2018 National Conference on Urban Entomology and Invasive & Pest Ant Conference

May 20-23
RTP, North Carolina

ncue.tamu.edu

#ncue18
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>SUNDAY, MAY 20</td>
<td>1:00-5:00</td>
<td>Urban eXtension CoP Meeting</td>
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<td>6:00-8:00</td>
<td>Welcome Reception</td>
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<tr>
<td>MONDAY, MAY 21</td>
<td>6:30-7:45</td>
<td>Breakfast (included with hotel registration)</td>
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<td>7:45-7:55</td>
<td>WELCOME</td>
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<td>7:55-8:00</td>
<td>PRESENTATION OF ACHIEVEMENT AWARD</td>
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<td>8:00-9:00</td>
<td>MALLIS MEMORIAL AWARD LECTURE</td>
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<td>9:00-9:45</td>
<td>STUDENT SCHOLARSHIP AWARD PAPERS</td>
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<td>10:00-12:00</td>
<td>STUDENT PAPER COMPETITION</td>
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<td>12:00-1:15</td>
<td>Lunch on Your Own</td>
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<td>1:15-2:30</td>
<td>SUBMITTED PAPERS BED BUGS</td>
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<td>Concurrent Sessions: SYMPOSIUM BED BUG RESISTANCE MGMNT</td>
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<td>SYMPOSIUM TICKS</td>
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<td>Dinner &amp; Evening on Your Own</td>
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<td>8:00 – 10:30</td>
<td>Pi Chi Omega at RallyPoint Sport Grill</td>
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<td>TUESDAY, MAY 22</td>
<td>6:30-8:00</td>
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<td>SYMPOSIUM URBAN RODENT CONTROL</td>
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<td>10:15-12:15</td>
<td>Concurrent Sessions: SUBMITTED PAPERS FLIES AND MOSQUITOES</td>
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<td>Concurrent Sessions: SUBMITTED PAPERS COCKROACHES &amp; TERMITES</td>
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<td>Concurrent Sessions: SYMPOSIUM MILLENNIAL COCKROACH MGMNT</td>
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<td>SYMPOSIUM REAL-WORLD APPLICATIONS OF MOLECULAR RESEARCH IN URBAN ENTOMOLOGY</td>
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<td>4:00-5:45</td>
<td>Fire Ant eXtension Meeting</td>
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<td>Buses Depart for NC Museum of Natural Sciences</td>
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<td>WEDNESDAY, MAY 23</td>
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<td>Concurrent Sessions: SYMPOSIUM FEDERAL POLICY WORK GROUPS</td>
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<td>SUBMITTED PAPERS TERMITES</td>
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<td>10:30-11:30</td>
<td>FINAL BUSINESS MEETING</td>
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<td>EXECUTIVE COMMITTEE BUSINESS MEETING</td>
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Registration Hours:
Sun 2:30-5:00, Mon & Tues 7:00-5:00, Wed 7:00-10:00
Upload your presentation during breaks at the table by registration.
Please be courteous and upload your talk at least one session prior to when you are speaking.
SUNDAY, MAY 20

2:30-5:00 Registration and Paper Upload Available
1:00-5:00 Urban eXtenson CoP Meeting
CAPE HATTERAS
6:00-8:00 Welcome Reception (free hors d’oeuvres)
TRIANGLE BALLROOM

MONDAY, MAY 21

6:30-7:45 Breakfast (included with hotel registration)

7:45-9:00 AWARDS PRESENTATIONS
TANGLEWOOD/ PINEHURST/ BLOWING ROCK

7:45-8:00 WELCOME

8:00-9:00 Distinguished Achievement Award in Urban Entomology
The Arnold Mallis Memorial Award Lecture
Arnold Mallis, a 20th Century Urban Entomologist, and how the next generation can honor his legacy in the 21st
BRIAN FORSCHLER
UNIVERSITY OF GEORGIA

9:00-9:15 Bachelors of Science Award
Growth Dynamics of Blattabacterium, an Endosymbiont of German Cockroaches
EMILY L. VERNON, Madhavi L. Kakumanu and Coby Schal
NORTH CAROLINA STATE UNIVERSITY

9:15-9:30 Masters of Science Award
Improving Baiting Methods for the European Fire Ant, Myrmica rubra
DANIELLE HOEFLE, Jaime Chalissery, Regine Gries, Gerhard Gries
SIMON FRASER UNIVERSITY

