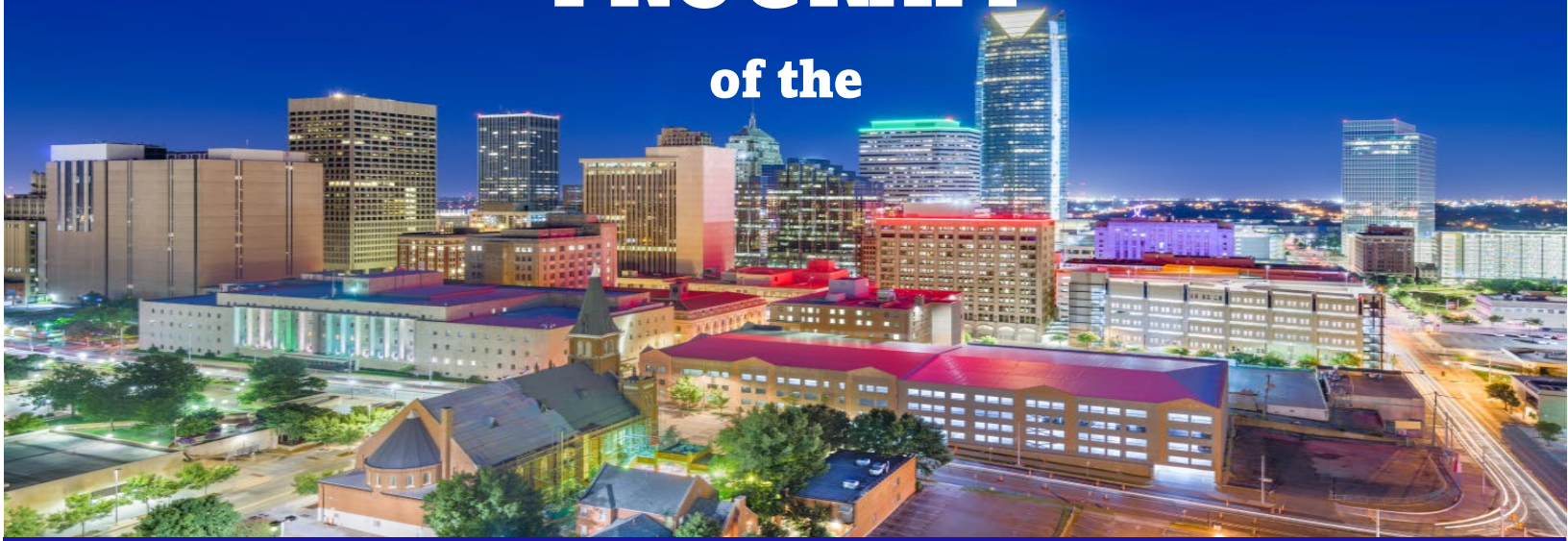


PROGRAM

of the



2023 JOINT ANNUAL MEETING

of the NORTH CENTRAL BRANCH AND SOUTHWESTERN
BRANCH of the ENTOMOLOGICAL SOCIETY OF AMERICA



ENTOMOLOGICAL
SOCIETY OF AMERICA
NORTH CENTRAL BRANCH



ENTOMOLOGICAL
SOCIETY OF AMERICA
SOUTHWESTERN BRANCH

April 16 – 19, 2023

Skirvin Hilton Oklahoma City

Oklahoma City, Oklahoma

SPONSORS

We thank the following people and organizations for their generous donations in support of the 2023 Joint NCB/SWB ESA meeting.

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Hotel Wi-Fi Information

LOCATION	SSID	PASSWORD
2nd floor Ballroom area	SkirvinBallroom	Skirvin2022
2nd floor south side	Skirvin900	Skirvin2023
14th floor	Skirvin900	Skirvin2023

Meeting Information

MEETING WEBSTIE

<https://entsoc.org/membership/branches/northcentral/meeting>



REGISTRATION:

Below are the registration rates for the 2023 Joint North Central & Southwestern Branch Meeting.

REGISTRATION TYPE	ADVANCE REGISTRATION RATE (THROUGH MARCH 15, 2023)	REGULAR REGISTRATION RATE (STARTING MARCH 16, 2023)
ESA Regular Member	\$345	\$445
ESA Early Professional Member	\$305	\$405
ESA Student Transition Member	\$305	\$405
ESA Student Member	\$125	\$225
ESA Emeritus Member	\$0	\$0
ESA Honorary Member	\$0	\$0
Non-member	\$500	\$600
One Day	\$345	\$345
Guest*	\$60	\$100
Bikes + Brews Tour	\$81	\$81

REGISTRATION POLICIES:

Guests are defined as a spouse, significant other, or family member who is not a member of ESA and who may not have an interest in entomology but will attend purely to accompany a family member or friend. Professional colleagues must register independently.

The deadline to cancel and receive a refund is March 31, 2023. After that date, no refunds will be issued.

Meeting Information

HOTEL LOCATION:

Skirvin Hilton Oklahoma City
1 Park Avenue
Oklahoma City, OK 73102
(405) 272-3040

PROGRAM SCHEDULE AND MODERATORS:

Speakers are limited to the time indicated in the schedule.

Moderators are responsible for keeping the program on schedule, introducing speakers, and reporting any audio-visual or equipment issues. Moderators for all symposia, student competition sessions, and ten-minute papers sessions should arrive in their session rooms 10-15 minutes prior to the start of the session.

In the case of an omitted presentation, the moderators will hold the time slot where that speaker should have presented and not advance to the next speaker until the designated time.

INFORMATION FOR ORAL PRESENTATIONS AND POSTERS

Browse to the URL below or scan the QR code with your device's camera:

<https://www.entsoc.org/membership/branches/southwestern/meeting/presenter-information>



ESA CERTIFICATION BOARD INFORMATION:

Information regarding the ESA Certification Board is available at the Registration Desk.

LOST AND FOUND:

Articles should be turned in or reported to the Registration Desk or hotel main desk.

MESSAGES:

A message board is at the Registration Desk.

CODE OF CONDUCT

By attending the 2023 Joint North Central & Southwestern Branch Meeting, you agree voluntarily to abide by our ethics policy. The full policy may be found online at [entsoc.org/conduct](https://www.entsoc.org/conduct). If you need to file a complaint, please contact Stacie East, ESA's Director of Diversity, Equity, and Inclusion at +1 (301) 731-4535 x3030 or seast@entsoc.org.

Program Information

2022 – 2023 Branch Committees

North Central Branch Executive Committee

Jeff Bradshaw, President
jbradshaw2@unl.edu

Mary Gardiner, Immediate Past-President
gardiner.29@osu.edu

Clint Pilcher, President-Elect
clint.pilcher@corteva.com

Erin Hodgson, Secretary-Treasurer
ewh@iastate.edu

Laura Campbell, Secretary-Treasurer-Elect
laura.campbell@corteva.com

Hailey Shanovich, Student Representative
shano004@umn.edu

Rob Morrison, Member at Large
william.morrison@usda.gov

Joanna Gress, Member at Large
jgress@emporia.edu

**Anh Tran, Early Career Professional Chair and
Member at Large**
trana@iskbc.com

Southwestern Branch Executive Committee

Scott Ludwig, President
scott.ludwig@upl-ltd.com

Wizzie Brown, Immediate Past-President
ebrown@ag.tamu.edu

Juliana Rangel, Vice- President
jrangel@tamu.edu

Laura Weiser-Erlandson, Secretary
laura.erlandson@tamuct.edu

Sonja Swiger, Secretary-elect
slswiger@ag.tamu.edu

Bob Davis, Treasurer
robert.davis@basf.com

**Jesus Esquivel, Representative to the Governing
Board**
Jesus.Esquivel@usda.gov

North Central Branch Committees

Early Career Professionals Committee

Anh Tran (Chair)
Ashley Stewart
Karl Roeder
Sudip Gaire
Nick Anderson

Student Affairs Committee

Hailey Shanovich (Chair)
Emily Althoff
Oluwaseun Ajayi
Jacqueline Maille
Josephine Dillon
Andrea Rilakovic
Jacqueline Maille
Leah Gastonguay
Leah Gastonguay
Bethany Robertson
Bill Smith
Siti Fauziyah
Sasha Bishop
Eliott Smith
Judith Chiginsky
Guerin Brown
Aleksandra Dolezal
Jacqueline Maille
Andrea Rilakovic
Josephine Dillon
Caroline Kane
Oluwaseun Ajayi
Casandra Madden
Grace Sward
Leslie Aviles
Jade Kochanski

Student Awards Committee

Tamra Reall (Chair)
Debora Montezano
Laramy Enders
Nick Teets
Ryan Smith
Jacqueline Maille

Professional and Honorary Awards Committee

Kayla Perry (Chair)
Ashley Stewart
Ashley Dean
Jan Knodel
Morgan "Mo" Christman
Josephine Dillon
Anitha Chirumamilla

Nominations Committee

Marlin Rice (Chair)
Alice Harris
Ashley Leach

Entomology Games Committee

Ellen Klinger (Chair)
Elizabeth Long
Wayne Ohnesorg
Ric Bessin
Andrea Rilakovic

Program Committee

Travis Prochaska (Chair)

Local Arrangements Committee

Rob Morrison (Chair)

Program Information
Southwestern Branch Committees

Southwestern Branch Committees

Audit Committee

Santos Portugal (Chair)
Bruce Noden
Adam Mitchell

Archives

Gregory Cronholm

Awards Committee

Sonja Swiger (Chair)
Laura Weiser-Erlandson
Jesus Esquivel
Bruce Noden
Carolina Nunez
Santos Portugal
Robert Puckett
Brandon Smythe
Lindsey Perkin

Insect Detection,

Vacant (Chair)
Charlie Konemann
Kristen Bowers

Entomology Games Committee

Tracey Payton (Chair)
Joanie King (Gamesmaster)
Adam Mitchell
Cheri Abraham
Wyatt Hoback
Juliana Rangel Posada
Joni Blount

In-Memoriam Committee

Edmond Bonjour (Chair)
Allen Dean
Scott Bundy

Nominations Committee

Wizzie Brown (Chair)
Scott Ludwig
Wyatt Hoback
Molly Keck
Bob Davis

Student Affairs Committee

Alex Harman (Chair)
Samantha Hittson
Rodrigo Martins Soares
Jordan Twombly Ellis
Morgan Thompson

Student Research Paper and Poster Awards Committee

Joni Blount (Chair)
Ali A. Zarrabi
Suhas Vyavhare
Brandon Smythe
Tom Royer
Jane Pierce
Bob Davis
Scott Bundy
Justin Talley
Holly Davis

Insect Exposition Committee

Andrine Shufan (Chair)
Wyatt Hoback
Tracey Payton
Wizzie Brown
Molly Keck

Local Arrangement Committee

Edmond Bonjour (Chair)

Program Committee

Milo Lewis (Chair)
Joanie King (Vice-Chair)

Friends of the Southwestern Branch Committee

Juliana Rangel (Chair)
Scott Ludwig
Wizzie Brown

Education and Outreach Committee

Wyatt Hoback (Chair)
Andrine Shufan
Molly Keck
Wizzie Brown

North Central Branch Awards

Student Award: JH Comstock Award



Hannah Quellhorst
Kansas State University

Hannah Quellhorst is from Lebanon, IN and completed a B.S. and M.S. in Entomology at Purdue University. She is

currently a Ph.D. candidate studying Entomology at Kansas State University, co-advised by Drs. Rob Morrison (USDA-ARS) and Kun-Yan Zhu (KSU). Her research focuses on improving management of maize in developing countries. Her interests include global food security, women empowerment, insect biochemistry and physiology, and insect behavior. She has maintained a high level of productivity including publishing nine peer reviewed papers and has given over 50 presentations. She is also highly involved in service for her professional homes and ESA, for example serving as the 2021 NCB SAC Chair and now as an incoming ESA Science Policy Fellow. In the future, she hopes to focus on humanitarian science through a career in Entomology. Ultimately, she hopes to apply her skills to fight world hunger.

The John Henry Comstock Award is given to one graduate student from each of the Entomological Society of America's six Branches to promote interest in the science of entomology at the graduate level and to stimulate interest in attending the ESA Annual Meeting. The award includes an all-expense-paid trip to the national meeting, a \$500 cash prize, and a certificate that is presented during the ESA Annual Meeting.

Student Award: Graduate Student Scholarship



Hailey Shanovich
University of Minnesota

Hailey Shanovich is a PhD candidate in the Natural Resource Science and Management Program at the University of Minnesota studying insect

pests of hybrid hazelnuts as a novel crop for the North Central region. They are the chair of the NCB Student Affairs Committee, the student representative to the ESA Governing Board for the P-IE Section and president of their University's student entomology club. They enjoy scientific illustration, fiber arts and hiking in forests. Recently, they accepted a science communication and public affairs fellow position with the US Forest Service for the first step of their post-graduate career.

This \$500 scholarship recognizes graduate student members of the North Central Branch (NCB) of the Entomological Society of America for their course work and research culminating in scholarship. The award recipient will be recognized at the NCB ESA meeting and will receive the cash award at the awards function.

Early Career Professional: Excellence in ECP Research Award



Karl Roeder
USDA-ARS

Karl Roeder is an ecological entomologist whose research combines field observations with lab experiments to test hypotheses on how species are distributed and interact across space and through time. As the world changes, he aims to

understand and predict how organisms will be affected and strive to share my discoveries with both the public and scientific communities.

This award honors a student transition or early professional working within the field of entomology who has demonstrated outstanding research contributions. The recipient will receive a \$250 check and an award plaque.

Professional Award: Legacy Contribution Award



Robert Wright
**University of Nebraska-
Lincoln**

Robert Wright is a Professor of Entomology and Extension Specialist at the Department of

Entomology, University of Nebraska-Lincoln, where he has worked since 1988. His program is focused on agronomic insect pest management research and extension. He has made contributions in service to ESA, including as ESA and NCB Program chair, At-Large Member, NCB Executive committee (2X), NCB Local arrangements co-chair, and as member of several ESA and NCB committees. He has frequently served as a Judge for Student Competitions at NCB and ESA meetings and has co-organized and moderated several NCB symposia. He has contributed to several USDA programs including service on grant review panels for USDA-NIFA, IPM Centers, EPA, as well as leadership and membership on several USDA Multistate committees and working groups. At UNL he has served as Nebraska Extension IPM Coordinator since 1988, as Chair and Member of the Entomology Promotion & Tenure and Graduate Committees, and several Nebraska Extension committees. Additionally, he has served as a member or chair of numerous M.S. and Doctoral committees in Entomology and Agronomy.

This NCB-ESA Legacy Contribution award recognizes contributions by one or more North Central Branch members that has resulted in a lasting (legacy) impact on their area of specialization, either through results of research discovery, practical implementation of research findings, or service contribution.

Professional Award: C.V. Riley Award



Lance Meinke
**University of Nebraska-
Lincoln**

Lance J. Meinke
University of Lincoln, NE
Dr Lance J. Meinke is a professor of Entomology in the Department of Entomology at the University of Nebraska-Lincoln. He received his B.S. in Entomology from

North Dakota State University, M.S. in Entomology from the University of Arizona, and Ph.D in Entomology with a minor in Crop Science from North Carolina State University. His Ph.D focused on the seasonality and ovipositional ecology of the southern corn rootworm, *Diabrotica undecimpunctata howardi* Barber. In between his M.S and Ph.D degree programs he was employed as an entomologist at the Texas A&M Research and Extension Center, Chillicothe-Vernon, TX where he contributed to cotton and guar insect pest management programs. Dr Meinke has been a faculty member at the University of Nebraska since late 1984 with a research/teaching appointment. General areas of expertise include insect ecology and behavior, insect/plant interactions, integrated pest management, and resistance management. Classes taught most recently include graduate level "Pest management systems", and undergraduate level "Biology and classification of insects". A large portion of his career has been dedicated to the study of the insect genus *Diabrotica* with a focus on pest species. He has become an international leader in this area and his research program (includes many contributions of graduate students and post-docs) has led to many new discoveries and applications. He has been frequently consulted by Ag consultants, farmers, industry, and other clientele groups on corn rootworm IPM / IRM and made many invited presentations on these topics. Dr Meinke's lab group has increased our understanding of behaviors/relationships within and among *Diabrotica* species and co-developed the first molecular phylogeny of North American *Diabrotica* species. In collaboration with industry, he was a major contributor to the development of the semiochemical bait concept for

western corn rootworm control including formulation design, demonstrated efficacy, and nontarget safety. His lab group and collaborators have also characterized field-evolved resistance by the western corn rootworm to products in three insecticide classes and current rootworm-active Bt traits in the western Corn Belt. A recent project has focused on the fitness of western corn rootworm after sublethal dietary exposure to the new transgenic corn rootworm technology SmartStax® PRO that includes the first registered RNAi trait. Dr Meinke has published 100 refereed publications and 36 proceedings/ abstracts including lead author on two impactful invited review articles: “Western corn rootworm population dynamics” and “The use of insecticides to manage the western corn rootworm, *Diabrotica virgifera virgifera*, LeConte: History, field-evolved resistance, and associated mechanisms”. He recently served as an invited guest editor of a Special Issue “Corn Rootworm: Biology, Ecology, Behavior, and Integrated Management” in the international journal “Insects”.

The purpose of the C. V. Riley Award is to provide recognition to members of the North Central Branch of the Entomological Society of America who have made outstanding contributions to the science of entomology. The awardee will be recognized at the Annual Meeting of the North Central Branch with a plaque presented by the NCB President.

Professional Award: Distinguished Achievement Award in Teaching



**Amanda Lorenz
Michigan State University**

Amanda Lorenz serves as the co-director of the Michigan State University Bug House. Her central focus is to develop and deliver educational programs centered around insects and arthropods. She has developed educational

curricula for groups of all ages on topics within entomology.

This award is presented to honor an NCB-ESA member for excellence through innovations in teaching. The recipient will receive a plaque acknowledging their achievements. The winner will also be the Branch nominee for the Distinguished Achievement Award in Teaching offered by the Entomological Society of America.

