## ANNE LILLEMOR NIELSEN

Associate Extension Specialist in Entomology Rutgers University Rutgers Agricultural Research and Extension Center 121 Northville Rd. Bridgeton, NJ 08302-5919

856-455-3100 x4110 (office) nielsen@aesop.rutgers.edu http://www.nielsenentlab.weebly.com

**RESEARCH AND EXTENSION RESPONSIBILITIES**: My lab conducts a research and extension program on management and population biology of fruit insects, with a focus on developing sustainable, systems-level control programs. Research includes investigation of biological control processes of orchard pests and the abiotic and biotic factors influencing insect life history and behavior. Much of our work is focused on invasive insects including brown marmorated stink bug. Extension activities utilize novel approaches to engage growers and end-users through diverse activities.

#### **EDUCATION:**

**Ph.D Entomology** – Rutgers University, 2008

Advisor: Dr George Hamilton; "Ecology and Population Biology of the Invasive Stink Bug *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) in New Jersey and Pennsylvania"

**B.S Biology** (Concentration Entomology, Minor Chemistry), Virginia Polytechnic Institute and State University, 2000

#### **HONORS AND AWARDS:**

- Ernie Crist Memorial Lecture (2019) Recipient from the NJ Horticultural Society, presentation titled "IPM and Beneficial Insects: Working Together in Peaches"
- Federal Laboratory Consortium for Technology Transfer Award for the Mid-Atlantic Region (2017) In recognition of the StopBMSB team work on management strategies
- Merle V Adams Award for Outstanding Achievement as a Junior Faculty Member (2015)
- o **International IPM Recognition Award** in recognition of the national efforts to combat the invasive brown marmorated stink bug via StopBMSB project (2015)
- o Travel Award, University of California Davis, Postdoctoral Scholars Association (2010)
- o Travel Award, Rutgers University Graduate School (2007)
- o Wilbur Runk Graduate Fellowship, New Jersey Agricultural Experiment Station (2007)
- o **Headley Entomology Fellowship**, Rutgers University (2007-2008)
- O Compton Markle Outstanding Graduate Student Entomological Award, Rutgers University and USDA IR-4 (2006)

#### **WORK EXPERIENCE:**

#### Research

Associate Extension Specialist/Associate Professor, Department of Entomology, Rutgers University

- o July 2018 present
- Responsible for conducting a research and extension program on management and population biology of fruit pests, with a focus on developing sustainable systemslevel control programs.

Graduate Faculty, Department of Ecology & Evolution, Rutgers University

o 2017 - present

Assistant Extension Specialist/Assistant Professor, Department of Entomology, Rutgers University

o April 2012 – July 2018

Postdoctoral Research Associate, Department of Entomology, Michigan State University

- o September 2010 March 2012
- o Supervisor: Dr Matthew Grieshop
- O Conduct research on life history and population biology of emerging pests; Investigate systems-level control options for insect pests in organic tree fruit.

Postdoctoral Research Associate, Department of Nematology & Entomology, University of California, Davis

- o September 2008 August 2010
- O Supervisor: Dr Edwin E Lewis
- O Conduct research on the use entomopathogens for control of weevil larvae under greenhouse conditions with a focus on how abiotic factors impact efficacy and persistence of biologicals.

Teaching/Graduate Assistant, Department of Entomology, Rutgers University

- O September 2003 August 2008
- O Supervisor: Dr George Hamilton
- o Graduate Assistant: mentor undergraduate students during data collection and independent research projects, population surveys, set-up field trials, pest management trials, managed internet reporting web site and US distribution of invasive species, data analysis using SAS
- O Teaching Assistant for general Biology courses (2 years) running and grading laboratory sections for 48 students per term, including introductory lectures, office hours, and exam prep; Teaching Assistant for non-majors Biology (1 semester) and Insect Taxonomy (1 semester)

## TEACHING (PAST 5 YEARS):

#### **Rutgers University Courses:**

- Insect Ecology (graduate level, 3cr), Rutgers University (even Spring semesters, beginning 2014)
- Insect Natural History and Field Ecology (graduate level, 2cr), Rutgers University, (2014-2015)

#### Advisor:

- Major advisor: Katarzyna Madalinska (MS, Sept 2019)
- Major advisor: Kara Ladle (MS, Sept 2019)
- Major advisor: Nicholas Avila (PhD, started Sept 2018)
- Major advisor: Tim Lampasona (PhD, started Sept 2017)
- Major advisor: John Pote (PhD, defense June 2017)
- Committee member: Rafael Valentin (PhD in Ecology and Evolution, 2018), Caryn Michael (MS in Entomology, 2018), Kristin Poley (MS in Entomology, 2017 Michigan State University), John Cambridge (PhD in Entomology, 2016), John Pote (MS in Entomology, 2013, Michigan State University), Noel Hahn (PhD candidate Entomology), George Condon (PhD candidate in Entomology), Laura Gonzales (PhD candidate in Entomology)
- Undergraduate research credits Gabriel Batzli, Rutgers, genetics major
- NASA STEM Fellowship Advisor to Christine Little (Brookedale Community College)
- Postdoctoral advisor: Robert McDougal (2019 present), Jiangbin Fan (2019-2020), Clement Akotsen-Mensah (2016 2019, IPM Extension Specialist, Lincoln University of Missouri)), Joseph Kaser (2016 2018, Postdoctoral researcher at USDA ARS), Monique Rivera (2016,