9:30-9:45 Doctoral Award
Toxicity and Neurophysiological Impacts of Plant Essential Oil Components on Bed Bugs (Cimicidae: Hemiptera)
SUDIP GAIRE, Michael Scharf and Ameya D. Gondhalekar
PURDUE UNIVERSITY

9:45-10:00 BREAK

10:00-12:00 STUDENT PAPER COMPETITION
TANGLEWOOD/ PINEHURST/ BLOWING ROCK

10:00-10:10 Apartment-Dwelling Versus Laboratory Cockroaches: A Diet Study
SAMANTHA McPHERSON, Coby Schal and Jules Silverman
NORTH CAROLINA STATE UNIVERSITY

10:12-10:22 Is There a Difference Between Bacterial Communities of Monogyne and Polygyne Fire Ant Colony Soils?
NICHOLAS V. TRAVANTY, Loganathan Ponnusafny and Charles S. Apperson
NORTH CAROLINA STATE UNIVERSITY

10:24-10:44 Effect of Ingestion of an Insect Growth Regulator on German Cockroach Survivorship, Feeding Behavior and Reproduction
JAMORA HAMILTON, Ayako Wada-Katsumata and Coby Schal
NORTH CAROLINA STATE UNIVERSITY
The Distribution and Agonistic Interactions of the Invasive Dark Rover Ant, *Brachymyrmex patagonicus* Mayr, in South Carolina
DAVID Q. BOWERS and Eric P. Benson
CLEMSON UNIVERSITY

Evaluation of Backmister® Blower for Barrier Treatments
BENJAMIN McMILLAN, Nicky Gallagher and Sally Paulson
VIRGINIA TECH; Syngenta Crop Science

What's in a Name? The Importance of Taxonomic Rigor in Managing Invasive Ant Species
JASON L. WILLIAMS and Andrea Lucky
UNIVERSITY OF FLORIDA

Water Relations of Several Stages of the Asian Cockroach, *Blattella asahinai*
PATRICK J. THOMPSON, Gokhan Benk, Xing P. Hu and Arthur G. Appel
AUBURN UNIVERSITY

Water Loss and Desiccation Tolerance of Several Stages of the Kudzu Bug, *Megacopta cribaria*
GOKHAN BENK, Patrick J. Thompson, Arthur G. Appel and Xing P. Hu
AUBURN UNIVERSITY

Knockdown of the Chromatin Remodeling Gene *Brahma* by RNA Interference Reduces Reproductive Fitness and Lifespan in Common Bed Bug (*Hemiptera: Cimicidae*)
SANJAY BASNET and Shripat T. Kamble
UNIVERSITY OF NEBRASKA, LINCOLN

Impact of Bed Bugs on the Microbial Diversity of Infested Homes
MADHAVI L. KAKUMANU, Zachary C. Devries, Alexis Barbarin, Richard G. Santangelo and Coby Schal
NORTH CAROLINA STATE UNIVERSITY; North Carolina Department of Health and Human Services

Sex- and Stage-specific Recognition in the Bed Bug, *Cimex lectularius*
AHMED M. SAVEER, Eduardo Hatano and Coby Schal
NORTH CAROLINA STATE UNIVERSITY

Bed Bugs and Histamine: A Public Health Risk?
ZACHARY C. DeVRIES, Richard G. Santangelo, Alexis Barbarin and Coby Schal
NORTH CAROLINA STATE UNIVERSITY; North Carolina Department of Health and Human Services

Effects of Color Contrast on Bed Bug Locomotion Behavior
Roselyn Giordano, Changlu Wang and SALEHE ABBAR
RUTGERS UNIVERSITY

Lunch on your own

SUBMITTED PAPERS: BED BUGS
TANGLEWOOD/ PINEHURST/ BLOWING ROCK

Impact of Bed Bugs on the Microbial Diversity of Infested Homes
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RUTGERS UNIVERSITY
Concurrent sessions:

**SYMPOSIUM: BED BUG RESISTANCE MANAGEMENT**
*TANGLEWOOD/ PINEHURST*

Organizer: Alvaro Romero, University of New Mexico

**3:00-3:20** Use of Synergists for Management of Insecticide Resistance in Bed Bugs?

ALVARO ROMERO
NEW MEXICO STATE UNIVERSITY

**3:20-3:40** Alternative Methods for Bed Bug Control: Do They Play a Role in Insecticide Resistance Management?
A. D. GONDHALEKAR¹, G. M. Bennett¹, A. R. Ashbrook¹, J. Feston¹ and S. Gaire¹
1 PURDUE UNIVERSITY; 2 Insects Limited

**3:40-4:00** A Liquid Bait for Bed Bugs?
ZACHARY DEVRIES, Angela Sierras and Coby Schal
NORTH CAROLINA STATE UNIVERSITY

**4:00-4:20** Residual Efficacy of Several Pesticide Products for Bed Bugs on Contaminated Surfaces
DONG-HWAN CHOE
UNIVERSITY OF CALIFORNIA, RIVERSIDE

**4:20-4:40** Threshold-based Treatment Strategies for Bed Bugs
CHANGLU WANG, Narinderpal Singh, Chen Zha and Richard Cooper
RUTGERS UNIVERSITY

**4:40-5:00** Q&A / Discussion

**SYMPOSIUM: TICKS**
*BLOWING ROCK*

Organizers: Nicky Gallagher and Allie Allen
Syngenta Crop Science; NPMA

**3:00-3:05** Introduction
NICKY GALLAGHER
SYNGENTA CROP SCIENCE

**3:05-3:25** Tick Distribution and Burden
CHARLES APPERSON
NORTH CAROLINA STATE UNIVERSITY

**3:25-3:45** Tick Ecology
EMMA WEEKS
UNIVERSITY OF FLORIDA

**3:45-4:05** Understanding Repellents: What Homeowners and PMPs Need to Know
JUDI ANDERSON
DEET EDUCATION PROGRAM

**4:05-4:25** Tick Management Services: Not Just the What, but the Why
GLEN RAMSEY
ROLLINS, INC.

**4:25-4:45** Working with the Public
HEATHER KOPSCO
UNIVERSITY OF RHODE ISLAND TICKENCOUNTER RESOURCE CENTER

**4:45-5:00** Questions & Answers

Dinner & evening on your own

**8:00-10:30** Pi Chi Omega – Raise the Bar at RallyPoint Sport Grill
TUESDAY, MAY 22

6:30-8:00  Breakfast (included with hotel registration)
8:00-10:00  Concurrent sessions

**SYMPOSIUM: ASSESSMENT-BASED PEST MGMNT CAMERON/ REYNOLDS**
Organizers: Michael Scharf and Dini Miller
Purdue University; Virginia Tech

8:00-8:12  What is APM?
DINI MILLER
VIRGINIA TECH

8:12-8:24  Assessing Pest Manager Knowledge and Performance
FAITH OI
UNIVERSITY OF FLORIDA

8:24-8:36  Bed Bug Monitoring
RICHARD COOPER
COOPER PEST SOLUTIONS

8:36-8:48  Resistance Assessment for Making Pesticide Choices
MICHAEL SCHARF
PURDUE UNIVERSITY

8:48-9:00  Minimum Trap Number and Quick Inspection
Combinations to Determine Bed Bug Building-wide
Infestation Rates
KAREN VAIL
UNIVERSITY OF TENNESSEE, KNOXVILLE

9:00-9:12  The HUD Perspective
RACHEL RILEY
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

9:12-9:24  Managing Bed Bugs with Ongoing Assessments and
Long-term Contracts
ANDREW SUTHERLAND
U.C. STATEWIDE IPM PROGRAM

9:24-9:36  Pest Risk Assessment in the Urban Environment
GENE WHITE
RENTOKIL STERITECH

9:36-9:48  Challenges that Technicians Face and Perspectives on
How Assessment Can be Priced Into a Contract
NANCY TROYANO
RENTOKIL STERITECH

9:48-10:00  Baiting Recommendations Based on Sampled Pest
Numbers – the Manufacturer’s Perspective
NICKY GALLAGHER
SYNGENTA CROP SCIENCE

**SYMPOSIUM: URBAN RODENT CONTROL TANGLEWOOD/ PINEHURST**
Organizer: Bobby Corrigan
RMC Pest Management Consulting

8:00-8:20  State of The Union on Urban Rodents
ROBERT M. CORRIGAN
RMC PEST MANAGEMENT CONSULTING