Professional Award: Distinguished Achievement Award in Extension



**Rufus Isaacs
Michigan State
University**

Dr. Isaacs directs the Berry Crops Entomology program at Michigan State University, with a focus on the ecology and management of

insects in perennial fruit crops. Research projects are on pests, natural enemies, and pollinators within vineyards and berry farms. Current pest management projects include blueberry stem gall wasp control, spotted-wing drosophila monitoring and biological control, post-harvest programs for blueberry export programs, and grape berry moth management. His students are also studying bee ecology and management for crop pollination and the effects of extreme heat on bee-plant interactions. As an Extension Specialist, Dr. Isaacs evaluates current and new pest control options and integrates them into IPM programs where appropriate. Findings are extended to small fruit industries through presentations, extension publications, websites, and on-farm evaluation and demonstration trials providing real-world experience with new practices.

This award is presented to honor an NCB-ESA member for excellence in extension. The recipient will receive a plaque acknowledging achievement. The winner will also serve as the Branch nominee for the Distinguished Achievement Award in Extension offered by the Entomological Society of America.

Professional Award: Award for Excellence in Integrated Pest Management



**Zsafia Szendrei
Michigan State
University**

Zsafia Szendrei is an associate professor of entomology and a faculty member in the Ecology, Evolutionary Biology, and Behavior Program at Michigan State University.

She has been in her role since 2009 with a responsibility of developing a program that focuses on arthropod pest solutions to the vegetable industry in Michigan.

This award is presented to an NCB-ESA member for outstanding contributions to integrated pest management. The NCB-ESA award recipient will receive a plaque acknowledging their accomplishments. The winner will also serve as the Branch nominee for the Award for Excellence in Integrated Pest Management offered by the Entomological Society of America.

Southwestern Branch Awards

Student Award: Percival Scientific Undergraduate Entomology Student Activity Award



Seth Long
Oklahoma State
University

Mr. Long is a sophomore at Oklahoma State majoring in Entomology with an emphasis in Insect biology and ecology. He grew up in

Lynchburg, Virginia but spent the summer before college in Texas where he helped his family with a Cotton farm. Mr. Long has always been interested in insects and the experience in Texas allowed him to understand the importance of both pests and beneficial insects to farm production. Mr. Long has participated in research within the department as a research assistant by testing grain protectants against several stored product pests. As a freshman he conducted research at a level most first year MS student will be conducting. His maturity allows him to set an example for other students in how they should interact in a professional manner. He consistently demonstrates a rare emotional maturity in challenging circumstances that solidifies him as an excellent leader. He served as a Teaching Assistant (TA) to a large non-majors course by providing practical advice that allowed them to gain a deeper understanding of entomology. Seth is a top student within our program and goes beyond normal efforts to help others. He provides leadership and training to other entomology undergraduates to help them succeed.

Percival Scientific is an industry leader in providing quality research equipment, specifically environmental growth chambers. In similar fashion, Percival Scientific, Inc., sponsors this \$250 cash award to encourage and cultivate the entomological interests of undergraduate

students. This cash award and certificate will be presented annually to recognize an undergraduate student from the Southwestern Branch of the Entomological Society of America for outstanding contributions to the Society, his/her academic department, and the community, while still achieving academic excellence.

Student Award: Graduate Student Award



Gregory
Middleton
Oklahoma State
University

Mr. Middleton is a Master's student in the Department of Entomology and Plant Pathology at Oklahoma State University. Greg is a top graduate student in the

department both professionally and academically. Mr. Middleton's research skills are top notch and when combined with his ability to communicate eloquently he is one of the best students in communicating his knowledge. Mr. Middleton is involved in leadership roles both for the department and the university by serving on the departmental graduate student organization and the Black Graduate Student Association. His leadership is demonstrated through his actions and works to accomplish club activities in an efficient manner. His leadership has translated into him being selected as the representative to the University Graduate Student Council representative of our departmental graduate student association. Mr. Middleton's research skills show he is very well versed in the current literature for his project. His work with dung beetles will help improve sampling methods as well as describe unique relationships with pasture management techniques and dung beetle conservation. Mr. Middleton is an outstanding master's student in our department and his skills, demeanor, and communication has impacted other students to match his work ethic in our department.

This award recognizes an outstanding Master's student in Entomology from the Southwestern Branch, and to stimulate interest in attending the Joint Annual Meeting of the Southwestern Branch (SWB) of the Entomological Society of America and the Society of Southwestern Entomologists (SSWE). The award recipient will be recognized at the Joint Annual Meeting and will receive a \$200 cash prize, a certificate, one-year membership in the SSWE, and complementary meeting registration. The Award is co-sponsored by the Southwestern Branch and the Society of Southwestern Entomologists.

Student Award: JH Comstock Award



Morgan Thompson
Texas A&M
University

Ms. Thompson is a Ph.D. candidate in the Department of Entomology at Texas A&M University under the supervision of Dr. Anjel Helms. She previously completed her M.S. in

entomology with Dr. William Lamp at the University of Maryland, and earned a B.S. in biology from The College of William and Mary. Ms. Thompson has worked to build her expertise in chemical ecology, plant-insect-microbe interactions, plant physiology, and plant defense against insect herbivory. Her doctoral research centers on identifying local and systemic plant defense responses to above- and below-ground herbivory and determining how these responses shape plant interactions with other members of their ecological communities. Throughout her graduate career, she has received numerous research grants, fellowships, and awards for outstanding accomplishments, as well as recognition for her strong commitment to excellence in mentorship and promoting diversity, equity, and inclusion. Moving forward, her ambition is to lead a research group with the ultimate goal of developing sustainable pest management strategies that are less reliant on conventional pesticides.

This award is given to one graduate student from the Southwestern Branch to promote interest in entomology at the graduate level and to stimulate interest in attending the fall/winter ESA Annual Meeting. The winner of the will be recognized at the Southwestern Branch Meeting and will receive an all-expenses-paid trip to the ESA Annual Meeting, a \$100 cash prize, and a certificate. Expenses paid include reimbursed airfare, free hotel arrangements, free meeting registration, and a per diem allowance.

Professional Award: Distinguished Achievement Award in Extension



Robert Puckett
Texas A&M
AgriLife
Extension

Dr. Robert Puckett, an Associate Professor / Extension Entomologist with Texas A&M

AgriLife Extension, his general focus at the Rollins Urban and Structural Entomology Facility is research and Extension related to the management of pest insects of the urban environment. He is best-known for his work with social insects (pest ants and termites). His urban entomology Extension program provides educational resources and results from applied research and demonstration projects to Texas A&M AgriLife County Extension Agents, homeowners, pest management professionals (PMP's), Texas Department of Agriculture Structural Pest Control Service, and practitioners of urban and structural insect IPM throughout the state of Texas, the US, and beyond. His work is particularly focused on the needs of stakeholders in Texas A&M AgriLife Extension Districts 9, 10, 11, and 12, which include several of the most populated metropolitan areas of the state of Texas (Houston, San Antonio, and Austin, TX), and incorporate a dynamic spectrum of urban and structural insect pests. Among the most important insect

pests in these regions are invasive ant species (red imported fire ants, tawny crazy ants, Argentine ants, and white footed ants) and several species of termites (eastern subterranean termites, Formosan subterranean termites, and drywood termites). Dr. Puckett is widely sought-after for his expertise, and has been invited to speak internationally, nationally, and across Texas. Dr. Puckett co-hosts the Texas A&M University Urban Pest Management Conference and Workshop (PCO Conference) in Bryan, TX every January. This annual meeting is the largest of its kind in Texas. The results of his industry-sponsored research directly impact the registration of insecticides in the United States. Dr. Puckett's research has also resulted in the dissemination of effective means of managing populations of tawny crazy ants (TCA) around residential and commercial structures.

This award recognizes a Southwestern Branch member who has made outstanding contributions to extension entomology. The winner of this award will be recognized at the Southwestern Branch Meeting and will be submitted to the ESA Distinguished Achievement Award in Extension as the Branch nominee for the same year.

Student Award: Undergraduate Student Achievement in Entomology Award



**Elizabeth Carlson
Oklahoma State
University**

Ms. Carlson is a Junior at Oklahoma State University studying

Entomology while double minoring in Latin and Classical Studies. She is passionate about entomology education and Lepidoptera (especially Saturniidae moths). In her free time, she completes various artistic projects and volunteers at Insect Adventure, Oklahoma's only live arthropod petting zoo. She hopes to pursue a career teaching entomology and classics after attending

graduate school. Ms. Carlson is within the top 5% of students within our department academically and she consistently lends her academic talents as a tutor for multiple courses. She has also tutored students in college required courses such as Biology and Chemistry. A highlight to Elizabeth's undergraduate time is her willingness to help wherever the need is for academics. She has served as a teaching assistant for a large non-majors course and the comments from all the students regarding her as a TA have not only been positive but her communication has always been clear and concise. Ms. Carlson is a top student within the OSU Entomology program and provides leadership and training to other entomology undergraduates to help them succeed.

Professional Award: Distinguished Achievement Award in Teaching



**Juliana Rangel
Texas A&M
University**

Dr. Juliana Rangel is an Associate Professor of Apiculture in the Department of Entomology at Texas A&M University (60% Research, 30% Teaching, 10% Service).

Dr. Rangel's teaching philosophy centers around three main goals: (1) to promote critical thinking in students at all levels of expertise in honey, bee biology, entomology, ecology, molecular biology, toxicology, and apiculture; (2) to teach key basic and applied concepts in those fields with innovative and interactive pedagogical techniques; and (3) to encourage high-impact student learning with activities that enable students to explain, generalize, and synthesize concepts learned in classroom and laboratory activities. Because accomplishing these goals may be challenging, Dr. Rangel likes to use stimulating and thought-provoking case studies in the classroom to capture students' attention, and to foster an environment in which students feel comfortable sharing their thoughts with their peers and approaching her with

questions. Overall, students' perception of her teaching style and abilities has been very positive, with evaluation scores for all classes taught being higher than the departmental average. She developed and teaches every spring two fixed credit undergraduate courses [*ENTO 320 "Honey Bee Biology"* (3 credits) and *ENTO 321 "Introduction to Beekeeping"* (1 credit)]. The former is offered both in-person and online, with 500+ enrolled students per year. The latter is the only university-accredited course on beekeeping in TX, and allows 15-20 students to build hives, install, and maintain colonies. *ENTO 320 Honey Bee Biology* is a popular course, with many students being non-ENTO majors, choosing the course to serve as an elective in their degree program or for general interest. Dr. Rangel is extremely dedicated to student's experiences at TAMU, and has been the coach of the teams of the Entomology Games of the (ESA) since 2013.

This award honors the role of entomological education as a basis for the entire discipline by recognizing a Southwestern Branch member who is deemed to the most outstanding educator of the year. The winner of this award will be recognized at the upcoming Southwestern Branch Meeting and will be submitted to the ESA Distinguished Achievement Award in Teaching as the Branch nominee for that same year.

Professional Award: Excellence in Integrated Pest Management



Phillip Kaufman
Texas A&M University

Dr. Phil Kaufman is a Professor and the current Department Head, in the Department of Entomology at Texas A&M University. Dr. Kaufman has established himself among the top livestock entomologists in the United States in multiple

areas of his discipline, including biological control and insecticide resistance. Dr. Kaufman's research has continuously focused on the development of novel tools and the improvement of existing approaches supporting Integrated Pest Management (IPM) systems for livestock and companion animal systems. His efforts have included basic cultural and physical control strategies, the enhancement and adaptation of existing biological approaches, and preservation of existing pesticides through insecticide resistance monitoring and management, as well as the development of novel lower-toxicity pesticides. He has responded to the specific needs of his stakeholders with research results presented expeditiously through his Extension activities to improve the profitability of their operations and the health of their animals. Dr. Kaufman has conducted extensive research investigating filth flies on nearly all types of livestock operations. A major emphasis of his IPM programs has been the monitoring and manipulation of insecticide-resistant arthropods, particularly filth flies. Based on his programmatic results, New York and Florida dairy producers had greater flexibility in managing house flies than previously thought, and through his Extension program, he worked with them to preserve pesticide efficacy that was lost long ago by other commodities. Over the past twelve years, he has successfully obtained research and Extension funding to support research and development of IPM tactics for management of the brown dog tick. This tick is a highly annoying and difficult

to control household dog tick with potential to transmit zoonotic pathogens.

This award recognizes a Southwestern Branch member who has made outstanding contributions in Integrated Pest Management. The winner of this award will be recognized at the Southwestern Branch Meeting and will be submitted to the ESA Award for Excellence in Integrated Pest Management as the Branch nominee for that same year.

Professional Award: Lifetime Service Achievement Award



Phillip Mulder
Oklahoma State
University

Dr. Phil Mulder is a fellow of the Entomological Society of America where he

served as President in 2015. His career in Entomology began at Iowa State University in 1979 where he earned a MS degree, became a member of the ESA, and later earned a PhD. While there he participated in student activities and was a member of ISU's Linnaean Team. This developed a passion of service that guided the rest of his career that embodied the attitude of a servant leader. He joined Oklahoma State in 1985 and served activities and was a member of ISU's Linnaean Team. This developed a passion of service that guided the rest of his career that embodied the attitude of a servant leader. He joined Oklahoma State in 1985 and served as an Area Extension Entomologist. He served leadership roles as Secretary/Treasurer, Vice President and President of the Southwestern Branch (SWB) and served as branch and National Games master for the Linnaean Games. At the National level, he served as Governing Board Representative for Section E before progressing to President. Dr. Mulder personified the commitment to scientific community engagement through his advocacy for both the SWB and the national ESA society. He was continually encouraging both faculty and students to participate as much as possible in society activities and initiatives. His enthusiasm transferred to student participation both within the department and the SWB region. He was a proponent of including all schools to participate in branch activities no matter the size of their entomology programs. The lasting impact of Dr. Mulder's service to the society can be seen in the diversity of entomology programs that participate in both the branch and national societal activities.

(Un)Plenary Session

Tuesday, April 18, 2022, 8:00 AM – 9:30 AM

Grand Ballroom

Experience a twist to your traditional plenary session.

You won't want to miss it!

Program Summary

SATURDAY, APRIL 15

TIME	SESSION/FUNCTION	LOCATION
6:00 PM - 9:00 PM	Bikes + Brews Tour	Hotel Lobby

SUNDAY, APRIL 16

TIME	SESSION/FUNCTION	LOCATION
8:00 AM - 12:00 PM	Keep Calm and Automate: Using RMarkdown to Create Reports Workshop	Venetian (14th floor)
8:00 AM - 12:00 PM	Solving for "Wicked Problems" Associated with Entomology in Agri-Food Systems Workshop	Continental (14th floor)
9:00 AM - 10:00 AM	Joint Planning Committee Meeting	Perle Mesta
10:00 AM - 11:00 AM	NCB Executive Committee Meeting	Perle Mesta
10:00 AM - 11:00 AM	SWB Executive Committee Meeting	W. B. Skirvin
10:00 AM - 5:00 PM	Presentation Uploads	Balinese
10:00 AM - 5:00 PM	Registration	Coat Room
11:00 AM - 12:00 PM	Society of Southwestern Entomologists Membership Meeting	Crystal
1:00 PM - 4:30 PM	Can an Entomological Literate Society Save the World? (Homo sapiens, Ixodius sp., Bombus sp.)	Centennial 3
1:00 PM - 5:00 PM	Urban Entomology in the Midwestern and Southwestern United States: A Collaborative Effort I	Crystal
1:15 PM - 4:30 PM	Rejected Hypothesis, Valid Data: Handling Unexpected Results for Publication	Centennial 1
3:00 PM - 3:30 PM	Break	Ballroom Prefunction

Program Summary

3:30 PM - 5:00 PM	What's New in Industry	Centennial 2
5:30 PM - 8:30 PM	Joint Entomology Games, Preliminary Rounds	Venetian (14th floor)
8:30 PM - 10:00 PM	Welcome Reception	Ballroom Prefunction
MONDAY, APRIL 17		
TIME	SESSION/FUNCTION	LOCATION
7:00 AM - 5:00 PM	Presentation Uploads	Balinese
7:30 AM - 4:00 PM	Registration	Coat Room
8:00 AM - 11:30 AM	Global and Multifaceted Partnerships for Improved Food Security and Societal Outcomes	Centennial 3
8:00 AM - 11:30 AM	Regular 10-Minute Papers: P-IE, Row Crops	Centennial 2
8:00 AM - 12:00 PM	Understanding Values Shared Across Transdisciplinary Societies to Advance Collaboration and Impact Future Outcomes	Centennial 1
8:00 AM - 12:00 PM	Urban Entomology in the Midwestern and Southwestern United States: A Collaborative Effort II	Crystal
9:00 AM - 10:00 AM	Student Poster Setup	Ballroom Prefunction
9:00 AM - 11:00 AM	Expo of Ento Engaging Educational Activities	Grand Ballroom
10:00 AM – 10:30 AM	Break	Ballroom Prefunction
10:00 AM - 6:00 PM	Masters Posters	Ballroom Prefunction
10:00 AM - 6:00 PM	PhD Posters	Ballroom Prefunction
10:00 AM - 6:00 PM	Undergraduate Posters	Ballroom Prefunction
12:00 PM - 1:30 PM	PHEFA: Advancing Public Health Entomology through Education and Networking - (Invitation Only)	Continental (14th floor)
1:15 PM - 3:00 PM	PhD 10-Minute Papers I	Centennial 1
1:15 PM - 3:00 PM	PhD 10-Minute Papers III	Centennial 2
1:30 PM - 4:45 PM	Undergraduate 10-Minute Papers	Venetian (14th floor)
1:55 PM - 4:45 PM	Masters 10-Minute Papers I	Centennial 3
1:55 PM - 4:45 PM	Masters 10-Minute Papers II	Crystal

Program Summary

3:00 PM - 3:30 PM	Break	Ballroom Prefunction
3:00 PM - 3:30 PM	Q&A with Student Poster Presenters	Ballroom Prefunction
3:00 PM - 3:30 PM	NCB Photo Salon	Centennial 2
3:30 PM - 5:20 PM	PhD 10-Minute Papers II	Centennial 1
3:30 PM - 5:20 PM	PhD 10-Minute Papers IV	Centennial 2
5:30 PM - 8:30 PM	Joint Entomology Games, Finals	Venetian (14th floor)
6:00 PM - 7:00 PM	Student Poster Removal	Ballroom Prefunction
8:30 PM - 10:00 PM	Early Career Professional Mixer	Deep Deuce Grill (offsite)
8:30 PM - 10:00 PM	Student Mixer	Revolutions by HeyDay (offsite)