Assistant Extension Specialist at UC Riverside), Bryan Petty (2014-2015, unknown), Brett Blaauw (2013 – 2016, Assistant Professor at University of Georgia)

#### **Guest Lectures:**

**Rutgers University** 

- Insect Biology, undergraduate, "Insect Development and Reproduction" (2014-2018)
- Agricultural Entomology and Pest Management, undergraduate/graduate "Tree Fruit Pest Management I" and "Tree Fruit Pest Management II" (2013- present)

**Rutgers University** 

- Organic Agriculture, undergraduate "Insect Pest Management" (2015) University of Pennsylvania
  - Insect Epizootics, undergraduate, "Agricultural Pest Management" (2014)

# PEER- REVIEWED PUBLICATIONS (student "\*\*", post-doc "\*", papers in which Nielsen is senior author came from her lab):

- 1. **Blaauw BR\*, G Hamilton, C Rodriguez-Saona, AL Nielsen. 2019.** Plant stimuli and their impact on brown marmorated stink bug dispersal and host selection. Frontiers in Ecology and Evolution *doi:* 10.3389/fevo.2019.00414
- 2. Valentin R, DM Fonseca, S Gable, K Kyle, GC Hamilton, AL Nielsen, JK Lockwood. eDNA moves onto land: DNA aggregation methods for use in surveying terrestrial arthropods in forested landscapes *Molecular Ecology Resources* 
  - 3. Acebes-Doria AL, AM Agnello, BR Blaauw, GD Buntin, DG Alston, EH Beers, JC Bergh, TE Cottrell, R Bessin, S Chen, KM Daane, SJ Fleischer, C Guédot, LJ Gut, GC Hamilton, R Hilton, KA Hoelmer, WD Hutchison, P Jentsch, G Krawczyk, TP Kuhar, JC Lee, AL Nielsen, AA Sial, LR Spears, BD Short, MD Toews, JD Walgenbach, C Welty, NG Wiman, and TC Leskey. Season-long Monitoring of the Brown Marmorated Stink Bug, Halyomorpha halys (Stål) (Hemiptera: Pentatomidae), Throughout the United States using Commercially Available Traps and Lures. J Econ Entomol
  - 4. Rodriguez-Saona C, A Nielsen, D Shapiro-Ilan, S Tewari, V Kyryczenko-Roth, N Firbas, TC Leskey 2019 Exploring an Odor-baited "Trap Bush" Approach to Aggregate Plum Curculio (Coleoptera: Curculionidae) Injury in Blueberries. *Insects* 10: E113
  - 5. **Kaser JM\***, C **Akotsen-Mensah\***, **EJ Talamas**, **AL Nielsen 2019** First report of *Trissolcus japonicus* parasitizing *Halyomorpha halys* in North American agriculture. *Fla Entomol* 101: 680-683
  - 6. Morrison, III WR, BR Blaauw\*, BD Short, AL Nielsen, JC Bergh, G Krawczyk, Y-L Park, B Butler, A Khrimian, TC Leskey 2018 Successful management of *Halyomorpha halys* (Hemiptera: Pentatomidae) in commercial apple orchards with an attract-and-kill strategy. *Pest Management Science* 75:104-114
  - 7. **Akotsen-Mensah** C\*, **J Kaser**\*, **TC Leskey**, **AL Nielsen 2018** *Halyomorpha halys* (Hemiptera: Pentatomidae) Responses to Traps Baited with Pheromonal Stimuli in Peach and Apple Orchards. *J Econ Entomol* 11: 2153-2162
  - 8. **Morrison, III WR, BR Blaauw\*, AL Nielsen, E Talamas, and TC Leskey 2018**Predation and parasitism by native and exotic natural enemies of *Halyomorpha halys*(Hemiptera; Pentatomidae) eggs augmented with semiochemicals and differing host stimuli .*Biological Control 121: 140-150*
  - 9. **Kaser J\*, AL Nielsen, P Abram 2018** Biological control effects of non-reproductive host mortality caused by parasitoids *Ecological Applications 28: 1081–1092*

