitor, and manage common pests and diseases found in the hive.

Dr. Judy Wu-Smart, who coordinated the workshops said, "The workshops were attended to full capacity and we received lots of positive feedback from aspiring, new, and experienced beekeepers alike. Next year, we will offer more courses to all levels of beekeepers covering a wide range of beekeeping topics."

SAVE THE DATE! BUGFEST, THE ENTOMOLOGY DEPARTMENT'S OPEN HOUSE WILL BE SUNDAY, SEPTEMBER 11, 2016.