TUESDAY, APRIL 18

TIME	SESSION/FUNCTION	LOCATION
7:00 AM - 5:00 PM	Presentation Uploads	Balinese
7:30 AM - 4:00 PM	Registration	Coat Room
8:00 AM - 9:00 AM	Regular Poster Setup	Ballroom Prefunction
8:00 AM - 9:15 AM	(Un)Plenary Session	Grand Ballroom
9:00 AM - 6:00 PM	Regular Posters	Ballroom Prefunction
9:15 AM – 9:45 AM	Break	Ballroom Prefunction
9:45 AM - 11:45 AM	Regular 10-Minute Papers: MUVE, PBT, & SysEB	Centennial 2
9:45 AM - 12:00 PM	Regular 10-Minute Papers: P-IE, Pollinators	Centennial 1
9:45 AM - 12:00 PM	Regular 10-Minute Papers: P-IE, Special Topics	Centennial 3
9:45 AM - 12:40 PM	Raising Your Brood: Insect Rearing Systems across Disciplines	Crystal
1:30 PM - 5:25 PM	Biological Control Across Borders: Current and Future Regional Management of Insects and Weeds Using Biological Control	Centennial 1
1:30 PM - 5:30 PM	Highlighting Early Career Professional Career Paths and Experiences	Centennial 2
1:30 PM - 5:30 PM	Insect Services in Working Landscapes	Crystal

Program Summary

3:15 PM - 3:45 PM	Break	Ballroom Prefunction
3:15 PM - 3:45 PM	Q&A with Contributed Poster Presenters	Ballroom Prefunction
5:00 PM - 6:00 PM	ESA Leadership Development Opportunities	Red Piano Lounge
6:00 PM - 7:00 PM	Regular Poster Removal	Ballroom Prefunction
7:00 PM - 9:00 PM	Joint Awards Banquet	Grand Ballroom

WEDNESDAY, APRIL 19

TIME	SESSION/FUNCTION	LOCATION
7:00 AM - 8:30 AM	North Central Branch Business Meeting	Centennial 2
7:00 AM - 8:30 AM	Southwestern Branch Business Meeting	Centennial 3
7:00 AM - 9:00 AM	Presentation Uploads	Balinese
7:30 AM - 9:00 AM	Registration	Coat Room
9:00 AM - 11:00 AM	How Plant Stress Affects Insects: Herbivores, Pollinators, and More	Centennial 3
9:00 AM - 12:00 PM	Reshaping Urban and Agricultural Insect Management to Promote Sustainable Systems	Crystal
9:00 AM - 12:00 PM	Using Technology to Cross-Pollinate Extension Entomologists and Their Clients	Centennial 2
12:30 PM - 1:30 PM	SWB Final Executive Committee Meeting	Henry Overholser

Oral & Poster Presentation Schedule

Sunday, April 16, 2023, Afternoon

Symposium: Can an Entomological Literate Society Save the World? (*Homo sapiens*, *Ixodidae* sp., *Bombus* sp.)

Location: Centennial 3

Moderators and Organizers: Doug Golick, Univ. of Nebraska, Lincoln, NE; William Hoback, Oklahoma State Univ., Stillwater, OK; Ashleigh Faris, Texas A&M Univ., College Station, TX and Matt Petersen, Univ. of Minnesota, St. Paul, MN

1:00 PM		Welcoming remarks
1:10 PM	1	What does an entomologist look like? Student scientist drawings are influenced by instructor gender Melissa Reed (mleath@okstate.edu) and W. Hoback, Oklahoma State Univ., Stillwater, OK
1:25 PM	2	How science communication projects can foster an interest in entomology and develop good citizens. Ashleigh Faris (ashleigh.faris@tamu.edu), Texas A&M Univ., College Station, TX
1:40 PM	3	How insects shape society: Linking science, ethics, and entomology education. Matt Petersen (pet03207@umn.edu), Univ. of Minnesota, St. Paul, MN
1:55 PM	4	Campers, clowns, and carcasses: Engaging undergraduate students in experiential learning through mock death scene investigations. Heather Ketchum (Heather.R.Ketchum-1@ou.edu), Univ. of Oklahoma, Norman, OK
2:10 PM	5	Sci-comm ear worms: Using podcasts for extension. Jonathan Larson (jonathan.larson@uky.edu), Univ. of Kentucky, Lexington, KY
2:25 PM	6	The etymology of entomology: Science education through creative writing. Lauren Osborn (Lauren.e.osborn@okstate.edu) ¹ , W. Hoback ¹ , Doug Golick ² and Aimee Parkison ¹ , ¹ Oklahoma State Univ., Stillwater, OK, ² Univ. of Nebraska, Lincoln, NE
2:40 PM	7	Native American and Euro-American cultures together: Considering cultural similarities and differences in the design of an Indigenous youth food sovereignty program. Louise Lynch-O'Brien (llynchobrien@unl.edu), Univ. of Nebraska-Lincoln, Lincoln, NE
2:55 PM		Break
3:30 PM	9	K-STATE's URE program: Increasing access to undergraduate research by eliminating the barriers of time, cost, experience, academic record, student major, and PI preferences. Jeremy L. Marshall (cricket@ksu.edu) and Susan A. Marshall, Kansas State Univ., Manhattan, KS
3:45 PM	10	Different ways of knowing: Alternative models of student assessment in entomology. Doug Golick (dgolick2@unl.edu), Univ. of Nebraska, Lincoln, NE
4:00 PM	11	Panel discussion of teaching and outreach support at ESA. Doug Golick (dgolick@hotmail.com), UNL, Lincoln, NE

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

Symposium: Rejected Hypothesis, Valid Data: Handling Unexpected Results for Publication

Location: Centennial 1

Organizers: Leslie Rault, Univ. of Nebraska-Lincoln, Lincoln, NE and Lise Pingault, Univ. of Nebraska-Lincoln, Lincoln, NE

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|----------------|-----------|---|
| 1:15 PM | 12 | Welcoming remarks. <i>Leslie Rault</i> (lrault2@unl.edu), Univ. of Nebraska-Lincoln, Lincoln, NE |
| 1:20 PM | 13 | Unexpected chatter in plant-plant communication. <i>Morgan Thompson</i> (mthompson@tamu.edu), Laura Marmolejo and Anjel Helms, Texas A&M Univ., College Station, TX |
| 1:40 PM | 14 | Rejected hypotheses open new doors for innovation. <i>Anastasia Cooper</i> (anacooper@ksu.edu), Kansas State Univ., Manhattan, KS |
| 2:00 PM | 15 | The unsupported hypothesis: Tick-mediated transmission of the sensitizer for red meat allergy (Alpha-gal syndrome). <i>L. Paulina Maldonado-Ruiz</i> (lpaldonado@ksu.edu), Gunavanthi Boorgula, Sherry Fleming and Yoonseong Park, Kansas State Univ., Manhattan, KS |
| 2:20 PM | 16 | Molting in insects: Challenging the traditional concepts. <i>Sujata Chaudhari</i> (sujata.chaudhari@unmc.edu), Univ. of Nebraska Medical Center, Omaha, NE |
| 2:40 PM | 17 | Publishing negative or unexpected results--focus on framing. <i>Nancy Hoffmann</i> (nhoffmann@planteditors.com), Plant Editors - Peridot Scientific Communications, Sandia Park, NM |
| 3:00 PM | | Break |
| 3:30 PM | 18 | Discussion. <i>Leslie Rault</i> (lrault2@unl.edu) and <i>Lise Pingault</i>, Univ. of Nebraska-Lincoln, Lincoln, NE |

Symposium: Urban Entomology in the Midwestern and Southwestern United States: A Collaborative Effort I

Location: Crystal

Moderators and Organizers: José Portugal, ABC Home & Commercial Services, Austin, TX and Bryant McDowell, Texas A&M AgriLife Extension, Dallas, TX

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|----------------|-----------|---|
| 1:00 PM | | Introductory remarks |
| 1:10 PM | 19 | Phorid flies in urban settings: Don't let phorids scuttle the ship. <i>Mark D. Sheperdigian</i> (shep@rosepest.com), Rose Pest Solutions, Troy, MI |
| 1:30 PM | 20 | Efficacy of baits and secondary kill in Turkestan cockroaches. <i>Alvaro Romero</i> (aromero2@nmsu.edu)¹ and <i>Miguel Salazar</i>², ¹New Mexico State Univ., Las Cruces, NM, ²New Mexico State Univ., Mesilla Park, NM |
| 1:50 PM | 21 | ActiveSense Insect Remote Monitoring System: Laboratory- and field-based validation studies with German cockroaches (Blattodea: Ectobiidae). <i>Ameya Gondhalekar</i> (ameyag@purdue.edu)¹, <i>Mary Rushton</i>², <i>Joe DeMark</i>², <i>Garima Kakkar</i>² and <i>Neil Spomer</i>², ¹Purdue Univ., West Lafayette, IN, ²Corteva Agriscience, Indianapolis, IN |

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

2:10 PM	Break
2:20 PM	22 RNAi for ants, a comprehensive guide to plan and apply a research project using dsRNA for pest ant management. <i>Fabian List</i> (fabian.list@tamu.edu), Jiaxin Lei, Keyan Zhu-Salzman, Aaron Tarone and Edward Vargo, Texas A&M Univ., College Station, TX
2:40 PM	23 Green approaches in urban pest management. <i>Cisse Spragins</i> (cspragins@rockwelllabs.com), Rockwell Labs Ltd., Kansas City, MO
3:00 PM	24 Mosquito control efforts – Bridging public health and PMPs. <i>Sonja Swiger</i> (slswiger@ag.tamu.edu), Texas A&M Univ., Stephenville, TX
3:20 PM	Break
3:30 PM	25 Exploring data driven dialogues to transcend traditional boundaries, bias, and inequities in urban one health and food security. <i>Georgina Bingham</i> (gvb@vestergaard.com)¹, Earl Agpawa¹, Elizabeth VanWormer², Wael Elrayes³, Ali Asy³, Rima Albalushi³, Enoch A. Osekere⁴, Bismark Opoku⁵, Benjamin Ayim⁶, George Opit⁷ and Augustine Bosomtwe⁸, ¹Univ. of Nebraska-Lincoln, Lincoln, NE, ²Univ. of Nebraska – Lincoln, Lincoln, NE, ³Univ. of Nebraska Medical Center, Omaha, NE, ⁴Kwame Nkrumah Univ. of Science and Technology, Kumasi, Ghana, ⁵Kwame Nkrumah Univ. of Science and Technology, Kumasi, Kumasi, Ghana, ⁶Plant Protection and Regulatory Serv. Dir., Accra, Accra, Ghana, ⁷Oklahoma State Univ., Stillwater, OK, ⁸Oklahoma State Univ., Still Water, OK
3:50 PM	26 Community wide fire ant management programs. <i>Wizzie Brown</i> (ebrown@ag.tamu.edu), Texas A&M AgriLife Extension Service, Austin, TX
4:10 PM	27 Population dynamics of <i>Reticulitermes flavipes</i>, Eastern subterranean termite, when exposed to Trelona ATBS Annual Bait Stations in the laboratory. <i>Jason Meyers</i> (jason.meyers@basf.com), BASF Corporation, Kansas City, MO
4:30 PM	Speaker panel Q&A and discussion

Sponsor Presentations: What's New in Industry

Centennial 2

Organizer: Scott Ludwig, UPL, Arp, TX

3:30 PM	Welcoming Remarks
3:35 PM	Bayer Crop Science product update. <i>Joni Blount</i> (joni.blount@bayer.com), Bayer, Welch, TX
3:42 PM	Vestaron product update. <i>Dayna Collett</i> (dcollett@vestaron.com), Vestaron, Durham, NC
3:49 PM	OHP Product Update. <i>Carlos Bogran</i> (cbogran@ohp.com), OHP Inc, College Station, TX
3:56 PM	Nichino product update. <i>Milo Lewis</i> (mlewis@nichino.net), Nichino America, Whiteface, TX
4:03 PM	Trécé product update. <i>Jessica Lindenmayer</i> (jlindenmayer@trece.com), Trece, Inc., Adair, OK

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

- 4:10 PM** **BASF Professional & Specialty Products product update.** Robert Davis (*robert.davis@basf.com*), BASF Corporation, Pflugerville, TX
- 4:17 PM** **Corteva product update.** Laura Campbell (*laura.campbell@corteva.com*), Corteva Agriscience, Carbondale, IL
- 4:24 PM** **UPL product update.** Scott Ludwig (*scott.Ludwig@upl-ltd.com*), UPL, Arp, TX
- 4:31 PM** **Society of Southwest Entomologist update.** Sonja Swiger (*sjswiger@ag.tamu.edu*), Texas A&M University, Stephenville, TX
- 4:38 PM** **FMC product update.** Eric Rebek (*eric.rebek@fmc.com*), FMC, Minneapolis, MN

Monday, April 17, 2023, Morning

Symposium: Global and Multifaceted Partnerships for Improved Food Security and Societal Outcomes

Location: Centennial 3

Moderators and Organizers: Dalton Ludwick, Texas A&M Univ., Corpus Christi, TX and William Morrison, USDA - ARS, Manhattan, KS

- 8:00 AM** **Welcoming remarks**
- 8:05 AM** **28** **Coming together: How global partnerships in the post-harvest supply chain can reduce food loss and promote food security in the USAID Humanitarian Aid supply chain.** Deanna Scheff (*deanna.scheff@usda.gov*), USDA-ARS, Manhattan, KS
- 8:25 AM** **29** **Strengthening food security of smallholders' farmers in Mexico: The case of the hub model of CIMMYT.** Sylvanus Odjo (*sylvanus.odjo@cgiar.org*)¹, Simon Fonteyne¹, Andrea Gardezabal¹, Jelle Van loon¹ and Nele Verhulst², ¹International Maize and Wheat Improvement Center (CIMMYT), El Batán, Texcoco, EM, Mexico, ²International Maize and Wheat Improvement Center, El Batán, Mexico
- 8:45 AM** **30** **Public sector, private sector and international partnerships to develop alternatives for stored product IPM.** Thomas Phillips (*twp1@ksu.edu*), Kansas State Univ., Manhattan, KS
- 9:05 AM** **31** **Modeling as a focus for national and international collaboration in rice research.** L. T. Wilson (*lt-wilson@aesrg.tamu.edu*), Texas AgriLife Research Center, Beaumont, TX
- 9:25 AM** **32** **Simultaneous control of Indian meal moth (*Plodia interpunctella*, Hubner) and cigarette beetle (*Lasioderma serricorne*, Fabricius) using pheromone mediated mating disruption in raw coffee warehousing.** Jessica Lindenmayer (*Jlindenmayer@trece.com*) and James Miller, Trece, Inc., Adair, OK
- 9:45 AM** **33** **Forming international partnerships to help stop an invasive pest of stored maize.** Hannah Quellhorst (*hquellho@ksu.edu*)¹, Sylvanus Odjo², Ioannis Vagelas³, Panagiotis Madesis³, Christos Athanassiou⁴, Kun Yan Zhu¹ and William Morrison⁵, ¹Kansas State Univ., Manhattan, KS, ²International Maize and Wheat Improvement Center (CIMMYT), El Batán, Texcoco, EM, Mexico, ³Univ. of Thessaly, Volos, Magnesia, Greece, ⁴Univ. of Thessaly, Volos, Greece, ⁵USDA - ARS, Manhattan, KS

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

10:05 AM	Break
10:30 AM	34 Building partnerships to understand spatial and temporal variation in stored product insect pests across the Great Plains states, Canada, and Mexico. <i>Alison Gerken</i> (<i>alison.gerken@usda.gov</i>), <i>William Morrison and James Campbell, USDA - ARS, Manhattan, KS</i>
10:50 AM	35 Bug free grains. <i>Sid Chambers</i> (<i>sChambers@central.com</i>), <i>Central Life Sciences, Houston, TX</i>

Symposium: Understanding Values Shared Across Transdisciplinary Societies to Advance Collaboration and Impact Future Outcomes

Location: Centennial 1

Organizers: Clinton Pilcher, Corteva Agriscience, Johnston, IA and Katherine Dentzman, Iowa State Univ., Ames, IA

8:00 AM	Introductory remarks
8:05 AM	36 Maximizing entomology's impact: Inviting in the elephant. <i>Gary Hein</i> (<i>ghein1@unl.edu</i>), <i>Univ. of Nebraska, Lincoln, NE</i>
8:20 AM	37 Research's role in emphasizing insects and society to overcome public perception that bugs are bad. <i>W. Hoback</i> (<i>whoback@okstate.edu</i>), <i>Oklahoma State Univ., Stillwater, OK</i>
8:35 AM	38 Understanding grower decision-making: The importance of collaboration between the biological and social sciences. <i>Jessica Goldberger</i> (<i>jgoldberger@wsu.edu</i>), <i>Washington State Univ., Pullman, WA</i>
8:50 AM	39 A social perception exercise. <i>Katherine Dentzman</i> (<i>dentzman@iastate.edu</i>), <i>Iowa State Univ., Ames, IA</i>
8:55 AM	40 AFHVS & ESA collaboration workshop - goals, objectives, process & desired outcomes (AFHVS perspective). <i>Katherine Dentzman</i> (<i>dentzman@iastate.edu</i>), <i>Iowa State Univ., Ames, IA</i>
9:10 AM	41 AFHVS & ESA collaboration workshop - goals, objectives, process and desired outcomes (ESA perspective). <i>Clinton Pilcher</i> (<i>clint.pilcher@corteva.com</i>), <i>Corteva Agriscience, Johnston, IA</i>
9:25 AM	42 Student and early career professional response to workshop. <i>Clinton Pilcher</i> (<i>clint.pilcher@corteva.com</i>), <i>Corteva Agriscience, Johnston, IA</i>
9:40 AM	43 Strategies for integrating social science and entomology research (ESA Member). <i>Jeffrey Bradshaw</i> (<i>jbradshaw2@unl.edu</i>), <i>Univ. of Nebraska Lincoln, Lincoln, NE</i>
9:52 AM	Break
10:12 AM	44 Strategies for integrating social science and entomology research (AFHVS member). <i>Leland Glenna</i> (<i>llg13@psu.edu</i>), <i>Pennsylvania State Univ., Univ. Park, PA</i>
10:24 AM	45 Strategies for integrating social science and entomology in extension (ESA member). <i>Erin Hodgson</i> (<i>ewh@iastate.edu</i>), <i>Iowa State Univ., Ames, IA</i>