- 10. Valentin, R\*\*, DM Fonseca, A Nielsen, T Leskey, J Lockwood 2018 Using eDNA for early detection of terrestrial exotic species to minimize impacts on the environment. Frontiers in Ecology and the Environment 16: 265–270
- 11. **Leskey TC and AL Nielsen 2018** The impact of the invasive brown marmorated stink bug in North America and Europe: History, biology, ecology, and management. *Annual Review of Entomology* 63: 599-618
- 12. Valentin, R\*\*, AL Nielsen, N Wiman, D-H Lee, DM Fonseca 2017 Global invasion network of the brown marmorated stink bug. *Scientific Reports* 7: 9866 1-12
- 13. Nielsen AL, SF Fleischer, GC Hamilton, T Hancock, G Krawczyk, JC Lee, E Ogburn, JM Pote\*\*, A Raudenbush, A Rucker, M Saunders, VP Skillman, J Sullivan, J Timer, J Walgenbach, NG Wiman, TC Leskey 2017 Phenology of brown marmorated stink bug described using female reproductive development. Ecology and Evolution 2017:1-11
- 14. \*\*Pote, J M., and A L Nielsen 2017 Life stage specific predation of *Halyomorpha halys* (Stål) by generalist predators. *Biological Control* 114: 1-7.
- 15. Abram, PK, KA Hoelmer, A Acebes-Doria, H Andrews, EH Beers, JC Bergh, R Bessin, D Biddinger, P Botch, ML Buffington, M Cornelius, E Costi, ES Delfosse, C Dieckhoff, R Dobson, Z Donais, M Grieshop, G Hamilton, Tim Haye, Chris Hedstrom, MV Herlihy, M Hoddle, CRR Hooks, R James, P Jentsch, Thomas Kuhar, J Lara, JC Lee, A Legrand, T Leskey, D Lowenstein, L Maistrello, CR Mathews, JM Milnes, WR Morrison III, NK Joshi, AL Nielsen, E Ogburn, CH Pickett, K Poley, J Pote\*\*, PM Shrewsbury, E Talamas, L Tavella, J Walgenbach, R Waterworth, DC Weber, C Welty, N Wiman 2017 Indigenous arthropod natural enemies of the invasive brown marmorated stink bug in North America and Europe. J Pest Science 90:1009–1020
- 16. Weber D, WR Morrison III, A Khrimian, K Rice, TC Leskey, C Rodriguez-Saona, AL Nielsen, BR Blaauw\* 2017 Chemical ecology of *Halyomorpha halys*: Discoveries and applications. *J Pest Science* 90: 989–1008
- 17. **Blaauw B\*, C Mathews, T Leskey, RW Morrison, AL Nielsen 2017** Measuring host plant selection and retention of *Halyomorpha halys* (Hemiptera: Pentatomidae) by a trap crop. *Entomologia Experimentalis et Applicata* 163: 197–208
- 18. Mathews CR, B Blaauw\*, G Dively, J Kotcon, J Moore, E Ogburn, D Pfieffer, T Trope, JF Walgenbach, C Welty, G Zinati, AL Nielsen 2017 Evaluating a polyculture trap crop for organic management of *Halyomorpha halys* (Hemiptera: Pentatomidae) and endemic stink bugs in peppers. *J Pest Science* 90:1245-1255
- 19. **Fraga, DF, J Parker, AC Busoli, GC Hamilton, AL Nielsen, C Rodriguez-Saona 2016** Behavioral responses of the predaceous minute pirate bug (Hemiptera: Anthocoridae) to tridecane, a volatile emitted by the brown marmorated stink bug. *J Pest Science* 90:1107-1118
- 20. Ogburn EC, R Bessin, C Dieckhoff, R Dobson, M Grieshop, KA Hoelmer, C Mathews, J Moore, AL Nielsen, JM Pote\*\*, C Welty, JF Walgenbach 2016 Natural enemy impact on the invasive brown marmorated stink bug, *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae), in organic agroecosystems: A regional assessment. *Biological Control* 101:39-51.
- 21. Nielsen AL, S Chen, S Fleischer 2016 Coupling developmental physiology, photoperiod, and temperature to model phenology and dynamics of an invasive Heteropteran, Halyomorpha halys. Frontiers in Physiology 7:165 [Nielsen AL, S Chen, S Fleischer 2017 Corrigendum: Coupling Developmental Physiology, Photoperiod, and Temperature to Model Phenology and Dynamics of an Invasive Heteropteran, Halyomorpha halys. Frontiers in Physiology 8: 568.]