8:20-8:40  Population Genetics and Pathogens; Understanding
Movement and Disease in Urban Brown Rats (*Rattus norvegicus*)
MATTHEW COMBS
FORDHAM UNIVERSITY
8:40- 9:00  The Use of Trail Cams in Urban Rodent Pest Management  
PHILIP L. SMITH, Friederike M. Bauder, Timothy H. Madere and Claudia Riegel  
CITY OF NEW ORLEANS MOSQUITO, TERMITE AND RODENT CONTROL BOARD

9:00- 9:20  Early Detection of Rodents Demonstrated with the ActiveSense™ System  
JOE DEMARK1, Phil Smith2, Claudia Riegel2 and Neil Spomer1  
1 CORTEVA AGRI SCIENCE™, AGRICULTURE DIVISION OF DOWDUPONT™; 2 New Orleans Mosquito Termite and Rodent Control Board

9:20-9:40  The Use of Dry Ice for Controlling Burrowing Populations of Norway Rats, Rattus norvegicus in Urban Environments  
SHEILA HADDAD  
BELL LABORATORIES

9:40-10:00  Field Evaluation of Selontra Soft Bait Rodenticide Against the House Mouse, Mus musculus  
Grzegorz Buczkowski, Jason Meyers and KYLE JORDAN  
Purdue University; BASF P&SS

SUBMITTED PAPERS: ANTS

8:00- 8:15  Transcripomes of MS Fire Ant Larvae and Pupae  
MARGARET L. ALLEN  
USDA-ARS BIOLOGICAL CONTROL OF PESTS RESEARCH UNIT NBCL

8:17- 8:32  Multiplexed Lateral Flow Immunoassay to Discriminate Solenopsis invicta from Solenopsis richteri  
STEVEN M. VALLES and Anne-Marie Callcott  
USDA-ARS, IMPORTED FIRE ANT AND HOUSEHOLD INSECTS RESEARCH UNIT, CENTER FOR MEDICAL, AGRICULTURAL AND VETERINARY ENTOMOLOGY; Animal and Plant Health Inspection Service, Plant Protection and Quarantine-APHIS

8:34-8:49  Evaluation of Imported Fire Ant Quarantine Treatments in Commercial Grass Sod: Alabama 2016 & 2017  
L.C. 'FUDD' GRAHAM, Anne-Marie Call Palmer and Josie Tripi  
AUBURN UNIVERSITY; USDA-APHIS-PPQ-CPHST; Alabama Cooperative Extension System

8:51-9:06  Why Fire Ant Female Sexuals Mate Only Once  
ROBERT VANDER MEER, Tappey Jones and Satya Chinta  
USDA/ARS; Virginia Military Institute; Foresight, Science and Technology, Inc.

9:08-9:23  The Future of the Federal Imported Fire Ant Quarantine Program  
RICHARD N. JOHNSON, Anne Marie Callcott, Melinda Sullivan and Ronald Weeks  
USDA, ANIMAL AND PLANT HEALTH INSPECTION SERVICE, PLANT PROTECTION AND QUARANTINE
KARLA ADDESCO1, Jason Oliver1, Anthony Witcher1, Anne-Marie Callcott2, Nadeer Youssef1 and Paul O’Neal1
1 TENNESSEE STATE UNIVERSITY; 2 USDA-APHIS-PPQ Biloxi Station

9:42-9:57 Improving Federal Imported Fire Ant Quarantine Treatments for Post-harvest Field-grown Nursery Stock
JASON OLIVER, Karla Addesso, Anthony Witcher, Anne-Marie Callcott, Nadeer Youssef and Paul O’Neal
TENNESSEE STATE UNIVERSITY; USDA-APHIS-PPQ Biloxi Station

10:00-10:15 BREAK

10:15-12:15 Concurrent sessions:

SUBMITTED PAPERS: FLIES AND MOSQUITOES TANGLEWOOD/ PINEHURST
10:15- 10:30 Fruit Flies as Potential Vectors of Foodborne Illness
S. J. BARCAY, E. P. Black, G. J. Hinrichs and D. B. Gardner
ECOLAB INC.