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

- 10:36 AM 46 **Strategies for integrating social science and entomology in extension (AFHVS member).** *Paul Lasley* (*plasley@iastate.edu*), Iowa State Univ., Ames, IA
- 10:48 AM 47 **Integrating social science and entomology through economics.** *Alicia Rosburg* (*alicia.rosburg@uni.edu*), Univ. of Northern Iowa, Cedar Falls, IA
- 11:00 AM 48 **Integrating social science and entomology using cognitive analytics.** *Erin Buchanan* (*buchananlab@gmail.com*), Harrisburg Univ. of Science and Technology, Philadelphia, PA
- 11:12 AM 49 **Integrating social science and entomology to improve communication, advocacy, and influence policy.** *Anna Erwin* (*anna.erwin@utrgv.edu*), Univ. of Texas Rio Grande Valley, Brownsville, TX
- 11:24 AM **Panel discussion**

Symposium: Urban Entomology in the Midwestern and Southwestern United States: A Collaborative Effort II

Location: Crystal

Moderators and Organizers: Bryant McDowell, Texas A&M AgriLife Extension, Dallas, TX and José Portugal, ABC Home & Commercial Services, Austin, TX

- 8:00 AM **Introductory remarks**
- 8:10 AM 50 **Technical services 101.** *Cassie Krejci* (*cassie.krejci@terminix.com*), Rentokil Terminix, Caldwell, TX
- 8:30 AM 51 **From the field to the office: Tick and tickborne disease education for Illinois medical professionals.** *Heather Kopsco* (*hkopsco@illinois.edu*)¹, Dawn Carson², Nohra Mateus-Pinilla³, Peg Gronemeyer⁴, Genee Smith² and Rebecca Smith⁵, ¹Univ. of Illinois Urbana-Champaign, Urbana, IL, ²Johns Hopkins Univ., Baltimore, MD, ³Illinois Natural History Survey, Champaign, IL, ⁴Univ. of Illinois Urbana-Champaign, Champaign, IL, ⁵Univ. of Illinois, Champaign, IL
- 8:50 AM 52 **New innovations in remote detection for subterranean termites.** *Robert Davis* (*robert.davis@basf.com*), BASF Corporation, Pflugerville, TX
- 9:10 AM **Break**
- 9:20 AM 53 **Preparing for invisible itches: Teaching entomology students about extension therapy.** *Jonathan Larson* (*jonathan.larson@uky.edu*), Univ. of Kentucky, Lexington, KY
- 9:40 AM 54 **From invasive insects to invisible 'insects': Urban extension entomology at Texas A&M University.** *Robert Puckett* (*rpuck@tamu.edu*), Texas A&M Univ., College Station, TX
- 10:00 AM 55 **Efficacy evaluation of a filament LED fly trap against house fly, *Musca domestica*, under laboratory conditions.** *Stuart Mitchell* (*doc.mitchell@pestwest.com*), PestWest USA, Des Moines, IA
- 10:20 AM **Break**

Oral & Poster Presentation Schedule
Sunday, April 16, 2023, Afternoon

10:30 AM	56	Local and landscape-scale drivers of vector distribution and vector-borne pathogen prevalence in a rapidly expanding urban area on the southern Great Plains. Bruce Noden (bruce.noden@okstate.edu) and Megan Roselli, Oklahoma State Univ., Stillwater, OK
10:50 AM	57	Using next generation sequencing approaches towards an improved understanding of stored product insect biology. Erin Scully (erin.scully@usda.gov), USDA - ARS, Manhattan, KS
11:10 AM	58	Crapemyrtle bark scale (<i>Acanthococcus lagerstroemiae</i>): Current management strategies and some future plans. Rafia Khan (rafia.khan@agnet.tamu.edu), Texas A&M AgriLife, Overton, TX
11:30 AM		Speaker panel Q&A and discussion

Regular 10-Minute Papers: P-IE, Row Crops

Location: Centennial 2

Moderators: Suhas Vyavhare, Texas A&M AgriLife Research and Extension Center, Lubbock, TX; Robert Koch, University of Minnesota, St. Paul, MN

8:00 AM		Welcoming remarks
8:05 AM	59	Late season prevalence of <i>Lygus hesperus</i> in the Texas High Plains. Dol P. Dhakal (dol.dhakal@ag.tamu.edu) ¹ , Megha Parajulee ² , Amanda Sieps ² and Abdul Hakeem ³ , ¹ Texas A&M Univ. AgriLife Research and Extension Center, Lubbock, TX, ² Texas A&M AgriLife Research and Extension Center, Lubbock, TX, ³ Prairie View A&M Univ., Agriculture and Natural Resources, Prairie View, TX
8:17 AM	60	Exploring the potential of new Bt trait in managing insect pests in cotton. Suhas Vyavhare (Suhas.Vyavhare@ag.tamu.edu), Texas A&M Univ., Lubbock, TX
8:29 AM	61	Presentation withdrawn. See presentation 112 – 113.
8:41 AM	62	Plant-associated fungi can directly affect cotton aphid survival in spray bioassays. Janaina Camara Siqueira da Cunha (janaina.cunha@tamu.edu) and Gregory Sword, Texas A&M Univ., College Station, TX
8:53 AM	63	Invasion potential of a stored product insect pest, <i>Prostephanus truncatus</i> , under climate change predictions. Rachel Harman (rachel_harman@outlook.com), William Morrison and Alison Gerken, USDA - ARS, Manhattan, KS
9:05 AM	64	When to fumigate stored grain and why. Edmond Bonjour (edmond.bonjour@okstate.edu), Oklahoma State Univ., Stillwater, OK
9:17 AM	65	<i>Macrosaccus morrisella</i> (Lepidoptera: Gracillariidae) is a new leaf-mining pest of soybean in the Midwest. Robert Koch (koch0125@umn.edu), Univ. of Minnesota, St. Paul, MN
9:29 AM	66	Four years of soybean gall midge adult emergence: What we know and don't know. Anthony McMechan (justin.mcmechan@unl.edu) ¹ , Erin Hodgson ² , Bruce Potter ³ , Thomas Hunt ⁴ , Adam Varenhorst ⁵ , Robert Koch ⁶ and Robert Wright ⁷ , ¹ Univ. of Nebraska, Lincoln, NE, ² Iowa State Univ., Ames, IA, ³ Univ. of Minnesota, Lamberton, MN, ⁴ Univ. of Nebraska, Concord, NE, ⁵ South Dakota State Univ., Brookings, SD, ⁶ Univ. of Minnesota, St. Paul, MN, ⁷ Univ. of Nebraska Lincoln, Lincoln, NE

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Posters

- 9:41 AM 67 **Consumption of soybeans by a native snail species under severe drought and warm environmental conditions.** *Raul Villanueva* (raul.villanueva@uky.edu), Armando Falcon-Brindis and Zenaida Vilorio, Univ. of Kentucky, Princeton, KY
- 9:53 AM Break
- 10:30 AM 68 **Upper Midwest farmers' soybean aphid management practices and perceptions on insecticide resistance.** *Rosa E. Lozano* (relozano@umn.edu)¹, Terrance Hurley², Janet Knodel³, David Andow² and Robert Koch², ¹Univ. of Minnesota, St. Paul, ²Univ. of Minnesota, St. Paul, MN, ³North Dakota State Univ., Fargo, ND
- 10:42 AM 69 **Development of a new technical grade active ingredient for application in controlling soil-borne insect and nematode pests in corn and soybeans.** *Brian Mueller* (bmueller@profarmgroup.com)¹ and Timothy Johnson², ¹Pro Farm Group Inc., Belding, MI, ²Pro Farm Group Inc., Goodview, VA
- 10:54 AM 70 **Sugarcane aphid, *Melanaphis sorghi* (Theobald), population growth in sorghum and Johnsongrass in Oklahoma.** *Norman Elliott* (norman.elliott@usda.gov)¹, Kristopher Giles², Tom Royer² and Ephraim Muyombo², ¹USDA-ARS, Stillwater, OK, ²Oklahoma State Univ., Stillwater, OK
- 11:06 AM 71 **Morphological and physiological responses of resistant and susceptible barley to different densities of bird cherry-oat aphid (*Rhopalosiphum padi* [Homoptera:Aphididae]).** *Rafael Hayashida* (hayashidarafael@gmail.com)¹, J. Scott Armstrong², W. Hoback³ and Dolores Mornhinweg⁴, ¹Postdoctoral Researcher, Stillwater, OK, ²USDA - ARS, Stillwater, OK, ³Oklahoma State Univ., Stillwater, OK, ⁴USDA-ARS, Stillwater, OK
- 11:18 AM 72 **Host and non-host aphids feeding behavior on sorghum and their impact on sorghum transcriptome.** *Lise Pingault* (lise.pingault@unl.edu), Juan David Betancurt Cardona and Joe Louis, Univ. of Nebraska-Lincoln, Lincoln, NE

Monday, April 17, 2023, Posters

Undergraduate Posters / 10:00 AM-6:00 PM

Location: Ballroom Prefunction

- D1 **Pesticide residues in wax lead to premature self-removal behavior in honey bees (*Apis mellifera*).** *Sydney Martinez* (smartinez03@tamu.edu)¹, Sarah Jendresky², Jordan Twombly Ellis¹ and Juliana Rangel¹, ¹Texas A&M Univ., College Station, TX, ²Texas A&M, Austin, TX
- D2 **Investigating the sublethal effects of the agricultural fungicide, Chlorothalonil, on honey bees (*Apis mellifera*).** *Sarah Jendresky* (SarahJendresky@tamu.edu)¹, Sydney Martinez², Jordan Twombly Ellis² and Juliana Rangel², ¹Texas A&M, Austin, TX, ²Texas A&M Univ., College Station, TX
- D3 **Patterns of honey bee (*Apis mellifera*) brood production during fall and winter months in central Texas.** *Bryce Ortiz* (pollydog2002@tamu.edu), Audrey Poore and Juliana Rangel, Texas A&M Univ., College Station, TX
- D4 **The importance of *Bathyplectes curculionis* and hyperparasitoids on biocontrol in alfalfa.** *Madison Wright* (mwright30@uwyo.edu), Judith Herreid and Randa Jabbour, Univ. of Wyoming, Laramie, WY

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Posters

- D5** **Development of a greenhouse bioassay for western corn rootworm. *Ethan Goes* (ekgoes@iastate.edu), Abigail Kropf and Aaron Gassmann, Iowa State Univ., Ames, IA**
- D6** **What's the buzz about hemp: Assessing the effects of hemp pollen on neonicotinoids. *Joanna Gress, Hannah Hiszczyński* (hhiszczy@g.emporia.edu) and Meagan Fernandez, Emporia State Univ., Emporia, KS**
- D7** **Presence of food and other larvae impact how *Trogoderma variabile* break arrested development. *Henry DeWitt* (henryd12@ksu.edu) and Alison Gerken, USDA - ARS, Manhattan, KS**
- D8** **Big city hoppers: Grasshopper diversity in urban parks in central Oklahoma. *Dakota Boren* (Dlboren@okstate.edu), Alexander Harman and W. Hoback, Oklahoma State Univ., Stillwater, OK**
- D9** **Field and laboratory tests on Oklahoma's meat-eating dung beetle. *Ethan Shaw* (etshaw@okstate.edu) and W. Hoback, Oklahoma State Univ., Stillwater, OK**
- D10** **The effects of land cover on parasite infection rates in honey bees along an urban to rural gradient. *Isaac Fox* (i_fox@mail.fhsu.edu)¹, Kristen Baum² and Sarah Elzay¹, ¹Fort Hays State Univ., Hays, KS, ²Oklahoma State Univ., Stillwater, OK**
- D11** **Light pollution effects on timing of butterfly metamorphosis. *Josephine Schultz* (josephineschultz947@gmail.com), Winston Churchill High School, San Antonio, TX**

Masters Posters / 10:00 AM-6:00 PM

Location: Ballroom Prefunction

- D12** **Linking transposable element regulatory mechanisms with overcoming host plant resistance by the soybean aphid, *Aphis glycines*. *Angel Haller* (haller.161@osu.edu)¹, Nathan Kreuter², Vitor Pavinato¹ and Andy Michel¹, ¹The Ohio State Univ., Wooster, OH, ²Univ. of East Anglia, Norwich, United Kingdom**
- D13** **Hail netting in Minnesota apple orchards: Exclusion efficacy of major insect pests and assessment of non-target impacts on predator diversity. *Sally Nelson* (nels9091@umn.edu)¹, William Hutchison¹ and Annie Klodd², ¹Univ. of Minnesota, St. Paul, MN, ²University of Minnesota, St. Paul, MN**
- D14** **Effect of cover crops on thrips population dynamics in cotton seedling. *Raju Sapkota* (Raju.sapkota@enmu.edu), Eastern New Mexico Univ., Portales, NM**
- D15** **Fish alter macroinvertebrate communities in recently flooded ponds. *Gabrielle Jones* (gabrielle.jones10@okstate.edu), W. Hoback and James Long, Oklahoma State Univ., Stillwater, OK**
- D16** **Timing is everything: Threatened American burying beetle population estimates differ across the season in Oklahoma. *Samantha Hittson* (shittso@okstate.edu) and W. Hoback, Oklahoma State Univ., Stillwater, OK**
- D18** **Killing the young: Release of egg parasitoid limits brown stink bug in Brazilian soybean. *Rodrigo Soares* (rsoares@okstate.edu)¹, Regiane Oliveira² and W. Hoback¹, ¹Oklahoma State Univ., Stillwater, OK, ²Universidade Estadual Paulista, Botucatu, Brazil**

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Posters

- D19** **A review of climate change effects on insect pollinators. August Brunette** (ajbrunette@ksu.edu), Tania N. Kim and Brian Spiesman, Kansas State Univ., Manhattan, KS
- D20** **Surveying Cry1F resistance in European corn borer. Yamikani Ng'ona** (yamikani200@gmail.com)¹, Yasmine Farhan², Jocelyn Smith² and Andy Michel¹, ¹The Ohio State Univ., Wooster, OH, ²Univ. of Guelph, Ridgetown, ON, Canada
- D21** **Assessing hemp pollen for a protective effect in honey bee hives. Calvin Belton** (cbelton1@g.emporiana.edu), H Lipp and Joanna Gress, Emporia State Univ., Emporia, KS
- D22** **Headspace emissions from *Silphium integrifolium* and antennal response to insect-produced cues by the moth *Eucosma giganteana*. Hazel Scribner** (hazelscribner@ksu.edu)¹, Chase Stratton², Philipp Hansen², Ebony Murrell², Kun Yan Zhu¹ and William Morrison³, ¹Kansas State Univ., Manhattan, KS, ²The Land Institute, Salina, KS, ³USDA - ARS, Manhattan, KS
- D23** **How late-season forest access affects *Bombus impatiens* colony productivity and floral preference. Cheyenne Helton** (helton.576@osu.edu), Ohio State Univ., Columbus, OH
- D24** **Type III sodium dependent phosphate transporter expression in tissues of the lone star tick, *Amblyomma americanum*. Rachel Johnson (Brown)** (brownrl@ksu.edu) and Yoonseong Park, Kansas State Univ., Manhattan, KS

PhD Posters / 10:00 AM-6:00 PM

Location: Ballroom Prefunction

- D25** **Rancidity repels – evaluating the efficacy of animal based repellents used by historic period American Indians. Delaram Esmaeili** (delaesma@nmsu.edu)¹, Keyla Salas¹, Hailey Luker¹, Soumi Mitra², F. Omar Holguin¹, Immo Hansen¹ and August Costa³, ¹New Mexico State Univ., Las Cruces, NM, ²Baylor College of Medicine, Houston, TX, ³Rice Univ., Houston, TX
- D26** **Use of cover crops and persistent entomopathogenic nematodes against corn rootworm in Iowa. Kyndra Chastain** (k.bee99x@gmail.com) and Aaron J. Gassmann, Iowa State Univ., Ames, IA
- D27** **Modeling the effects of honey bee (*Apis mellifera*) premature self-removal behavior on colony survival. Jordan Twombly Ellis** (jt574@tamu.edu) and Juliana Rangel, Texas A&M Univ., College Station, TX
- D28** **Insecticide-treated netting deployment helps to improve fumigation efficacy in bulk storage at food facilities. Sabita Ranabhat** (srnanabhat@ksu.edu)¹, Daniel Brabec², Ian Stoll³, Georgina Bingham⁴, Kun Yan Zhu¹ and William Morrison⁵, ¹Kansas State Univ., Manhattan, KS, ²USDA-ARS, Manhattan, KS, ³Univ. of Missouri, Coloumbia, MO, ⁴Univ. of Nebraska-Lincoln, Lincoln, NE, ⁵USDA - ARS, Manhattan, KS
- D29** **General control nonderepressible 1 interacts with cationic amino acid transporter 1 and affects *Aedes aegypti* fecundity. Matthew Pinch**¹, Theodore Muka¹, Yashoda Kandel¹, **Mahesh Lamsal** (lamsalm@nmsu.edu)¹, Nathan Martinez¹, Marialuisa Teixeira¹, Dmitri Boudko² and Immo Hansen¹, ¹New Mexico State Univ., Las Cruces, NM, ²ReCode Therapeutics, Dallas, TX, USA, Dallas, IL
- D30** **Variability in macroinvertebrate community assemblages throughout a large Oklahoma reservoir. Sam Miess** (smiess@okstate.edu), Oklahoma State Univ., Stillwater, OK

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

- D31** **The microbial ecology of an invasive insect pest of stored grain. *Hannah Quellhorst* (hquellho@ksu.edu)¹, *Marco Ponce*¹, *Jacqueline Maille*¹, *Erin Scully*², *Christos Athanassiou*³, *Kun Yan Zhu*¹ and *William Morrison*², ¹Kansas State Univ., Manhattan, KS, ²USDA - ARS, Manhattan, KS, ³Univ. of Thessaly, Volos, Greece**
- D32** **Large-bodied bee presence and mortality rates in roadside habitats. *Teri Cocke* (teri.cocke@okstate.edu) and *Kristen Baum*, Oklahoma State Univ., Stillwater, OK**
- D33** **Microbiome composition of ticks collected from northwest Texas. *Kalin M. Skinner* (kalin.skinner@ttu.edu), *McKinlee M. Salazar* and *Corey L. Brelsfoard*, Texas Tech Univ., Lubbock, TX**
- D34** ***Popillia japonica* abundance and defoliation higher on younger plant tissue and field edges in a hazelnut orchard. *Hailey Shanovich* (shano004@umn.edu), Univ. of Minnesota, St. Paul, MN**
- D35** **Aphid hosts and plants influence parasitism rates of parasitoids over multiple generations. *Haley Butler* (haley.butler@okstate.edu) and *Kristopher Giles*, Oklahoma State Univ., Stillwater, OK**
- D36** **Combinations of essential oils as mosquito repellants. *April Lopez* (Aprlopez@nmsu.edu), New Mexico State Univ., Las Cruces, NM**