- 22. \*Blaauw BR, V Jones, AL Nielsen 2016 Utilizing immunomarking techniques to track *Halyomorpha halys* (Hemiptera: Pentatomidae) dispersal within a peach orchard. *PeerJ* 4:e1997
- 23. \*\*Pote J, AL Nielsen, M Grieshop 2016 Biology and seasonality of the re-emergent pest *Rhynchaenus pallicornis* (Coleoptera: Curculionidae) and methods for monitoring its abundance. *Environmental Entomology* 45: 772-780
- 24. \*\*Hahn, NG, AJ Kaufman, C Rodriguez-Saona, AL Nielsen, J LaForest, GC Hamilton 2016 Exploring the spread of brown marmorated stink bug in New Jersey through the use of crowdsourced reports. *American Entomologist* 62: 36-45
- 25. **Nielsen, AL, G Dively, JM Pote\*, G Zinati, C Mathews 2016** Identifying a potential trap crop for a novel insect pest, *Halyomorpha halys* (Hemiptera: Pentatomidae) in organic farms. *Environmental Entomology* 45: 472-478
- 26. \*\*Pote, JM, AL Nielsen, L Gut, and MJ Grieshop 2015 Organic management of the apple flea weevil (*Orchestes pallicornis* Say), a re-emergent pest of commercial apples. *Organic Agriculture* doi.10.1007/s13165-015-0129-z
- 27. \*Blaauw, BR, D Polk, and AL Nielsen 2015 IPM-CPR for peaches: utilizing behaviorally-based methods to manage key peach pests; brown marmorated stink bug (*Halyomorpha halys*) and Oriental fruit moth (*Grapholita molesta*). Pest Management Science 71:1513-22
- 28. Rice, KB, CJ Bergh, EJ Bergmann, DJ Biddinger, C Dieckhoff, G Dively, H Fraser, T Gariepy...JF Tooker 2014 Biology, Ecology, and Management of Brown Marmorated Stink Bug (Hemiptera: Pentatomidae). *J Integrated Pest Management* 5:A1-A13
- 29. \*Lee, D-H, BD Short, AL Nielsen, and TC Leskey 2014 Impact of organic insecticides on the survivorship and mobility of *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) in the laboratory. *Florida Entomologist* 97:414-421
- 30. \*Lee, D-H, AL Nielsen and TC Leskey 2014 Dispersal capacity of nymphal stages of the invasive brown marmorated stink bug, *Halyomorpha halys* (Hemiptera: Pentatomidae). *J Insect Behavior* 27:639–651
- 31. \*Wallner AM, GC Hamilton, AL Nielsen, N Hahn\*, E Green, and CR Rodriguez-Saona 2014 Landscape factors facilitating the invasive dynamics and distribution of the brown marmorated stink bug, *Halyomorpha halys* (Hemiptera: Pentatomidae), after arrival in the United States. *PLoS ONE* 9:e95691
- 32. **Xu, J, DM Fonseca, GC Hamilton, KA Hoelmer, and AL Nielsen 2014** Tracing the origin of US brown marmorated stink bugs, *Halyomorpha halys. Biological Invasions* 16:153-166
- 33. Lee, JC, PW Shearer, LD Barrantes, EH Beers, HJ Burrack, DT Dalton, AJ Dreves, LJ Gut, KA Hamby, DR Haviland, R Isaacs, AL Nielsen, T Richardson, CR Rodriguez-Saona, CA Stanley, DB Walsh, VM Walton, WL Yee, FG Zalom, and DJ Bruck 2013 Trap designs for monitoring *Drosophila suzukii* (Diptera: Drosophilidae). *Environmental Entomology* 42: 1123-1453.
- 34. **Nielsen, AL, G Hamilton, K Holmstrom, J Cambridge, and J Ingerson-Mahar 2013** Use of black light traps to monitor the abundance, spread, and flight behavior of *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae). *J Economic Entomology* 106: 1495-1502.
- 35. **Nielsen, AL, JM Pote\*, K Beuhrer, MJ Grieshop 2012** The reemergence of an old pest, *Orchestes pallicornis* (Coleoptera: Curculionidae). *J Integrated Pest Management* 3:D1-D4
- 36. Leskey, TC, GC Hamilton, AL Nielsen, DF Polk, C Rodriguez-Saona, JC Bergh, DA Herbert, TP Kuhar, D Pfeiffer, GP Dively, CRR Hooks, MJ Raupp, PM Shrewsbury, G Krawczyk, PW Shearer, J Whalen, C Koplinka-Loehr, E Myers, D Inkley, KA