10:33- 10:48 Texas-Wide Aedes aegypti and Aedes albopictus Mosquito Surveillance Project
SONJA L. SWIGER, Whitney Qualls and Bethany Bolling
TENNESSEE A&M AGRILIFE EXTENSION SERVICE; Texas Department of State Health Services

10:51- 11:06 Comparison of Mosquito Species in New York City Over 70 Years
MADDIE PERLMAN-GABEL and Waheed I. Bajwa
NYC DEPARTMENT OF HEALTH AND MENTAL HYGIENE

11:09- 11:24 The Role of Culex Species in Transmission of West Nile Virus in New York City
WAHEED BAJWA, Liyang Zhou, Zahir Shah and Gabriela Fonseca
NYC DEPARTMENT OF HEALTH AND MENTAL HYGIENE

11:27- 11:42 Alpine 0.5% Fly Bait: Different But the Same
CHUCK KLEIN, Keena Mullin, Kyle Jordan
BASF Professional & Specialty Solutions

11:45- 12:00 Creating Credentials for Services Targeting Mosquitoes & Other Public Health Pests
ALLISON ALLEN
NPMA

SUBMITTED PAPERS: ANTS BLOWING ROCK
10:15-10:30 Rain, Rain Go Away; Unless Water Resistant Fire Ant Baits are on Display?
DAVID H. OI and Chris Cavanaugh
USDA-ARS CENTER FOR MEDICAL, AGRICULTURAL, & VETERINARY, ENTOMOLOGY; Coachella Valley Mosquito and Vector Control District
10:32-10:47 Ant-Microbe Interactions: A Focus on Yeast Associates
MARK E MANKOWSKI and Jeffery J. Morrell
USDA FOREST SERVICE FOREST PRODUCTS LABORATORY

10:49- 11:04 Supercolony Formation in Invasive Populations of the Tawny Crazy Ant Nylanderia fulva
EDWARD L. VARGO1, Bryant McDowell1, DeWayne Shoemaker2, Robert Puckett2, Luis Calcaterra3 and Pierre-André Eyer4
1 TEXAS A&M UNIVERSITY; 2 University of Tennessee, Knoxville; 3 Fundación para el Estudio de Especies Invasivas, Argentina

11:06- 11:21 Let’s Get the Info Out About the Crazies (Tawny Crazy Ants, That Is)... Stakeholder Resources Now Available!
KELLY PALMER, L.C. “Fudd” Graham and Jeremy Pickens
ALABAMA COOPERATIVE EXTENSION SYSTEM; Auburn University

11:23- 11:38 Establishment of a New Invasive Ant Species, Plagiolepis alluaudi, in Florida
JOHNALYN GORDON and Thomas Chouvenc
UNIVERSITY OF FLORIDA

11:40- 11:55 How Citizen Science Can Benefit Invasion Science?
ANDREA LUCKY, Rob Dunn and Tyler Vitone
UNIVERSITY OF FLORIDA

11:57- 12:12 Confirmation of Tapinoma sessile Clades in Knoxville Using a Novel and Cost-efficient Assay
Geordan Hall, Jennifer Chandler, Rebecca Trout Fryxell and KAREN VAIL
UNIVERSITY OF TENNESSEE, KNOXVILLE

12:15-1:45 AWARDS LUNCHEON
CHIMNEY ROCK

1:45-3:15 Concurrent sessions:

SUBMITTED PAPERS: COCKROACHES & TERMITES

1:45-2:00 German Cockroach Aggregation is Mediated by Gut Bacteria
AYAKO WADA-KATSUMATA and Coby Schal
NORTH CAROLINA STATE UNIVERSITY

2:03-2:18 The Role of the Gut Microbiota in the Reproductive Life History of the German Cockroach
JOSE E. PIETRI and Dangsheng Liang
APEX BAIT TECHNOLOGIES, INC.