Monday, April 17, 2023, Afternoon, Oral Student Competitions

Student Competition: PhD 10-Minute Papers I

Location: Centennial 1

Moderators: Melissa Reed, Oklahoma State University, Stillwater, OK; Andrew Rodstrom, Nichino, WA

- 1:15 PM** **Welcoming remarks**
- 1:20 PM** **73 Using dsRNA and a lipovesicle coating to investigate the use of RNAi methods for management of the red imported fire ant (*Solenopsis invicta*, Buren). *Fabian List* (fabian.list@tamu.edu), *Aaron Tarone*, *Keyan Zhu-Salzman* and *Edward Vargo*, Texas A&M Univ., College Station, TX**
- 1:32 PM** **74 West Nile virus mosquito vector changes and land use changes in Fort Collins, Colorado, 2006-2021. *Courtney Maichak* (courtney.maichak@colostate.edu)¹, *Elizabeth Lunsford*¹, *Michael Young*¹, *Broox Boze*², *Gregory Ebel*¹, *Sue VandeWoude*¹ and *Sheryl Magzamen*¹, ¹Colorado State Univ., Fort Collins, CO, ²Vector Disease Control International, Little Rock, AR**
- 1:44 PM** **75 Examining stable fly, *Stomoxys calcitrans* (Linnaeus 1758) feeding preference through molecular identification of host blood meals. *Lauren Beebe* (laurenejbeebe@gmail.com)¹, *Pia Olafson*² and *Phillip Kaufman*¹, ¹Texas A&M Univ., College Station, TX, ²USDA - ARS, Kerrville, TX**
- 1:56 PM** **76 Stage-specific expression of putative dsRNA-degrading enzymes in the biting midge *Culicoides sonorensis* (Diptera: Ceratopogonidae). *Cameron Osborne* ([cj Osborne@ksu.edu](mailto:cjosborne@ksu.edu))¹, *Lee Cohnstaedt*² and *Kristopher Silver*¹, ¹Kansas State Univ., Manhattan, KS, ²USDA - ARS, Manhattan, KS**
- 2:08 PM** **77 Repellent efficacy of 19 essential oils on *Aedes aegypti* and *Ixodes scapularis* in contact-repellency assays. *Hailey Luker* (hailey13@nmsu.edu), *Keyla Salas*, *Delaram Esmaeili*, *F. Omar Holguin*, *Harley Bendzus-Mendoza* and *Immo Hansen*, New Mexico State Univ., Las Cruces, NM**

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

- 2:20 PM** **78** **Evolutionary changes in thermal acclimation capacity following multigenerational exposure to variable temperatures in *Drosophila melanogaster*. Laura Unfried** (laura.unfried@uky.edu) and Nicholas Teets, Univ. of Kentucky, Lexington, KY
- 2:32 PM** **79** **A population of wild honey bees (*Apis mellifera*) have lower levels of the microsporidian *Nosema* than a nearby managed apiary. Myra Dickey** (mdickey2@tamu.edu)¹ and Juliana Rangel², ¹Texas A&M, College Station, TX, ²Texas A&M Univ., College Station, TX
- 2:44 PM** **80** **Utilizing prescribed burning to selectively manage grasshoppers in the southern Great Plains. Alexander Harman** (aleharm@okstate.edu) and W. Hoback, Oklahoma State Univ., Stillwater, OK
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Student Competition: PhD 10-Minute Papers III

Location: Centennial 2

Moderators: David Kerns, Texas A&M AgriLife Extension Service, College Station, TX; Margaret Lewis, The Ohio State University, Wooster, OH

- 1:15 PM** **Welcoming remarks**
- 1:20 PM** **81** **Caged feeding assays of cotton fleahoppers *Pseudatomocelis seriatus* (Reuter) on ThryvOn cotton. Brady Arthur** (bparthur@tamu.edu)¹ and David Kerns², ¹Texas A&M Univ., College Station, TX, ²Texas A&M AgriLife Extension Service, College Station, TX
- 1:32 PM** **82** **Seasonal patterns of interaction turnover in a southern California plant-pollinator network. Samuel O'Dell** (sodell@ou.edu), Univ. of Oklahoma, Norman, OK
- 1:44 PM** **83** **Evaluating fitness costs associated with Vip3Aa resistance in *Helicoverpa zea*. Haley Kennedy** (haleykennedy7@tamu.edu)¹, Fei Yang¹ and David Kerns², ¹Texas A&M Univ., College Station, TX, ²Texas A&M AgriLife Extension Service, College Station, TX
- 1:56 PM** **84** **Increasing sampling efficiency for *Bombus* monitoring by maximizing detection probabilities. Michelle Boone** (boon0086@umn.edu), Elaine Evans, Todd Arnold and Daniel Cariveau, Univ. of Minnesota, St. Paul, MN
- 2:08 PM** **85** **Increasing plant diversity in agroecosystems to optimize syrphid fly pollination services. Leah Gastanguay** (lg7mb@umsystem.edu), Univ. of Missouri, Columbia, MO
- 2:20 PM** **86** **Efficiency and efficacy of insecticide application technologies for western bean cutworm. Andrea Rilaković** (a.rilakovic@gmail.com)¹, Ruby Anderson¹, Bruno Vieira¹, Milos Zaric¹, Jeffrey Golus¹, Ana Velez², Greg Kruger³, Brian Krienke², Turner Dorr¹, Daran Rudnick¹ and Julie Peterson¹, ¹Univ. of Nebraska-Lincoln, North Platte, NE, ²Univ. of Nebraska, Lincoln, NE, ³BASF Corp., Durham, NC
- 2:32 PM** **87** **Evaluating NIR Spectroscopy as a monitoring tool for fall armyworm *Spodoptera frugiperda* in corn plants. Ana Trabanino** (trabaninopino.1@buckeyemail.osu.edu) and Andy Michel, The Ohio State Univ., Wooster, OH
- 2:44 PM** **88** **Greenbug feeding-induced resistance to sugarcane aphids in sorghum. Heena Puri** (fheena2@huskers.unl.edu)¹, Edith Ikuze¹, Jessica Ayala², Isabella Rodrigues³, Rupesh Kariyat², Joe Louis¹

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

and Sajjan Grover¹, ¹Univ. of Nebraska-Lincoln, Lincoln, NE, ²Univ. of Arkansas, Fayetteville, AR, ³Univ. of Texas Rio Grande Valley, Edinburg, TX

Student Competition: Undergraduate 10-Minute Papers

Location: Venetian (14th floor)

Moderators: Alvaro Romero, New Mexico State University, Las Cruces, NM; Timothy Mabry, Corteva, Ivesdale, IL

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|----------------|---|
| 1:30 PM | Welcoming remarks |
| 1:35 PM | 89 Assessing the environmental risk of insecticide use in Minnesota apples: A 47 year case study. <i>Eleanor Meys</i> (meys0013@umn.edu) ¹ , Sally Nelson ¹ , Robert Venette ² and William Hutchison ¹ , ¹ Univ. of Minnesota, St. Paul, MN, ² Minnesota Invasive Terrestrial Plant & Pest Center, St. Paul, MN |
| 1:47 PM | 90 Genetic structure of <i>Ixodes scapularis</i> populations in eastern Texas and western Louisiana based on mitochondrial 16S rRNA and nuclear glycerol-3-phosphate dehydrogenase markers. <i>Kathy Li</i> (likj@jacks.sfasu.edu), Daniela Soto, Vanessa Borja and Zeljko Radulovic, Stephen F. Austin State Univ., Nacogdoches, TX |
| 1:59 PM | 91 Monitoring levels of brood rearing in honey bee (<i>Apis mellifera</i>) colonies during the winter months. <i>Bryce Ortiz</i> (pollydog2002@tamu.edu), Audrey Poore and Juliana Rangel, Texas A&M Univ., College Station, TX |
| 2:11 PM | 92 The effect of methanol on the growth and development of <i>Cochliomyia macellaria</i> (Diptera: Calliphoridae). <i>Elena Wilson</i> (elegwil@ou.edu), Heather Ketchum and Eric Bright, Univ. of Oklahoma, Norman, OK |
| 2:23 PM | 93 Hymenopteran warfare- comparing defensive strategies of honey bee lineages against ant invaders. <i>Jackson Wingert</i> (jwingert42@tamu.edu) ¹ , Juliana Rangel ¹ , Alexandria Payne ¹ , Jordan Twombly Ellis ¹ , Myra Dickey ² and Caleb Rodriguez ¹ , ¹ Texas A&M Univ., College Station, TX, ² Texas A&M, College Station, TX |
| 2:35 PM | 94 Does mosquito management harm beneficial insects in residential landscapes? <i>David Narayanan</i> (narayanan.122@buckeyemail.osu.edu), Megan Meuti and Mary Gardiner, The Ohio State Univ., Columbus, OH |
| 2:47 PM | 95 Annual blow fly (Diptera: Calliphoridae) species prevalence and richness collected from a wooded landscape in Central Oklahoma. <i>Kara Earnest</i> (kara.a.earnest-1@ou.edu), Heather Ketchum and Eric Bright, Univ. of Oklahoma, Norman, OK |
| 2:59 PM | 96 Rooted in defense: Comparing plant responses to aboveground and belowground herbivores. <i>Jack Bradford</i> (bradenjbradford@tamu.edu), Morgan Thompson and Anjel Helms, Texas A&M Univ., College Station, TX |
| 3:11 PM | Break |
| 3:45 PM | 97 Comparative quantification of honey bee (<i>Apis mellifera</i>) associated viruses in wild and managed colonies. <i>Myra Dickey</i> ¹ , <i>Mckaela Whilden</i> (mckaela@tamu.edu) ² , Jordan Twombly Ellis ² and Juliana Rangel ² , ¹ Texas A&M, College Station, TX, ² Texas A&M Univ., College Station, TX |

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

3:57 PM	98	Insects and education. <i>Elizabeth Carlson</i> (elcarls@okstate.edu), Oklahoma State Univ., Haslet, TX
4:09 PM	99	Comparison of pyrethroid-based paints on various substrates for the control of peri-domestic cockroaches. <i>Miguel Salazar</i> (miguel90@nmsu.edu)¹, Alvaro Romero² and John Agnew², ¹New Mexico State U, Mesilla Park, NM, ²New Mexico State Univ., Las Cruces, NM
4:21 PM	100	Acetolysis modifications to process pollen swabbed from live bees. <i>Kirsten Warcup</i> (kirsten.warcup@ndsu.edu), Bethany Robertson, Katherine Kral-O'Brien and Jason Harmon, North Dakota State Univ., Fargo, ND
4:33 PM	101	Subterranean shenanigans: Belowground herbivory reduces aboveground herbivore performance on neighboring plants. <i>Rachel Kurian</i> (rmk2003@tamu.edu), Jayda Arriaga, Jack Bradford, Gage Strozier, Morgan Thompson and Anjel Helms, Texas A&M Univ., College Station, TX

Student Competition: Masters 10-Minute Papers I

Location: Centennial 3

Moderators: Bruce Noden, Oklahoma State University, Stillwater, OK; Hannah Quellhorst, Kansas State University, Manhattan, KS

1:55 PM		Welcoming remarks
2:00 PM	102	Potential effects of relay cropping soybean into a cover crop of pennycress (<i>Thlaspi arvense</i>) on soybean aphid (<i>Aphis glycines</i>) populations. <i>Ellen Adjeiwaa</i> (adjei016@umn.edu)¹, Lucas Roberts², Aaron Lorenz² and Robert Koch³, ¹Univ. of Minnesota-Twin cities, Folwell Ave, MN, ²Univ. of Minnesota-Twin cities, St Paul, MN, ³Univ. of Minnesota, St. Paul, MN
2:12 PM	103	Developing IPM tactics for a new virus transmitted by aphids to chili peppers. <i>Taylor Janecek</i> (taylor.janecek@colostate.edu), Punya Nachappa, Michael Bartolo, Jordan Withycombe and Adrianna Szczepaniec, Colorado State Univ., Fort Collins, CO
2:24 PM	104	Soybean IPM: Using a 3D printed defoliation tool to encourage accurate insecticide use. <i>Olivia Lang</i> (lang.556@osu.edu), Suranga Basnagala, Kelley Tilmon, Amy Raudenbush, Luis Canas and Andy Michel, The Ohio State Univ., Wooster, OH
2:36 PM	105	Monarch butterfly (<i>Danaus plexippus</i> L.) response to variable rangeland grazing strategies during both extreme drought and normal conditions. <i>Ellysa Johnson</i> (ellysa.johnson@ndsu.edu), North Dakota State Univ., Fargo, ND
2:48 PM	106	Insect community response to fine sediments in the hyporheic zone of six Ozark streams. <i>Jackson Winslow</i> (jww79s@login.missouristate.edu) and Deb Finn, Missouri State Univ., Springfield, MO
3:00 PM	107	Insight into insect community and management on midwestern mungbean. <i>Evelyn Platner</i> (eplatner@iastate.edu), Jean Batzer, Mark Licht, Daren Mueller, Matthew O'Neal and Arti Singh, Iowa State Univ., Ames, IA
3:12 PM		Break

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

- 3:45 PM 108 Optimizing molecular gut content analysis to determine predation rates on soybean gall midge, a new pest of soybean. Sarah Lisak** (*lisak007@umn.edu*)¹, Amelia Lindsey¹ and Robert Koch², ¹Univ. of Minnesota, Saint Paul, MN, ²Univ. of Minnesota, St. Paul, MN
- 3:57 PM 109 Spatial distribution of soybean gall midge (*Resseliella maxima* Gagné) larvae from infested soybean plants under field conditions. Mikaelison da Silva Lima** (*mdasilvalima2@huskers.unl.edu*)¹ and Anthony McMechan², ¹UNL, Lincoln, NE, ²Univ. of Nebraska, Lincoln, NE
- 4:09 PM 110 Examining potential trade-offs between pest management and pollination to sunflower yield in Nebraska. Luis Ochoa** (*luis17ochoa@gmail.com*)¹, Jarrad Prasifka², Autumn Smart³, Gary Brewer³ and Jeffrey Bradshaw¹, ¹Univ. of Nebraska-Lincoln, Scottsbluff, NE, ²USDA - ARS, Fargo, ND, ³Univ. of Nebraska-Lincoln, Lincoln, NE
- 4:21 PM 111 Who's using who? Mosquito bloodmeal identification to discover host-mosquito interactions in eastern red cedar Brandon Henriquez** (*brandon.henriquez@okstate.edu*) and Bruce Noden, Oklahoma State Univ., Stillwater, OK
- 4:33 PM 112 Microplastic ingestion alters the composition of *Aedes* mosquito species microbiota. Carla-Cristina Edwards** (*carlaedw@ttu.edu*), Gabriela McConnel, Corey L. Brelsfoard and Jaclyn Cañas-Carrell, Texas Tech Univ., Lubbock, TX
- 4:45 PM 61 Evaluation of three sampling methods for cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter). Gabriella Marotta** (*gcmarotta1@tamu.edu*) and David Kerns, Texas A&M Univ., College Station, TX

Student Competition: Masters 10-Minute Papers II

Location: Crystal

Moderators: Anthony McMechan, University of Nebraska, Lincoln, NE; Dalton Ludwick, Texas A&M University, Corpus Christi, TX

1:55 PM Welcoming remarks

- 2:00 PM 113 Pyrethroid resistance detected in Texas rice stink bug (*Oebalus pugnax*) populations and alternative insecticides for their management. Danielle Gray** (*ddg035@tamu.edu*)¹, Stephen Biles², Kate Crumley³, Tyler Towles⁴, Sebe Brown⁵, Tyler Mays⁶, David Kerns⁷ and Dalton Ludwick⁸, ¹Texas A&M Univ., College Station, TX, ²Texas A&M Univ., Port Lavaca, TX, ³Texas A&M AgriLife Extension Service, Wharton, TX, ⁴Louisiana State Univ. Agricultural Center, Winnsboro, LA, ⁵Univ. of Tennessee, Jackson, TN, ⁶Texas A&M AgriLife, Hillsboro, TX, ⁷Texas A&M AgriLife Extension Service, College Station, TX, ⁸Texas A&M Univ., Corpus Christi, TX
- 2:12 PM 114 Pre-season tillage and its influence on soybean gall midge. Benjamin Kolbe** (*blkolbe@iastate.edu*)¹, Erin Hodgson¹ and Anthony McMechan², ¹Iowa State Univ., Ames, IA, ²Univ. of Nebraska, Lincoln, NE
- 2:24 PM 115 Evaluating planting date and seed treatment as management tactics for soybean gall midge. Natasha Umezu** (*numezu2@huskers.unl.edu*)¹ and Anthony McMechan², ¹Univ. of Nebraska - Lincoln, Lincoln, NE, ²Univ. of Nebraska, Lincoln, NE