- **Hoelmer, D-H Lee, SE Wright 2012** Pest status of the brown marmorated stink bug, *Halyomorpha halys* in the USA. *Outlooks in Pest Management* 23: 218-226
- 37. **Nielsen, AL, and EE Lewis 2012** Designing the ideal habitat for entomopathogen use in nursery production. *Pest Management Science* 68:1053-1061
- 38. **Nielsen, AL, J Nakatani, KO Spence, and EE Lewis 2011** Effect of soil salinity on entomopathogenic nematode survivorship and behavior .*Nematology* 13:859-867.
- 39. **Nielsen, AL, GC Hamilton, and P Shearer 2011** Seasonal phenology and monitoring of the non-native *Halyomorpha halys* (Hemiptera: Pentatomidae) in soybean. *Environmental Entomology* 40:231-238
- 40. **Nielsen, AL, and R Burruss (eds) 2010** The use of genetically modified organisms in entomology the 2008 Student Debate. *American Entomologist* 56:108-116.
- 41. **Aponte-Cordero, WV and AL Nielsen** (*eds*) **2009** Understanding biosecurity and its limitations [Nielsen, AL, J Ingerson-Mahar, and J Ware] Student Debate CON: Research on potential insect invasive species that can transmit animal diseases should take precedence over invasive crop pests and diseases.] *American Entomologist* 55:148-156.
- 42. **Nielsen, AL and GC Hamilton 2009** Life history of the invasive species *Halyomorpha halys* (Hemiptera: Pentatomidae) in the Northeastern United States. *Annals Entomological Society America* 102: 608-616.
- 43. **Nielsen, AL and GC Hamilton 2009** Seasonal occurrence and impact of *Halyomorpha halys* (Hemiptera: Pentatomidae) in tree fruit. *J Economic Entomology* 102: 1133-1140.
- 44. **Nielsen, AL, KO Spence, and EE Lewis 2008** Efficacy patterns of biopesticides used in potting media. *Biopesticides International* 4: 87-101.
- 45. **Nielsen, AL, P Shearer, and GC Hamilton 2008** Toxicity of insecticides to *Halyomorpha halys* (Hemiptera: Pentatomidae) using a glass-vial bioassay. *J Economic Entomology* 101: 1439-1442.
- 46. **Nielsen, A, G Hamilton and D Matadha 2008** Developmental rates estimation and life table analysis for *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) under constant temperatures. *Environmental Entomology* 37: 348-355.

## **Book Chapters**

- 1. **Tewari, S, TC Leskey, AL Nielsen, JC Piñero, and CR Rodriguez-Saona 2014** Use of pheromones in insect pest management, with special attention to weevil pheromones In: Integrated Pest Management: Current Concepts and Ecological Perspectives. D.P Abrol (Ed.) Elsevier Inc pp 141-168
- 2. Hamilton GC, JJ Ahn, W Bu, TC Leskey, AL Nielsen, Y-L Park, W Rabitsch, KA Hoelmer 2018 *Halyomorpha halys* In "Invasive Pentatomids of North America". ed J.E McPherson., CRC Press pp 243-292

#### **Under Review or In Preparation**

In review C Akotsen-Mensah, B Blaauw, B. Short, TC Leskey, JC Bergh, D Polk, and AL Nielsen. Using IPM-CPR as a Management Program for Apple Orchards. *J Econ Entomol* In review Ludwick, D, WR Morrison III, AL Acebes-Doria, A Agnello, JC Bergh, ML Buffington, G Hamilton, JK Harper, KA Hoelmer, G Krawczyk, TP Kuhar, D Pfeiffer, AL Nielsen, KB Rice, C Rodriguez-Saona, PW Shearer, PM Shrewsbury, E Talamas, J Walgenbach, NG Wiman, TC Leskey. Invasion of the Brown Marmorated Stink Bug (Hemiptera: Pentatomidae) into the USA: Developing a national response to an invasive species crisis through collaborative research and outreach efforts. *J Int Pest Manag*.

In prep C Akotsen-Menash\* and AL Nielsen Predicting Plum Curculio Seasonal Phenology Based in New Jersey Peaches. *J Econ Entomol* 

- In prep C Akotsen-Mensah\*, B Blaauw, M Rivera, C Rodriguez-Saona, and AL Nielsen. Behavioral Responses of *Halyomorpha halys* (Hemiptera: Pentatomidae) and its parasitoid *Trissolcus japonicus* (Hymenopytera: Scelionidae) to host based plant compounds. *J Chem Ecol*
- **In prep** R McDougall, A DiPoala, BR Blaauw, AL Nielsen. Managing Orchard Groundcover to Reduce Pollinator Exposure to Pesticide
- In prep Nielsen AL, E Maslen E, D Dalton, A Rucker, N Wiman, M Bhattarai, A Soohoo-Hui, V Walton Temperature related survival and reproduction of two distinct *Halyomorpha halys* (Hemiptera: Pentatomidae) populations and seasonal population estimations *In preparation for J Pest Sci*.
- In prep Pote JM\*\*, R Valentin\*\*, G Batzli, M Mirza, DM Fonseca, AL Nielsen Identifying the Predators of *Halyomorpha halys* (Stål) with Molecular Gut Content