2:21-2:36 A New Borate Based Dual Active Cockroach Bait
REID IPSER
NISUS CORPORATION

2:39-2:54 Assessing Residents’ Attitudes toward German Cockroach Infestations in Apartment Buildings
CHANGLU WANG, Amanda Eiden, Chen Zha and Richard Cooper
RUTGERS UNIVERSITY

2:57-3:15 Molecular Insights Into Invasive Subterranean Termites (Heterotermes, Coptotermes) in the Caribbean Region
SUSAN C. JONES and Tyler D. Eaton
THE OHIO STATE UNIVERSITY
SUBMITTED PAPERS: ADDITIONAL TOPICS
TANGLEWOOD/ PINEHURST

1:45 - 2:00
Direct Treatment and Residual Efficacy of Fendona TM CS Insecticide on Striped Bark Scorpions, Centruroides vittatus (Say)
ROBERT DAVIS and Matthew Lee
BASF P&SS; Entomology Consultants, LLC

2:03 - 2:18
Novel Strategies to Explore Insect Attractants and Repellents
EDUARDO HATANO, Ayako Wada-Katsumata, Ahmed M. Saveer and Coby Schal
NORTH CAROLINA STATE UNIVERSITY

2:21 - 2:36
Two Hands-on Training Facilities for Pest Management Professionals in Texas
MICHAEL MERCHANT and Robert Puckett
TEXAS A&M AGRILIFE EXTENSION SERVICE

2:39-2:54
The Synergy of Adulticides with IGRs Against Cat Fleas
MICHAEL K. RUST and W.L.H. Hemsath
UNIVERSITY OF CALIFORNIA, RIVERSIDE; Hartz Mountain Inc.

2:39-2:54
Need Resources—We've Got 'Em
JANET HURLEY
TEXAS A&M AGRILIFE EXTENSION SERVICE

2:57 - 3:15
The Lesser Mealworm, Darkling Beetle RNA Sequencing and RNA Interference
JINGJING XU, Sharath Chadra and Subba Reddy Palli
APEX BAIT TECHNOLOGIES, INC; University of Kentucky

3:15 - 3:30 BREAK

SYMPOSIUM: MILLENNIAL COCKROACH MGMNT
BLOWING ROCK
Organizer: Chris Keefer, Syngenta Crop Science

3:30 - 3:35
Opening Statements
CHRIS KEEFER
SYNGENTA CROP SCIENCE

3:35 - 3:50
A Historical Perspective: Aspects of Resistance Management in German Cockroaches
WILLIAM A. DONAHUE, JR.
SIERRA RESEARCH LABORATORIES, INC.

3:50 - 4:05
The X Factor, What are We Missing in German Cockroach Management in Commercial Kitchens?
JUDY BLACK
RENTOKIL STERITECH

4:05 - 4:20
Nutrients as Deterrents in Cockroach Baits
COBY SCHAL, Ayako Wada-Katsumata and Jules Silverman
NORTH CAROLINA STATE UNIVERSITY

4:20 - 4:35
Symposium Break

4:35 - 4:50
Industry Perspective on Resistance and Aversion Programs for Cockroach Management
JASON MEYERS
BASF Professional & Specialty Solutions

4:50 - 5:05
Insecticide Application Strategies for Cockroach Management: Not A Simple Subject
ROBERT PUCKETT
TEXAS A&M AGRILIFE EXTENSION SERVICE
5:05-5:20  Stubby, Precocious, and Sterile? Overcoming IGR Inhibition in Pest Control Technicians
TIM HUSEN 
ROLLINS INC.
5:20-5:25  Closing Statements 
CHRIS KEEFER 
SYNGENTA CROP SCIENCE

**SYMPOSIUM: REAL-WORLD APPLICATIONS OF MOLECULAR RESEARCH IN URBAN ENTOMOLOGY TANGLEWOOD/PINEHURST**

**Organizers:** Ameya D. Gondhalekar and Shripat T. Kamble
Purdue University; University of Nebraska, Lincoln

3:30-3:47  Molecular Responses of the Termite Gut to Toxic Wood Diets
MICHAEL SCHARF 
PURDUE UNIVERSITY

3:47-4:04  Use of a Biodegradable Hydrogel to Deliver Aqueous Bait to Control Argentine Ants (Hymenoptera: Formicidae) in Residential Settings
JIA-WEI TAY, Mark Hoddle, Ashok Mulchandani, and Dong-Hwan Choe
UNIVERSITY OF CALIFORNIA, RIVERSIDE

4:04-4:21  RNAi for Urban Pest Control
SUBBA REDDY PALLI 
UNIVERSITY OF KENTUCKY

4:21-4:38  RNAi Mediated Knockdown of V-ATPases in Bed Bug Decreases Reproduction and Survival
SANJAY BASNET and Shripat Kamble
UNIVERSITY OF NEBRASKA, LINCOLN