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

- 2:36 PM** **116** **Evaluating parasitism of soybean gall midge by a newly discovered species of *Synopeas* in Minnesota. *Gloria Melotto* (gloriamelotto1@gmail.com)¹, *Bruce Potter*², *Amelia Lindsey*¹ and *Robert Koch*³, ¹Univ. of Minnesota, Saint Paul, MN, ²Univ. of Minnesota, Lamberton, MN, ³Univ. of Minnesota, St. Paul, MN**
- 2:48 PM** **117** **Initial assessment of the cold tolerance of soybean gall midge. *Pheylian Anderson*** (and05170@umn.edu)¹, *Robert Venette*², *Bruce Potter*³, *Anthony Hanson*¹ and *Robert Koch*¹, ¹Univ. of Minnesota, St. Paul, MN, ²USDA - Forest Service, St. Paul, MN, ³Univ. of Minnesota, Lamberton, MN
- 3:00 PM** **118** **Edge habitat effects ground beetle abundance, community composition, and movement within agricultural landscapes. *Magdeline Anderson*** (magdelineanderson@ksu.edu) and *Tania N. Kim*, Kansas State Univ., Manhattan, KS
- 3:12 PM** **Break**
- 3:45 PM** **119** **Infestation potential and susceptibility of soybean to soybean gall midge during the growing season. *Pragya Gupta*** (pgupta4@huskers.unl.edu)¹ and *Anthony McMechan*², ¹Univ. of Nebraska Lincoln, Lincoln, NE, ²Univ. of Nebraska, Lincoln, NE
- 3:57 PM** **120** **Time of year, not refugia vegetation type and distance affects insect predation in conventional Iowa crop fields. *Andres Vargas*** (avargas@iastate.edu), *Matthew O'Neal* and *Lisa A. Schulte*, Iowa State Univ., Ames, IA
- 4:09 PM** **121** **Transcriptomic analysis of ethanol treatment of male *Aedes aegypti* reveals a small set of putative radioprotective genes. *Harley Bendzus-Mendoza*** (hbendzus@nmsu.edu), New Mexico State Univ., Las Cruces, NM
- 4:21 PM** **122** **Killer bud: Toxic and repellent effects of *Cannabis* extracts on the yellow fever mosquito *Aedes aegypti*. *Erick Martinez*** (martinezrodriguez.2@buckeyemail.osu.edu), The Ohio State Univ., Wooster, OH
- 4:33 PM** **123** **Estimating the frequency of mutations associated with pyrethroid resistance in *Aphis glycines*. *Matthew Pfab*** (mrpfab@iastate.edu)¹, *Ivair Valmorbidia*², *Matthew O'Neal*¹, *Brad Coates*³ and *Erin Hodgson*¹, ¹Iowa State Univ., Ames, IA, ²ADAMA, Fresno, CA, ³USDA-ARS, Ames, IA

PhD 10-Minute Papers II

Location: Centennial 1

Moderators: Julie Peterson, University of Nebraska-Lincoln, North Platte, NE; Andrew Rodstrom, Nichino, WA

- 3:30 PM** **Welcoming remarks**
- 3:42 PM** **124** **Does feeding by cotton fleahopper, *Pseudatomoscelis seriatus*, delay cotton maturity? *Malek Alwedyan*** (malek84@tamu.edu)¹ and *Michael Brewer*², ¹Texas A&M Univ., College Station, TX, ²Texas A&M AgriLife Research, Corpus Christi, TX
- 3:54 PM** **125** **Exploring refuge sizes to delay resistance by western corn rootworm to Bt maize. *John McCulloch*** (johnmcc@iastate.edu) and *Aaron Gassmann*, Iowa State Univ., Ames, IA

Oral & Poster Presentation Schedule
Monday, April 17, 2023, Afternoon, Oral Student Competitions

- 4:06 PM 126 Sampling for aphid natural enemies in grain sorghum for management decisions. *Nina Rudin* (nrudin@okstate.edu)¹, *Kristopher Giles*¹, *Jessica Lindenmayer*¹, *Norman Elliott*² and *Michael Brewer*³, ¹Oklahoma State Univ., Stillwater, OK, ²USDA-ARS, Stillwater, OK, ³Texas A&M AgriLife Research, Corpus Christi, TX**
- 4:18 PM 127 Seeing without eyes: Detection and identification of exotic insects in greenhouses and urban landscapes using environmental DNA. *Jonathan Lee-Rodriguez* (lee-rodriguez.1@buckeyemail.osu.edu)¹, *Luis Canas*¹, *Andy Michel*¹, *Christopher Ranger*² and *Ashley Leach*¹, ¹The Ohio State Univ., Wooster, OH, ²USDA - ARS, Wooster, OH**
- 4:30 PM 128 Impact of cross pollination between Bt and non-Bt corn on corn earworm within blended refuges of short-stature corn. *Devin Radosevich* (dradose@iastate.edu)¹, *Graham Head*², *Matthew Carroll*³ and *Aaron Gassmann*¹, ¹Iowa State Univ., Ames, IA, ²Bayer Crop Science, Chesterfield, MO, ³Bayer Crop Science, St. Louis, MO**
- 4:42 PM 129 Where is *Drosophila suzukii* spending the winter?? What we have learned from 3 full years of trapping *Ellie McCabe* (ellieannmccabe@gmail.com) and *Nicholas Teets*, Univ. of Kentucky, Lexington, KY**
- 4:54 PM 130 Using social science to gain a better understanding of dry bean IPM. *Jeffrey Cluever* (cluever.jeffrey@huskers.unl.edu)¹, *Julie Peterson*², *Robert Wright*³ and *Jeffrey Bradshaw*⁴, ¹Univ. of Nebraska Lincoln, Scottsbluff, NE, ²Univ. of Nebraska-Lincoln, North Platte, NE, ³Univ. of Nebraska Lincoln, Lincoln, NE, ⁴Univ. of Nebraska-Lincoln, Scottsbluff, NE**
- 5:06 PM 131 Sticky trap orientation affects western corn rootworm capture. *Sagnika Das* (sagnika2@illinois.edu)¹, *Nicholas Seiter*² and *Joseph Spencer*³, ¹Univ. of Illinois, Urbana-Champaign, Champaign, IL, ²Univ. of Illinois, Urbana-Champaign, Urbana, IL, ³Univ. of Illinois, Champaign, IL**

PhD 10-Minute Papers IV

Location: Centennial 2

Moderators: Mary Gardiner, The Ohio State University, Columbus, OH; Anh Tran, University of Minnesota, St. Paul, OH

- 3:30 PM Welcoming remarks**
- 3:35 PM 132 Predicting the spatial distribution of the invasive Japanese beetle, *Popillia japonica* Newman, in the American midwest. *Nicole Kucherov* (nkucherov@ksu.edu) and *Tania N. Kim*, Kansas State Univ., Manhattan, KS**
- 3:47 PM 133 Underneath it all: Belowground insect herbivory enhances systemic plant defense and deters aboveground herbivores. *Morgan Thompson* (mthompson@tamu.edu)¹, *John Grunseich*¹, *Laura Marmolejo*¹, *Natalie Aguirre*¹, *Pius Bradicich*², *Spencer Behmer*¹, *Charles Suh*³ and *Anjel Helms*¹, ¹Texas A&M Univ., College Station, TX, ²Texas A&M AgriLife Research, Corpus Christi, TX, ³USDA ARS SPARC, College Station, TX**
- 3:59 PM 134 Following the curve, an analysis of organic insecticide efficacy against fungus gnat (*Lycoriella* spp.) larvae across three species of oyster mushrooms. *Grace Sward* (sward.6@buckeyemail.osu.edu)¹, *Valerie Anderson*¹, *Nuris Acosta*¹, *Christopher Ranger*², *Reed Johnson*¹ and *Luis Canas*¹, ¹The Ohio State Univ., Wooster, OH, ²USDA - ARS, Wooster, OH**

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Posters

- 4:11 PM 135 Investigating the value of urban greening for moth conservation. *Lucy Guarnieri* (guarnieri.29@osu.edu) and Mary Gardiner, The Ohio State Univ., Columbus, OH**
- 4:23 PM 136 Bees and flower community responses following a drought in grazing landscapes. *Bethany Robertson* (bethany.robertson@ndsu.edu)¹, Jason Harmon¹, Torre Hovick¹, Kevin Sedivec¹ and Benjamin Geaumont², ¹North Dakota State Univ., Fargo, ND, ²North Dakota State Univ., Hettinger, ND**
- 4:35 PM 137 Serine protease networks mediate immune responses in extra-embryonic tissues of eggs in the tobacco hornworm, *Manduca sexta*. *Tisheng Shan* (tisheng.shan@okstate.edu)¹, Yang Wang¹, Neal Dittmer², Michael Kanost² and Haobo Jiang¹, ¹Oklahoma State Univ., Stillwater, OK, ²Kansas State Univ., Manhattan, KS**
- 4:47 PM 138 Baseline susceptibility of field and laboratory strains of *Helicoverpa zea* to *HearNPV* and cross-resistance to Bt proteins. *Wilfrid Calvin* (wilfrid.calvin@tamu.edu)¹, David Kerns² and Fei Yang¹, ¹Texas A&M Univ., College Station, TX, ²Texas A&M AgriLife Extension Service, College Station, TX**
- 4:59 PM 139 Sorghum transcriptional responses to fall armyworm herbivory. *Sanket Shinde* (sshinde2@huskers.unl.edu)¹, Lise Pingault², Scott E. Sattler³ and Joe Louis², ¹Univ. of Nebraska Lincoln, Lincoln, NE, ²Univ. of Nebraska-Lincoln, Lincoln, NE, ³USDA - ARS, Lincoln, NE**

Tuesday, April 18, 2023, Posters

Regular Posters / 9:00 AM-6:00 PM

Location: Ballroom Prefunction

- D37 Diversity in Predation on the Rare Hops Azure Butterfly (*Celastrina humulus*, Lycaenidae). *Audrey Fahland* (afahland@uccs.edu)¹ and Emily Mooney², ¹Univ. Colorado Colorado Springs, Denver, CO, ²Univ. of Colorado, Colorado Springs, CO**
- D38 The effects of insect repellent on initial colonization of decomposing pig remains. *Kenwyn Cradock* (Kenwyn.Cradock@enmu.edu) and Cecilia Torres, Eastern New Mexico Univ., Portales, NM**
- D39 Non-target effects of pyriproxyfen on *Aedes albopictus* fecundity and vector competence. *Sri Jyosthsna Kancharlapalli* (srikanch@ttu.edu) and Corey L. Brelsfoard, Texas Tech Univ., Lubbock, TX**
- D40 Potencial leafhopper vectors of *Xylella fastidiosa* and other pathogens in Vineyards of Parras Coahuila, Mexico. *Lizeth Almendra-Paxtian* (allmendrapaxtian@gmail.com), Universidad Autonoma Agraria Antonio Narro, Saltillo, CU, Mexico**
- D41 Roles of dipeptidyl peptidase-4 in innate immunity of *Manduca sexta*. *Chunxiang Hou* (chunxiang.hou@okstate.edu), Yang Wang and Haobo Jiang, Oklahoma State Univ., Stillwater, OK**
- D42 Compatibility of *Metarhizium rileyi* with selected pesticides. *Viridiana Martinez* (Viri.martiz15@gmail.com) and Sergio Sanchez, Universidad Autonoma Agraria Antonio Narro, Saltillo, CU, Mexico**
- D43 The effect of thermal exposure on transgenerational plasticity in *Drosophila melanogaster*. *Rachael Snyder* (rrachael Snyder@gmail.com), Univ. of Kentucky, Lexington, KY**

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Posters

- D44** Identifying insecticide resistance to lambda cyhalothrin on alfalfa weevil (*Hypera postica*) in Oklahoma. **S. Seuhs** (k.seuhs@okstate.edu), Oklahoma State Univ., Stillwater, OK
- D45** Maize weevil, *Sitophilus zeamais*, feeding and reproductive performance on different sources of corn kernels in the laboratory. **Dol P. Dhakal** (dol.dhakal@ag.tamu.edu)¹, Amanda Sieps², Megha Parajulee², Wenwei Xu³ and Morgan Molsbee², ¹Texas A&M Univ. AgriLife Research and Extension Center, Lubbock, TX, ²Texas A&M AgriLife Research and Extension Center, Lubbock, TX, ³Texas A&M Univ., Lubbock, TX
- D46** Native bee utilization of sorghum and community richness in western Kansas agricultural system. **Katelyn Strack** (katelynstrack@gmail.com)¹ and Sarah Elzay², ¹Fort Hays State Univ., HAYS, KS, ²Fort Hays State Univ., Hays, KS
- D47** Establishing baseline susceptibilities for resistance monitoring of *Aphis glycines* to afidopyropen, flupyradifurone, and sulfoxaflor. **James Menger** (meng0025@umn.edu), Arthur Ribeiro and Robert Koch, Univ. of Minnesota, St. Paul, MN
- D48** Improving disease resistance and queen quality of managed *Apis mellifera jemenitica* Rutter colonies in Saudi Arabia. **Keegan Nichols** (knichols@tamu.edu)¹ and Juliana Rangel², ¹Texas A&M, College Station, TX, ²Texas A&M Univ., College Station, TX
- D49** Sorghum aphid (*Melanaphis sorghi*) densities decrease exponentially from field edge to interior. **Pius Bradicich** (piobradicich@gmail.com) and Michael Brewer, Texas A&M AgriLife Research, Corpus Christi, TX
- D50** Bean and lima bean (*Phaseolus* spp.) as hosts of the soybean gall midge. **Bruce Potter** (bpotter@umn.edu)¹, Robert Koch², Travis Vollmer¹, Gloria Melotto³ and Sarah Lisak³, ¹Univ. of Minnesota, Lamberton, MN, ²Univ. of Minnesota, St. Paul, MN, ³Univ. of Minnesota, Saint Paul, MN
- D51** Comparison of rearing successes of emerald ash borer on two artificial diet presentation methods. **Evelyn Baratelli** (ebaratelli@richmond.edu)^{1,2}, Erica Martin^{1,2}, Benjamin Slager¹, Kristine Grayson², Hannah Nadel³ and Mauri Hickin³, ¹USDA APHIS, Brighton, MI, ²Univ. of Richmond, Richmond, VA, ³USDA - APHIS-PPQ-S&T, Buzzards Bay, MA
- D52** Bee exposure to foliar insecticides and fungicides in pumpkin (*Cucurbita pepo*) pollen and nectar depends on chemical and time since spray. **Karen Goodell** (goodell.18@osu.edu)¹, Keng-Lou Hung², Jessie Novotny³ and Andrew Lybbert⁴, ¹The Ohio State Univ., Newark, OH, ²Univ. of Oklahoma, Norman, OK, ³Hiram College, Hiram, OH, ⁴Methodist Univ., Fayetteville, NC
- D53** The 2020 Experiment on Growth and Development of *Photuris* Fireflies: Is this “diapause”?--Or is it something else? **Lawrent Buschman** (lbuschma@ksu.edu), Kansas State Univ., Hesston, KS
- D54** Economic comparison of early harvest and insecticide use for alfalfa weevil management in alfalfa. **Brian Lee**¹, John Ritten², Anowar Islam¹, Judith Herreid¹ and **Randa Jabbour** (rjabbour@uwyo.edu)¹, ¹Univ. of Wyoming, Laramie, WY, ²Colorado State Univ., Fort Collins, CO
- D55** Arthropods associated with elderberry in Missouri. **Kofi Afari** (kofi.afari565@my.lincolnu.edu)¹, Caroline Foba¹, Andrew Thomas², Garrett Avery¹ and Clement Akotsen-Mensah¹, ¹Lincoln Univ. of Missouri, Jefferson City, MO, ²Univ. of Missouri, Mount Vernon, MO
- D56** Population fluctuation of *Bactericera cockerelli* and *Bemisia tabaci* in a horticultural area in northeastern Mexico. **Adriana Félix-Rocha** (adrianafelits@gmail.com) and Sergio Sánchez-Peña, Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Posters

- D57** **Understanding the biology and ecology of crane flies in alfalfa fields of Kentucky. Armando Falcon-Brindis** (armandofalcon123@gmail.com)¹, Raul Villanueva¹ and Julian Dupuis², ¹Univ. of Kentucky, Princeton, KY, ²Univ. of Kentucky, Lexington, KY
- D58** **Hemipteran species composition in row crops of the Brazos River Bottom in central Texas. Jesus Esquivel** (jesus.esquivel@usda.gov) and Charles Suh, USDA - ARS, College Station, TX
- D59** **Evaluation of organic and conventional pesticides for management of hemp russet mites. Raul Villanueva** (raul.villanueva@uky.edu)¹, Zenaida Viloria² and Armando Falcon-Brindis², ¹Univ. of Kentucky - Research and Education Center, Princeton, KY, ²Univ. of Kentucky, Princeton, KY
- D60** **Arthropod abundance in industrial hemp in central Nebraska. Andrea Rilaković** (a.rilakovic@gmail.com), Ruby Anderson, Milos Zaric and Julie Peterson, Univ. of Nebraska-Lincoln, North Platte, NE
- D61** **Movement by two stored product pests, *Sitophilus oryzae* and *Rhyzopertha dominica*, in response to cues produced by the parasitoid *Theocolax elegans* after harvest. William Morrison** (william.morrison@usda.gov)¹, Maria Sakka², Jacqueline Maille³, Ian Stoll⁴, Christos Athanassiou² and Alison Gerken¹, ¹USDA - ARS, Manhattan, KS, ²Univ. of Thessaly, Volos, Greece, ³Kansas State Univ., Manhattan, KS, ⁴Univ. of Missouri, Coloumbia, MO
- D62** **Field and laboratory observations of the wasp *Euplectrus sp* as a biological control agent of the fall armyworm *Spodoptera frugiperda*. Alexis Pérez-Vázquez** (perezalexisalberto@gmail.com) and Sergio Sánchez-Peña., Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico
- D63** **Transmission of Candidatus *Liberibacter solanacearum* by *Bactericera cockerelli* (Sulc.) (Hemiptera: Trioziidae) to tomato plants (*Solanum lycopersicum*) in the laboratory. Litzy Mendoza-Colunga, Carolina Delgado-Luna and Sergio Sanchez-Peña** (sanchezcheco@gmail.com), Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico
- D64** **Egg stalk length affects rates of cannibalism by different larval instars of *Chrysoperla rufilabris*. Laura Weiser Erlandson** (laura.erlandson@tamuct.edu) and Alyssa Taylor, Texas A&M Univ. - Central Texas, Killeen, TX
- D65** **Interaction of the entomopathogenic fungus *Aschersonia hypocreoides* with its host *Trialeurodes vaporariorum*. Maythe Morales-Gálvez** (maythe.mora.97@gmail.com), Renato Villegas-Luján and Sergio Sanchez-Peña, Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico
- D66** **Parasitism by *Tamarixia triozae* (Burks) (Hymenoptera: Eulophidae) on *Bactericera cockerelli* (Sulc.) (Hemiptera: Trioziidae) on different host plants. Luis Coronado-Mata** (luisma.coronado14@hotmail.com), Carolina Delgado-Luna and Sergio Sanchez-Peña, Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico
- D67** ***Bactericera cockerelli* (Sulc.) (Hemiptera: Trioziidae), *Liberibacter solanacearum* and wild hosts in northeastern Mexico. Carolina Delgado-Luna** (delgadolunac29@gmail.com)¹, Rodney Cooper², Jose Villarreal-Quintanilla¹ and Sergio Sanchez-Peña¹, ¹Universidad Autónoma Agraria Antonio Narro, Saltillo, CU, Mexico, ²USDA-ARS, Wapato, WA
- D68** **Withdrawn**