#### NON-PEER REVIEWED PUBLICATIONS OR PROCEEDINGS:

- 1. Nielsen, AL, A Rucker 2017 Grape berry moth on grape, 2015 *Arthropod Management Tests* 42: tsx032
- 2. Nielsen, AL, A Rucker 2017 Plum curculio control on nectarine, 2015 *Arthropod Management Tests* 42: tsx029 doi: 10.1093/amt/tsx029
- 3. Nielsen AL, A Rucker 2017 San Jose scale management on peach, 2016 *Arthropod Management Tests* 42: tsx009 doi: 10.1093/amt/tsx009
- 4. Nielsen, AL, A Rucker 2013 Seasonal control of brown marmorated stink bug control on peach, 2012 *Arthropod Management Tests* 38:B11 doi: 10.4182/amt.2013.B11
- 5. Nielsen, AL, A Rucker 2013 Brown marmorated stink bug control comparing Danitol and Asana on peach, 2012 *Arthropod Management Tests* 38:B10 doi: 10.4182/amt.2013.B10
- 6. Nielsen, AL, A Rucker 2013 Brown marmorated stink bug control comparing Belay, Danitol, and Venom on peach, 2012 *Arthropod Management Tests* 38:B9 doi: 10.4182/amt.2013.B9
- 7. Nielsen, AL, A Rucker 2013 Brown marmorated stink bug control at harvest on peach, 2012 *Arthropod Management Tests* 38:B8 doi: 10.4182/amt.2013.B8
- 8. Nielsen, AL, A Rucker 2013 San Jose scale management on peach, 2012 *Arthropod Management Tests* 38:B5 doi: 10.4182/amt.2013.B5
- 9. Nielsen, AL, A Rucker 2013 Plum curculio control on nectarine, 2012 *Arthropod Management Tests* 38:B4 doi: 10.4182/amt.2013.B4
- 10. Nielsen, AL, PW Shearer, GC Hamilton, ARucker 2007 Late-season catfacing insect control on peach, 2006 *Arthropod Management Tests* 32:B8 doi: 10.1093/amt/32.1.B8

## GRANTS/FUNDING (over \$7 million since 2012): 2019

- 1. J Urban et al "Biology, Management and Reducing the Impact of the Spotted Lanternfly on Specialty Crops in the Eastern USA" (*Rutgers \$400,000*)
- 2. J Lockwood et al "Development of a terrestrial environmental DNA survey protocol for early detection of the brown marmorated stink bug (*Halyomorpha halys*) and spotted lanternfly (*Lycorma delicatula*) in agricultural landscapes" USDA AFRI Exploratory Research (\$200,000)
- 3. K Hoover, T Leskey, A Nielsen M Keena "G6\_PA\_0315\_Enhanced Mitigation and Rapid Response to Reduce Spread and Impact of Spotted Lanternfly in the US" Farm Bill Suggestion (*Rutgers \$108,988*)

- 1. A Nielsen, T Leskey, B Blaauw, D Shapiro-Ilan, C Rodriguez-Saona, C Akotsen-Mensah "Leveraging pest behavior for implementation of biological control for plum curculio" USDA CPPM (\$304,307)
- 2. A Nielsen, B Hillman "Identifying the Insect Vector for Grapevine Red Blotch in New Jersey" NJ Dept of Ag Specialty Crop Block Grant (\$39,910)
- 3. A Nielsen, C Akotsen-Mensah, T Lampasona "Border sprays for plum curculio management in peaches" NJ Horticultural Society (\$1,500)

#### 2017

- 1. G Hamilton, D Polk, C Wang, A Nielsen "Extension Implementation of IPM in New Jersey" USDA EIP (\$116,500)
- 1. A Nielsen, C Akotsen-Mensah "Refining degree-day models for plum curculio" NJ Horticultural Society (\$2,500)

#### <u>2016</u>

- 1. J Walgenbach, et al "Management of Brown Marmorated Stink Bug in US Specialty Crops" USDA SCRI (*Rutgers*, \$450,000)
- 2. T Leskey, A Nielsen, G Hamilton, Y-L Park, T Kuhar, S Fleischer, W Morrison, B Blaauw, K Hoelmer, P Shrewsbury, C Hooks, "An Areawide Biointensive Management Plan for Brown Marmorated Stink Bug (BMSB) to Reduce Impacts Throughout the Agro-Urban Interface" USDA Areawide Program (*Rutgers*, \$229,298)
- 3. Leskey, T, K Rice, W Morrison, A Nielsen, C Rodriguez-Saona "Refining an attracticidal sphere management system for spotted wing drosophila in small fruit production." NE SARE Research Program (*Rutgers*, \$60,000)
- 4. A Nielsen, B Blaauw "Refining management for plum curculio in NJ fruit" NJ Horticulture Society (\$2,500)
- 5. J Carrol, G Loeb, C Rodriguez-Saona, D Polk, A.L Nielsen "Spotted Wing Drosophila Working Group to Identify and Prioritize Research and Extension Needs" NE IPM Center Partnership Program (\$20,000)