4:38-4:55  Unravelling the Invasion Dynamics of the Bed Bug Using Molecular Tools
WARREN BOOTH¹, Christopher Lawrence¹, Gage Holleman¹, Ondrej Balvin², Grant Robison¹, Zachary DeVries³, Ed Vargo⁴ and Coby Schal³
¹University of Tulsa; ²Charles University in Pargue; ³North Carolina State University; ⁴Texas A&M University

4:55-5:12  Management of Insecticide Resistance in German Cockroaches (Blattella germanica (L.))
MAHSA FARDISI, Ameya Gondhaelekar, Aaron Ashbrook, Zachery Wolfe and Michael Scharf
PURDUE UNIVERSITY

5:12-5:30  Q&A / Discussion

3:30-5:30  Fire Ant eXtension Meeting
CAPE HATTERAS

6:00  Buses depart hotel for NC Museum of Natural Sciences 
9:30  Buses depart museum for hotel

**WEDNESDAY, MAY 23**

6:30-8:00  Breakfast (included with hotel registration)
8:00-10:00  Concurrent sessions:

**SYMPOSIUM: POLICY WORK GROUPS TANGLEWOOD/PINEHURST**

Organizer: Kyle Jordan, BASF P&SS

8:00-9:00  Federal Discussion
9:00-10:00 Break Out Working Groups:
Rodent Policy
Bed Bug Testing Guidelines
Others as needed

**SUBMITTED PAPERS: TERMITES**

**BLOWING ROCK**

8:00-8:15 Soil Termicide Barriers Work as Oral Toxins
BRIAN T. FORSCHLER
UNIVERSITY OF GEORGIA

8:18-8:31 Termidor® HPII: Treat Today Like Tomorrow
FREDER MEDINA, Robert Hickman, Robert Davis,
Jason Meyers, Kyle Jordan, Barry Furman and Joe Schuh
BASF Professional & Specialty Solutions

8:34-8:49 Colony-level Effects of Liquid Termicticides and Baits on Subterranean Termites
THOMAS CHOUVENC
UNIVERSITY OF FLORIDA

8:52-9:07 Building Out Bugs: How the Use of New Building Materials Leads to Sustainable Pest Control
CASSIE S. KREJCJ and Roger E. Gold
POLYGUARD BARRIER SYSTEMS; Texas A&M University

9:10-9:25 Identification of a Queen and King Recognition Pheromone in the Subterranean Termite, *Reticulitermes flavipes*
COLIN FUNARO, Katalin Boroczy, Edward L. Vargo and Coby Schal
NORTH CAROLINA STATE UNIVERSITY; Pennsylvania State University; Texas A&M University; North Carolina State University

9:28-9:43 Efficacy of Trelona® Compressed Termite Bait for Area-wide Control of Subterranean Termites in Historic Buildings in Mobile, AL
CARRIE COTTONE1, Kyle Jordan2, Bob Hickman2 and Claudia Riegel1
1 CITY OF NEW ORLEANS MOSQUITO, TERMITE AND RODENT CONTROL BOARD; 2 BASF Professional & Specialty Solutions

9:45-10:00 The National Pest Management Association’s Tiny Termite House Project
ED FREYTAG1, Shaun Bradley1, Jack Leonard1, Jim Fredericks2, Jessica Phelan3, Patricia Stofanak3, Danielle Corrado3, Amanda Polyak3, Logan Yu3, Sara Deviva3, Felicia Schwarz3, Cindy Mannes4 and Claudia Riegel1
1 NEW ORLEANS MOSQUITO, TERMITE AND RODENT CONTROL BOARD; 2 National Pest Management Association; 3 Vault Communications; 4 Professional Pest Management Alliance

10:00-10:30 BREAK/CHECK OUT

10:30-11:30 FINAL BUSINESS MEETING
CAPE HATTERAS

11:30-12:00 EXECUTIVE COMMITTEE BUSINESS MEETING
CAPE HATTERAS

**MARK YOUR CALENDARS FOR THE NEXT NCUE!**
**MAY 2020 IN MOBILE, AL**
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2014  Faith Oi, Grzesiek Buczkowski
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NCUE/IPAC 2018  13
Tuesday night outing: North Carolina Museum of Natural Sciences
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