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Morning

- D69** Using climate modeling to determine threats to the distribution of *Catocala* moths dependent on leadplant (*Amphora canescens*) in Minnesota. **Eleanor Meys** (meys0013@umn.edu) and Matt Petersen, Univ. of Minnesota, St. Paul, MN
- D70** Early-season insect-pest management in water-deficit cotton production. **Megha N. Parajulee** (m-parajulee@tamu.edu)¹, Dol P. Dhakal¹, Abdul Hakeem², Michael Toews³, Donna McCallister¹, Suhas Vyavhare⁴ and Katie Lewis¹, ¹Texas A&M Univ. AgriLife Research and Extension Center, Lubbock, TX, ²Prairie View A&M Univ., Rosenberg, TX, ³Univ. of Georgia, Tifton, GA, ⁴Texas A&M AgriLife Research and Extension Center, Lubbock, TX

Tuesday, April 18, 2023, Morning

Symposium: Raising Your Brood: Insect Rearing Systems across Disciplines

Location: Crystal

Moderators and Organizers: Sarah Lisak, Univ. of Minnesota, Saint Paul, MN and Pheylan Anderson, Univ. of Minnesota, St. Paul, MN

- 9:45 AM** Welcoming remarks
- 9:50 AM** **140** Challenges and solutions for mass rearing high-quality insects for industry research. **Molly Ryan** (molly.ryan@corteva.com), Corteva Agriscience, Dallas Center, IA
- 10:15 AM** **141** Rearing blood-sucking insects with artificial feeding systems: Achievements and challenges. **Alvaro Romero** (aromero2@nmsu.edu) and Brittny Blakely, New Mexico State Univ., Las Cruces, NM
- 10:40 AM** **142** Rearing the American burying beetle, *Nicrophorus americanus*, at Oklahoma State University. **Shane McMurry** (shane.mcmurry@okstate.edu)¹ and W. Hoback², ¹Oklahoma State Univ., Pawnee, OK, ²Oklahoma State Univ., Stillwater, OK
- 11:05 AM** Break
- 11:20 AM** **143** Deep space entomophagy: How we will eat bugs on Mars. **Andrew Surine** (surin006@umn.edu)¹ and Sujaya Rao², ¹Univ. of Minnesota, Saint Paul, MN, ²Univ. of Minnesota, St. Paul, MN
- 11:45 AM** **144** Living in tent houses: A cost-effective and space-saving strategy for aphid rearing. **Jinlong Han** (jinlong.han@colostate.edu), Punya Nachappa and Vamsi Nalam, Colorado State Univ., Fort Collins, CO
- 12:10 PM** Panel discussion
- 12:35 PM** Concluding remarks

Regular 10-Minute Papers: MUVE, PBT, & SysEB

Location: Centennial 2

Moderators: Brandon Lyons, Texas A&M AgriLife Research, College Station, TX; Joel DuBois, Louisiana State University, Baton Rouge, LA

- 9:45 AM** Welcoming remarks

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Morning

- 9:50 AM** **145** **A bright idea: Alternatives to incandescent bulbs in Berlese funnels. *Emily Hanuschuk***
(emily.hanuschuk@grainscanada.gc.ca), Canadian Grain Commission, Winnipeg, MB, Canada
- 10:02 AM** **146** **Woody plant encroachment into grasslands and shrublands as a foci for mosquito-borne pathogens: Eastern redcedar in the southern Great Plains of the USA. *Bruce Noden***
(bruce.noden@okstate.edu) and Brandon Henriquez, Oklahoma State Univ., Stillwater, OK
- 10:14 AM** **147** **Comparison of predilection sites of *Rhipicephalus (Boophilus) microplus* tick larvae and nymphs on cattle. *Brandon Lyons*** (brandon.lyons@ag.tamu.edu)¹, Phillip Kaufman² and Donald Thomas³, ¹Texas A&M AgriLife Research, College Station, TX, ²Texas A&M Univ., College Station, TX, ³USDA - ARS, Edinburg, TX
- 10:26 AM** **148** **Screening pyrethroid resistance, genetic lineages and pathogen prevalence in brown dog tick populations in Texas and surrounding states. *Emrah Ozel*** (emrah.ozel@ag.tamu.edu), Taylor Chapman and Phillip Kaufman, Texas A&M Univ., College Station, TX
- 10:38 AM** **149** **Detection of ivermectin target-site resistance and metabolic resistance in the cattle ticks, *Rhipicephalus microplus*. *Xinyue Huang*** (cecilia.huang@agnet.tamu.edu)¹, Sarah Maestas¹, Pia Olafson² and Phillip Kaufman¹, ¹Texas A&M Univ., College Station, TX, ²USDA - ARS, Kerrville, TX
- 10:50 AM** **150** **Novel findings on amino acid signaling cascades and transport in *Aedes aegypti* mosquitoes. *Immo Hansen*** (immoh@nmsu.edu), New Mexico State Univ., Las Cruces, NM
- 11:02 AM** **151** **Essential oils as a new approach for *Striacosta albicosta* (Lepidoptera: Noctuidae) management. *Alisson Santana*** (alisson.0910.silva@gmail.com)¹, Julie Peterson¹, Andrea Rilakovic¹, Muriel Emannel² and Edson Baldin², ¹Univ. of Nebraska-Lincoln, North Platte, NE, ²Universidade Estadual Paulista, Botucatu, Brazil
- 11:14 AM** **152** **The *Acmaeodera* problem: Beginning to unravel a complex jewel beetle group with an integrated taxonomic approach. *Joel DuBois*** (jduboi9@lsu.edu) and Nathan Lord, Louisiana State Univ., Baton Rouge, LA

Regular 10-Minute Papers: P-IE, Pollinators

Location: Centennial 1

Moderators: Emily Mooney, University of Colorado, Colorado Springs, CO; MaLisa Spring, The Ohio State University, Newark, OH

9:45 AM **Welcoming remarks**

- 9:50 AM** **153** **Long term changes in lipid storage by *Euxoa* moths at high elevation in Colorado. *Emily Mooney*** (emooney@uccs.edu)¹, Peter Kevan², Candace Galen³ and Alexis Rayburn⁴, ¹Univ. of Colorado, Colorado Springs, CO, ²Univ. of Guelph, Guelph, ON, Canada, ³Univ. of Missouri, Columbia, MO, ⁴Univ. of Colorado Colorado Springs, Colorado Springs, CO
- 10:02 AM** **154** **Urban ornamental plants support early-spring pollinators. *Victoria Wierzchowski, Abigail Ren, Brooke Haden and Keng-Lou Hung*** (kljhung@ou.edu), Univ. of Oklahoma, Norman, OK

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Morning

- 10:14 AM 155 Phytocannabinoids versus neonicotinoids in the honeybee: A potential new management strategy? Joanna Gress** (*jgress@emporia.edu*), Meagan Fernandez, Hannah Hiszczynskyj, Nicholas Rutherford and Tania Wiest, Emporia State Univ., Emporia, KS
- 10:26 AM 156 The impacts of land cover along an urban to rural gradient on honey bee health. Sarah Elzay** (*sdelzay@fhsu.edu*)¹ and Kristen Baum², ¹Fort Hays State Univ., Hays, KS, ²Oklahoma State Univ., Stillwater, OK
- 10:38 AM 157 Do bumble bees have an optimal temperature for learning while foraging? Olivia Bernauer** (*olivia.bernauer@gmail.com*), Taylor Wartell, Acacia Tang and James Crall, Univ. of Wisconsin-Madison, Madison, WI
- 10:50 AM 158 Using community scientists to establish baseline bee data for Ohio. MaLisa Spring** (*spring.99@osu.edu*) and Karen Goodell, The Ohio State Univ., Newark, OH
- 11:02 AM 159 Market implications of changes in climate, land coverage and annual colony mortality for U.S. commercial beekeeping operations. Juliana Rangel** (*jrangel@tamu.edu*)¹, Chengcheng Fei² and Richard Woodward³, ¹Texas A&M Univ., College Station, TX, ²Dept. of Agricultural Economics, Texas A&M Univ., College Station, TX, ³Dept. of Agricultural Economics, Texas AgriLife Research., College Station, TX

Regular 10-Minute Papers: P-IE, Special Topics

Location: Centennial 3

Moderators: Carlos Bogran, OHP Inc, College Station, TX; Adrian Pekarcik, USDA-ARS, Brookings, SD

- 9:45 AM Welcoming remarks**
- 9:50 AM 160 Deciphering the diurnal rhythmicity in aphids: From behavior to genes. Jinlong Han** (*jhan8@colostate.edu*), Daniel Kunk and Vamsi Nalam, Colorado State Univ., Fort Collins, CO
- 10:02 AM 161 Carabid community response to tillage and crop rotation. Adrian Pekarcik** (*Adrian.Pekarcik@usda.gov*)¹, Kayla Perry², Chad Nielson¹, Jesse Daniels¹ and Karl Roeder¹, ¹USDA-ARS, Brookings, SD, ²The Ohio State Univ., Wooster, OH
- 10:14 AM 162 Trapping of spotted-wing drosophila in Missouri elderberry. Caroline Foba** (*fobac@lincolnu.edu*)¹, Kofi Afari¹, Andrew Thomas², Maciej A. Pszczolkowski³ and Clement Akotsen-Mensah¹, ¹Lincoln Univ. of Missouri, Jefferson City, MO, ²Univ. of Missouri, Mount Vernon, MO, ³Missouri State Univ., Mountain Grove, MO
- 10:26 AM 163 Above and belowground management of Colorado potato beetle. Samantha Willden** (*swillden@purdue.edu*) and Laura Ingwell, Purdue Univ., West Lafayette, IN
- 10:38 AM 164 Influence of food on the trophic relationship of corn earworm and tachinid flies on hemp. Armando Falcon-Brindis** (*armandofalcon123@gmail.com*), Raul Villanueva and Zenaida Viloria, Univ. of Kentucky, Princeton, KY
- 10:50 AM 165 Laboratory flight studies in insects: Pros, cons, and a case study. Mark Asplen** (*mark.asplen@metrostate.edu*), Metropolitan State Univ., St. Paul, MN

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Afternoon

- 11:02 AM** **166** **The crop protection journey towards responsible food production. *Boris A. Castro***
(*boris.castro@corteva.com*)¹, Clinton Pilcher² and Rayda Krell³, ¹Corteva Agriscience, Indianapolis, IN,
²Corteva Agriscience, Johnston, IA, ³Corteva Agriscience, Ridgefield, CT
- 11:14 AM** **167** **Compatibility of two diamide insecticides with biological control agents used in floriculture and nursery. *Carlos Bogran*** (*cbogran@ohp.com*)¹ and Luis Canas², ¹OHP Inc, College Station, TX, ²The Ohio State Univ., Wooster, OH

Tuesday, April 18, 2023, Afternoon

Symposium: Biological Control Across Borders: Current and Future Regional Management of Insects and Weeds Using Biological Control

Location: Centennial 1

Moderators and Organizers: Kristen Bowers, New Mexico State Univ., Las Cruces, NM and Joanie King, New Mexico State Univ., Las Cruces, NM

- 1:30 PM** **168** **Baby it's cold outside: Regional overwintering survival of the puncturevine weevil, *Microlarinus lareynii*. *Kristen Bowers*** (*kebowers@nmsu.edu*), Puck Draney and David Thompson, New Mexico State Univ., Las Cruces, NM
- 1:50 PM** **169** **Zombies are real: The gene expression of parasitism in decapitating flies and their fire ant hosts. *Joanie King*** (*Joaniek@nmsu.edu*)¹, Jesse Starkey², Robert Puckett² and Edward Vargo², ¹New Mexico State Univ., Las Cruces, NM, ²Texas A&M Univ., College Station, TX
- 2:10 PM** **170** **Innate sugarcane aphid (*M. sorghi*) suppression by its natural enemies on sorghum: Why sorghum risk is lower than expected in south Texas. *Pius Bradidich*** (*pbradicich538@tamu.edu*)¹, Michael Brewer¹, Ashleigh Faris² and Norman Elliott³, ¹Texas A&M AgriLife Research, Corpus Christi, TX, ²Texas A&M Univ., College Station, TX, ³USDA-ARS, Stillwater, OK
- 2:30 PM** **171** **Sorghum plant volatiles: Using odor cues to attract natural enemies and manage sugarcane aphids. *Emily Russavage*** (*emily.russavage@tamu.edu*)¹, David Kerns¹, Adrianna Szczepaniec², Anjel Helms¹, William Rooney¹ and Micky Eubanks¹, ¹Texas A&M Univ., College Station, TX, ²Colorado State Univ., Fort Collins, CO
- 2:50 PM** **172** **Evolutionary applications in swallow-wort biological control. *Brianna Foster*** (*foste323@msu.edu*)¹, Ruth Hufbauer² and Marianna Szűcs³, ¹Univ. of Minnesota, St. Paul, MN, ²Colorado State Univ., Fort Collins, CO, ³Michigan State Univ., East Lansing, MI
- 3:10 PM** **Break**
- 3:45 PM** **173** **Out of quarantine: Rearing and releasing a novel larval parasitoid of spotted-wing drosophila in Michigan. *Julianna Wilson*** (*jkwilson@msu.edu*), Andrew Jones, Juan Huang, Jackie Perkins, Steven Van Timmeren and Rufus Isaacs, Michigan State Univ., East Lansing, MI
- 4:05 PM** **174** **Toward ecologically based aphid areawide pest management in Southern Plains field crops. *Norman Elliott*** (*norman.elliott@usda.gov*)¹, Kristopher Giles², Kristen Baum², Michael Brewer³ and Sarah Elzay⁴, ¹USDA-ARS, Stillwater, OK, ²Oklahoma State Univ., Stillwater, OK, ³Texas A&M AgriLife Research, Corpus Christi, TX, ⁴Fort Hays State Univ., Hays, KS

Oral & Poster Presentation Schedule
Tuesday, April 18, 2023, Afternoon

- 4:25 PM** **175** **Land use alters arthropod predation in Nebraska row crop agriculture. *Hannah Stowe*** (*hstowe2@huskers.unl.edu*)¹, *Araceli Gomez Villegas*¹ and *Julie Peterson*², ¹*Univ. of Nebraska - Lincoln, Lincoln, NE*, ²*Univ. of Nebraska-Lincoln, North Platte, NE*
- 4:45 PM** **176** **Biological control of the avian vampire fly in Galapagos: Risk assessment of a potential biological control agent. *Alyssa Gooding*** (*goodi037@umn.edu*)¹, *Katherine Albán-Morales*², *Denis Mosquera*², *Saúl Aguirre*², *Paolo Piedrahita*³, *Charlotte Causton*² and *George Heimpel*¹, ¹*Univ. of Minnesota, St. Paul, MN*, ²*Charles Darwin Foundation for the Galapagos Islands, Puerto Ayora, Galápagos, Ecuador*, ³*Escuela Superior Politécnica del Litoral, Guayaquil, Guayas Province, Ecuador*

5:05 PM **Discussion**

Symposium: Highlighting Early Career Professional Career Paths and Experiences

Location: Centennial 2

Organizers: Anastasia Cooper, Kansas State Univ., Manhattan, KS; Dalton Ludwick, Texas A&M Univ., Corpus Christi, TX; Kayla Perry, The Ohio State Univ., Columbus, OH; Karl Roeder, USDA-ARS, Brookings, SD; Brandon Smythe, New Mexico State Univ., Las Cruces, NM and Anh Tran, ISK Biosciences, Concord, OH

- 1:30 PM** **Welcoming remarks**
- 1:35 PM** **177** **Breaking through the academic job market: My path to landing a tenure track position. *Kayla Perry*** (*perry.1864@osu.edu*), *The Ohio State Univ., Wooster, OH*
- 1:50 PM** **178** **My journey towards a research career with USDA-ARS. *Karl Roeder*** (*karl.roeder@usda.gov*), *USDA-ARS, Brookings, SD*
- 2:05 PM** **179** **Turning points: My journey from a general entomology course to state entomologist. *Rachel Wilkins*** (*rachel.wilkins@ks.gov*), *Kansas Dept. of Agriculture, Manhattan, KS*
- 2:20 PM** **180** **Entomology and regulatory affairs: What, how, why. *Karol Krey*** (*KreyK@iskbc.com*), *ISK Biosciences, Concord, OH*
- 2:35 PM** **181** **Bumbling my way into data science: Some notes on how being an entomologist can help you become a data scientist. *Jacob Wittman*** (*wittm094@umn.edu*), *Cyberdata Technologies Inc, Herndon, VA*
- 2:50 PM** **182** **Career metamorphosis: A process involves practicing patience, perseverance & positivity. *Sajjan Grover*** (*sajjan.grover@bayer.com*), *Bayer Crop Science, Chesterfield, MO*
- 3:05 PM** **Break**
- 3:20 PM** **183** **From the southeast to the southwest: Embracing the process. *Joanie King*** (*Joaniek@nmsu.edu*), *New Mexico State Univ., Las Cruces, NM*
- 3:35 PM** **184** **Careers in entomology with a contract research organization. *Matthew Hiles*** (*matt@agmetricsgroup.com*), *Michigan Ag Research - Ag Metrics Group, Albion, MI*
- 3:50 PM** **Introduction to networking session**

Oral & Poster Presentation Schedule
Wednesday, April 19, 2023, Morning

4:00 PM **Table networking session**

Symposium: Insect Services in Working Landscapes

Location: Crystal

Moderators and Organizers: Bethany Robertson, North Dakota State Univ., Fargo, ND; Ellysa Johnson, North Dakota State Univ., Fargo, ND; Kirsten Warcup, North Dakota State Univ., Fargo, ND; Katherine Kral-O'Brien, North Dakota State Univ., Fargo, ND and Jason Harmon, North Dakota State Univ., Fargo, ND