## 2015

- 1. A Nielsen, B Blaauw, D Polk, C Bergh, T Leskey "IPM-CPR: A Systems-Level Approach To Manage Brown Marmorated Stink Bug And Conserve Beneficial Insects In Tree Fruit" USDA CPPM (\$299,952)
- 2. C Rodriguez-Saona, T Leskey, A Nielsen, G Loeb, A Zhang "Managing an invasive drosophilid species in agriculture using innovative behavioral manipulation strategies" USDA CPPM (\$300,000)
- 3. W.R Morrison, B Blaauw, A Nielsen, T Leskey "Amplifying Natural Enemy Impacts: Attracting Brown Marmorated Stink Bug (*Halyomorpha halys*) and its Natural Enemies with Semiochemicals and Floral Resources to Increase Predation at Pull-Pull Sites" State Horticultural Association of Pennsylvania Research Grant (\$25,000)
- 4. B Blaauw and A Nielsen "Identifying Distribution Patterns of the Brown Marmorated Stink Bug in Peach Orchards" PA Peach and Nectarine Program (\$5,697)

#### 2014

- 1. T Leskey...G Hamilton, A Nielsen, D Polk, C Rodriguez-Saona. "Biology and Management of Brown Marmorated Stink Bug" USDA-NIFA Specialty Crops Initiative (Rutgers, \$576,951)
- 2. A Nielsen, D Polk, L Coia. "Survey of vineyard pest insects in New Jersey" NJ Dept of Ag Specialty Crop Block Grant (\$39,309)
- 3. B Blaauw and A Nielsen. "Identifying Movement Patterns of the Brown Marmorated Stink Bug in Peach Orchards" NJ Hort Society (\$3,500)

- 4. A Nielsen. "Developing a reduced risk early season management program for BMSB in peach" IR-4 Biopesticide Program (\$11,184)
- 5. G English-Loeb, J Carroll, C Rodriguez-Saona, D Polk, A Nielsen. 2014 "Spotted Wing Drosophila Working Group to Update and Prioritize Research and Extension Needs" NE IPM Partnership (\$10,000)
- 6. A Nielsen, D Polk, B Blaauw. "Bringing IPM and natural enemies back to the orchard post BMSB" NE SARE Partnership (\$14,971)
- 7. T Leskey, D-H Lee, C Bergh, A Nielsen, G Krawczyk, Y-L Park, B Butler. "Building 'attract and kill' systems for management of brown marmorated stink bug in apple orchards" SARE Research Grants (\$22,005 Rutgers)

- 1. C Rodriguez-Saona, T Leskey, A Nielsen, A Zhang. "A novel attract-and-kill approach for managing the invasive spotted wing drosophila in multiple small fruit crops" NE Regional IPM (\$175,000)
- 2. G Hamilton, D Polk, A Nielsen. "Coordination and Delivery of Specialty Crop IPM for NJ Fruit Crops: Apples, Peaches and Nectarines, Blueberries and Wine Grapes" USDA eIPM (\$44,000/yr)
- 3. A Nielsen. "Developing a reduced risk early season management program for BMSB in peach" IR-4 Biopesticide Program (\$6,041)
- 4. D Polk and A Nielsen. "Reduced Risk Methods to Control Peach Pests and Brown Marmorated Stink Bug" NE SARE Demonstration (\$17,000)

#### 2012

- 1. A Nielsen, G Hamilton, M Grieshop, C Matthews, T Leskey, YL Park, C Welty, J Walgenbach, D Pfieffer, C Ziegler, G Dively, C Hooks, J Kotcon, R Bessin, M Rogers, J Moyer, E Ingham, K Hoelmer, & R Mizell. "Whole-Farm Organic Management of BMSB and Endemic Pentatomids through Behaviorally-Based Habitat Manipulation." USDA OREI (\$2,672,327)
- 2. C Rodriguez-Saona, T Leskey, and A Nielsen "An Integrated Multi-Tactic Approach for Managing Native Weevil Pests of Multiple U.S Fruit Crops." USDA-PMAP (\$200,000)

#### PRESENTATIONS (speaker in bold):

## **Invited International**

- AL Nielsen 2018 "Developing a trap crop method for BMSB based on insect behavior" 9<sup>th</sup> International IPM Symposium, Baltimore, MD
- **T Leskey**, WR Morrison, BR Blaauw, BD Short, KB Rice, A Acebes-Doria, AL Nielsen, JC Bergh, G Krawczyk, Y-L Park, B Butler, DW Weber, **2018** "Management of the invasive brown marmorated stink bug in apple orchards using pheromone- based technologies" 9<sup>th</sup> International IPM Symposium, Baltimore, MD
- **AL Nielsen 2018** "What growers and crop advisors need to know about managing brown marmorated stink bug based on the latest research" 9<sup>th</sup> International IPM Symposium, Baltimore, MD
- **JM Kaser**, Nielsen AL, Abram PK, and Heimpel GE **2017** "Inadvertent reconstruction of exotic food webs: biological control harms and benefits." 5<sup>th</sup> International Symposium on Biological Control of Arthropods, Langkawi, Malaysia
- **AL Nielsen,** S Chen, S Fleischer **2017** "Factors influencing *H halys* population development and size" New Zealand United States Invasive Species Workshop, Auckland, New Zealand
- **AL Nielsen 2017** "Integrating biological and behavioral information into management programs for *Halyomorpha halys*" Pipfruit NZ, Hawkes Bay, New Zealand