1:30 PM **Introductory remarks**

1:40 PM **185** **Habitat associations for Minnesota bumble bees. *Michelle Boone* (boon0086@umn.edu), *Ian Lane and Zachary Portman, Univ. of Minnesota, St. Paul, MN***

2:05 PM **186** **Buzzing in the short grass. *Sarah Elzay* (sdelzay@fhsu.edu), *Fort Hays State Univ., Hays, KS***

2:30 PM **187** **A town big enough for the both of us? Understanding managed and wild bee (Hymenoptera: Apoidea: Anthophila) interactions with North Dakota's novel grassland floral resources *C. K. Pei* (chyna.pei@und.edu)¹, *Torre Hovick*², *Haochi Zheng*¹, *Jason Harmon*², *Benjamin Geaumont*³ and *Ryan Limb*⁴, ¹*Univ. of North Dakota, Grand Forks, ND*, ²*North Dakota State Univ., Fargo, ND*, ³*North Dakota State Univ., Hettinger, ND*, ⁴*Stantec, Fargo, ND***

2:55 PM **188** **Beyond bees: Comprehensive pollinator monitoring along an urban gradient. *Wes Walsh* (kwash59@massasoit.edu), *Prisca Sanon, Andrew Oguma and Michael Bankson, Massasoit Community College, Brockton, MA***

3:20 PM **Break**

3:40 PM **189** **The contribution of carabids to pest suppression: Is spillover possible? *Matthew O'Neal* (oneal@iastate.edu), *Andres Vargas and Lisa A. Schulte Moore, Iowa State Univ., Ames, IA***

4:05 PM **190** **Biological control benefits provided by a winter wheat dry bean relay crop. *Jeffrey Cluever* (cluever.jeffrey@huskers.unl.edu)¹, *Jeffrey Bradshaw*², *Robert Wright*², *Julie Peterson*³ and *Nevin Lawrence*¹, ¹*Univ. of Nebraska Lincoln, Scottsbluff, NE*, ²*Univ. of Nebraska Lincoln, Lincoln, NE*, ³*Univ. of Nebraska-Lincoln, North Platte, NE***

4:30 PM **191** **Dung beetles: Challenges of preserving ecosystem service providers. *Greg Middleton Jr.* (greg.middleton@okstate.edu) and *W. Hoback, Oklahoma State Univ., Stillwater, OK***

4:55 PM **192** **Exploring insect utilization of decaying matter and the potential benefits provided to working landscapes. *Bethany Robertson* (bethany.robertson@ndsu.edu), *Jason Harmon and Kevin Sedivec, North Dakota State Univ., Fargo, ND***

5:20 PM **Concluding remarks**

Wednesday, April 19, 2023, Morning

Symposium: How Plant Stress Affects Insects: Herbivores, Pollinators, and More

Location: Centennial 3

Oral & Poster Presentation Schedule
Wednesday, April 19, 2023, Morning

Moderator and Organizers: Morgan Thompson, Texas A&M Univ., College Station, TX and Olivia Bernauer, Univ. of Wisconsin-Madison, Madison, WI

- 9:00 AM Welcoming remarks**
- 9:05 AM 193 Urbanization effects on floral communities and pollinators. *Jennifer Zavalnitskaya***
(zavalnit@msu.edu) and Zsofia Szendrei, Michigan State Univ., East Lansing, MI
- 9:20 AM 194 Differential effects of host plant flood stress on soybean aphid biotypes. *Margaret Lewis***
(lewis.3230@osu.edu), Joshua Blakeslee, Jelmer Poelstra and Andrew Michel, The Ohio State Univ., Wooster, OH
- 9:35 AM 195 9000 years apart: Teosinte and modern maize show differential tolerance to the combinatorial stress of flooding and herbivory by *Spodoptera frugiperda*. *Aaron Mleziva*** (mleziva2@illinois.edu) and Esther Ngumbi, Univ. of Illinois at Urbana-Champaign, Urbana, IL
- 9:50 AM 196 Plant-mediated interactions between water availability and insect herbivore performance. *Giovana Franco*** (G.Matos_Franco@colostate.edu)¹, Christine Folks¹, Sonya Daly², Dan Bean² and Paul Ode¹, ¹Colorado State Univ., Fort Collins, CO, ²Colorado Dept. of Agriculture, Palisade, CO
- 10:05 AM 197 Host and non-host aphids feeding behavior on sorghum and their impact on sorghum transcriptome. *Lise Pingault*** (lise.pingault@unl.edu), Juan Betancurt and Joe Louis, Univ. of Nebraska-Lincoln, Lincoln, NE
- 10:20 AM 198 Adaptive role of cannabinoids in plant-aphid interactions. *Jacob MacWilliams***
(jacob.macwilliams@colostate.edu), Erika Peirce, Jacob Pitt, Melissa Schreiner and Punya Nachappa, Colorado State Univ., Fort Collins, CO
- 10:35 AM 199 Species-specific effects of elevated atmospheric carbon dioxide on pollen chemistry. *Anupreksha Jain*** (anupreksha.jain@wisc.edu), Olivia Bernauer and James Crall, Univ. of Wisconsin-Madison, Madison, WI
- 10:50 AM Discussion**

Symposium: Reshaping Urban and Agricultural Insect Management to Promote Sustainable Systems

Location: Crystal

Organizers: Kristopher Giles, Oklahoma State Univ., Stillwater, OK and Mary Gardiner, The Ohio State Univ., Columbus, OH

- 9:00 AM Welcoming remarks**
- 9:01 AM 200 Estimating innate aphid suppression using monitoring data coupled with experimental data in the sorghum agroecosystem: Step one in supporting regionally-tuned sustainable aphid management. *Michael Brewer*** (mjbrewer@ag.tamu.edu)¹, Ashleigh Faris², Norman Elliott³ and Kristopher Giles⁴, ¹Texas A&M AgriLife Research, Corpus Christi, TX, ²Texas A&M Univ., College Station, TX, ³USDA-ARS, Stillwater, OK, ⁴Oklahoma State Univ., Stillwater, OK

Oral & Poster Presentation Schedule
Wednesday, April 19, 2023, Morning

9:21 AM	201	Development and delivery of sustainable insect management strategies within winter crop landscapes of the Southern Plains. <i>Kristopher Giles</i> (kris.giles@okstate.edu)¹, <i>Norman Elliott</i>², <i>Tom Royer</i>¹ and <i>Brett Carver</i>¹, ¹Oklahoma State Univ., Stillwater, OK, ²USDA-ARS, Stillwater, OK
9:41 AM	202	Conserving pollinators in landscapes dominated by annual crops: Lessons from the prairie strips practice. <i>Matthew O'Neal</i> (oneal@iastate.edu)¹, <i>Amy Toth</i>¹, <i>Lisa Schulte Moore</i>¹, <i>Randall Cass</i>¹, <i>John Tyndall</i>¹, <i>Ge Zhang</i>² and <i>Caroline Murray</i>¹, ¹Iowa State Univ., Ames, IA, ²Washington State Univ., Pullman, WA
10:01 AM	203	Reimagining mosquito control to better support pollinators in urban ecosystems. <i>Megan Meuti</i> (meuti.1@osu.edu), <i>Hannah Dehus</i> and <i>Mary Gardiner</i>, The Ohio State Univ., Columbus, OH
10:21 AM		Break
10:35 AM	204	Vacant land as a resource to support climate resilience in legacy cities. <i>Mary Gardiner</i> (gardiner.29@osu.edu)¹, <i>Christopher Riley</i>² and <i>Ellen Danford</i>¹, ¹The Ohio State Univ., Columbus, OH, ²Bartlett Tree Experts, Charlotte, NC
10:55 AM	205	Incorporating monarchs into management practices in the southern Great Plains. <i>Kristen Baum</i> (kristen.baum@okstate.edu)¹, <i>Emily Geest</i>², <i>David Berman</i>¹ and <i>Matthew Bolek</i>¹, ¹Oklahoma State Univ., Stillwater, OK, ²Oklahoma City Zoo, Oklahoma City, OK
11:15 AM	206	Nontarget exposure of dung and carrion beetles to neonicotinoids. <i>W. Hoback</i> (whoback@okstate.edu)¹, <i>Tancredi Caruso</i>² and <i>Michael Cavallaro</i>³, ¹Oklahoma State Univ., Stillwater, OK, ²Univ. College Dublin, Dublin, Leinster, Ireland, ³City of Bullhead City, Bullhead City, AZ
11:35 AM		Discussion

Symposium: Using Technology to Cross-Pollinate Extension Entomologists and Their Clients

Location: Centennial 2

Moderators and Organizers: Erin Hodgson, Iowa State Univ., Ames, IA and Robert Wright, Univ. of Nebraska Lincoln, Lincoln, NE

9:00 AM		Welcoming remarks
9:05 AM	207	myFields and the future of digital agriculture. <i>Brian McCornack</i> (mccornac@ksu.edu), Kansas State Univ., Manhattan, KS
9:30 AM	208	Automating insect monitoring with near-infrared optical sensors. <i>Emily Bick</i> (enbick@ucdavis.edu), Univ. of California, Davis, CA
9:55 AM	209	Midwest Pest Alert Network. <i>Ashley Dean</i> (adean@iastate.edu), Iowa State Univ., Ames, IA
10:15 AM		Break
10:25 AM	210	Smarter traps: A journey to build a distributed moth monitoring network. <i>Jeffrey Bradshaw</i> (jbradshaw2@unl.edu)¹ and <i>Jeffrey Cluever</i>², ¹Univ. of Nebraska Lincoln, Lincoln, NE, ²Univ. of Nebraska Lincoln, Scottsbluff, NE

Oral & Poster Presentation Schedule
Wednesday, April 19, 2023, Morning

10:50 AM	211	EPP essentials. <i>Tom Royer</i> (<i>tom.royer@okstate.edu</i>), Oklahoma State Univ., Stillwater, OK
11:15 AM	212	Using iNaturalist to crowd source a State Moth Inventory. <i>Zach DuFran</i> (<i>Zdufran@gmail.com</i>), iNaturalist, Norman, OK

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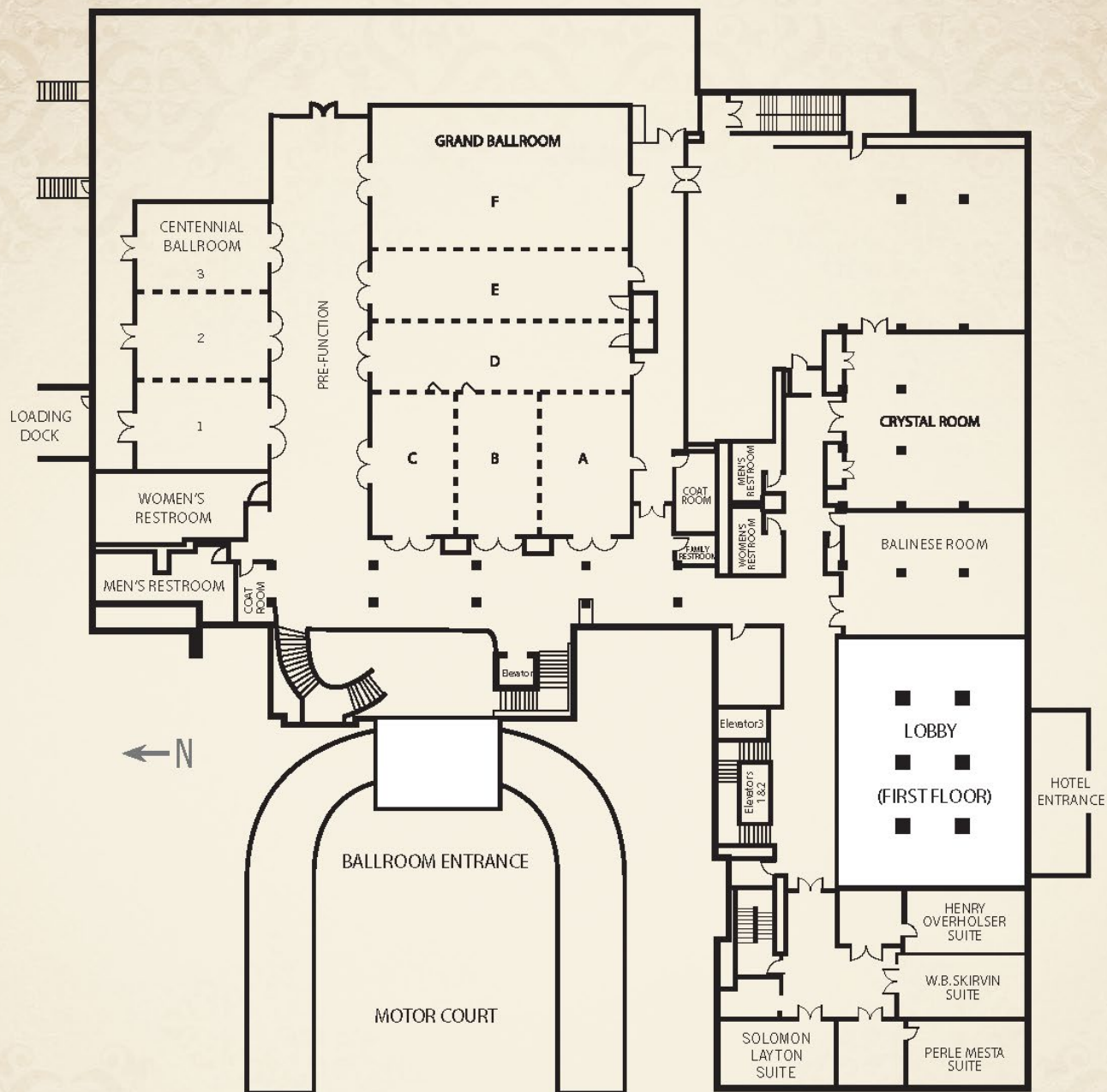
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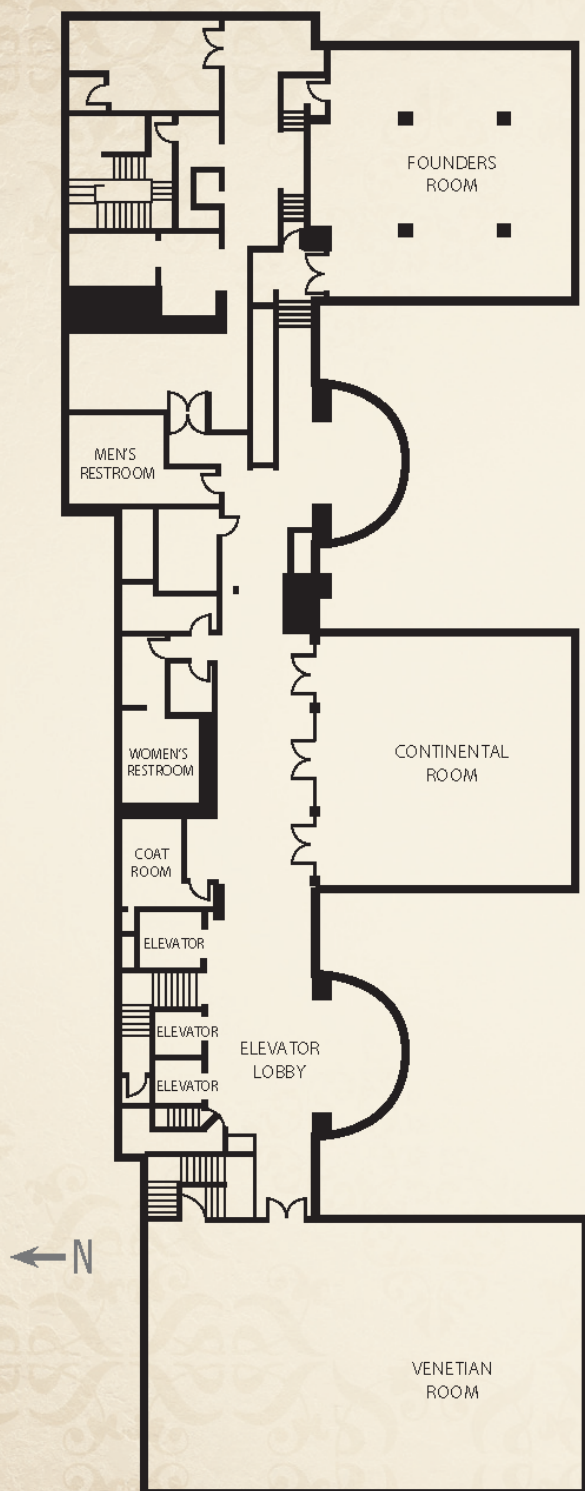
Hotel Map

(Next 2 pages)

2nd floor - overview



14th floor - overview



ROOM CAPACITIES

	Dimensions	Square Footage	Theater Style	Classroom Style	Banquet Rounds	Conference Style	Reception
Grand Ballroom	102 x 60 x 14	6,120	677	306	410	----	642
Grand A,B,C	34 x 20 x 14	680	72	34	45	----	74
Grand AB, BC	34 x 40 x 14	1,360	150	68	90	----	142
Grand A-C	34 x 60 x 14	2,040	233	102	136	----	211
Grand A-D, E-F	51 x 60 x 14	3,060	333	153	204	----	316
Grand D-E, F	34 x 60 x 14	2,040	233	102	136	----	211
Grand A-E, D-F	68 x 60 x 14	4,080	445	204	272	----	421
Pre-Function	23 x 83 x 14	1,992	----	----	----	----	----
Centennial Ballroom	62 x 32 x 11	2,048	233	103	138	----	150
Centennial 1,2,3	21 x 31 x 11	682	72	36	47	----	68
Centennial 1-2, 2-3	42 x 31 x 11	1,364	150	68	90	----	142
Crystal Room	41 x 42 x 9	1,722	194	86	96	----	125
Balinese Room	42 x 29	1,218	----	----	----	----	34
W.B. Skirvin Suite	19 x 29 x 9	551	----	----	----	12	----
Perle Mesta Suite	13 x 27 x 9	351	----	----	----	10	----
Henry Overholser Suite	13 x 27 x 9	351	----	----	----	10	----
Solomon Layton Suite	14 x 26 x 9	364	----	----	----	15	----
Venetian Room	40 x 65 x 14	2,600	288	130	175	----	200
Continental Room	38 x 38 x 9	1,444	161	72	98	----	125
Founders Room	38 x 38 x 9	1,444	----	----	----	----	65