- **AL Nielsen 2017** "Biology and management of *Halyomorpha halys*" Horticulture New Zealand, Wellington, New Zealand
- **AL Nielsen,** S Fleischer, S Chen **2016** "Deciphering an invader's population ecology: *Halyomorpha halys*" XXV International Congress of Entomology, Orlando, FL
- TC Leskey, BD Short, WR Morrison III, AL Nielsen, B Blaauw, G Krawczyk, JC Bergh 2016 "Behaviorally-based management of brown marmorated stink bug." XXV International Congress of Entomology, Orlando, FL
- **J Pote**, AL Nielsen, DM Fonseca **2016** Using gut content analysis to identify predators of *Halyomorpha halys* XXV International Congress of Entomology, Orlando, FL
- **AL Nielsen 2016** "Incorporating behavior and population dynamics into management of the invasive *H halys* in the USA" Recent Trends in *H halys* Research, Università di Modena e Reggio Emilia, Italy
- AL Nielsen 2016 "H halys negli Stati Uniti: storia e sviluppo di mezzi di gestione nei fruttetise" Convegno Halyomorpha halys la cimice asiatica, Modena, Italy
- **AL Nielsen 2015** "Progress in IPM techniques for managing brown marmorated stink bug in mid-Atlantic orchards", 8<sup>th</sup> International IPM Symposium, Salt Lake City, Utah
- **AL Nielsen 2015** "Organic management of BMSB", 8<sup>th</sup> International IPM Symposium, Salt Lake City, Utah
- **T Leskey,** AL Nielsen **2012** "Brown marmorated stink bug, *Halyomorpha halys* (Stål): Impact of an Asian species introduced in North America" XXIV International Conference of Entomology, Republic of Korea
- **EE Lewis,** AL Nielsen **2011** "Biological Pest Management in Nurseries: Creating the Ideal Habitat for Microbial Control" Royal Golden Jubilee Annual Meeting, Pattaya, Thailand.

## **Invited Departmental Seminars**

- AL Nielsen 2019 "Integrating Behavioral Ecology into Pest Management" Institute for Biological Control, JKI, Darmstad, Germany
- AL Nielsen 2018 "Developing Biologically-Based Management Strategies for the Invasive BMSB" University of Georgia, Department of Entomology Seminar
- AL Nielsen 2018 "Developing Biologically-Based Management Strategies for the Invasive BMSB" University of Maryland, Department of Entomology Seminar
- **AL Nielsen 2016** "Invasion ecology of BMSB: A biological and behavioral perspective" Rutgers University, Department of Ecology and Evolution Seminar
- **AL Nielsen 2016** "Applying invasion ecology to pest management of BMSB" University of Arkansas, Entomology
- AL Nielsen 2016 "Developing Systems-Level Management Programs for BMSB" Virginia Tech Agriculture and Environment Series
- **AL Nielsen 2014** "Deciphering the population ecology and behavior for the invasive BMSB in fruit" Michigan State University, Entomology
- **AL Nielsen 2014** "Bringing IPM Back to Fruit Systems post-BMSB" Rutgers University, Entomology
- AL Nielsen 2013 "Incorporating Physiology and Behavior into Management Plans for BMSB" Colloquium Series, Rutgers-Newark, Biological Sciences
- AL Nielsen 2010 "Applying the tenants of invasion ecology to sustainable pest management" Michigan State University, Entomology
- **AL Nielsen 2008** "Population ecology and damage estimates of the invasive Brown Marmorated Stink Bug, *Halyomorpha halys*" University of California Davis, Entomology & Nematology

## Invited National and Regional

- **AL Nielsen,** K Rice 2019 "Foraging ecology *T. japonicus* across landscapes" Entomological Society America Eastern Branch Meeting, Blacksburg, VA
- TC Leskey, D Kirkpatrick, D Ludwick, AL Nielsen, C Bergh, G Krawczyk, T Kuhar, A Acebes-Doria, W Morrison, K Rice 2019 "Integrating IPM tactics for the invasive brown marmorated stink bug into orchard management systems" Entomological Society America Eastern Branch Meeting, Blacksburg, VA
- **D Kirkpatrick**, H Leach, J Urban, WR Cooper, R Valentin, AL Nielsen, J Lockwood, D Fonseca, DG Pfeiffer, TC Leskey **2019** "Preliminary trapping study and host range results for spotted lanternfly" Entomological Society America Eastern Branch Meeting, Blacksburg, VA
- R Valentin, D Fonseca, A Nielsen, TC Leskey, J Lockwood 2018 "Application of environmental DNA to survey for agricultural pests" Entomological Society America Annual Mtg., Vancouver, Canada
- **AL Nielsen**, B Blaauw, K Rice **2018** "Using protein markers to identify within field dispersal of brown marmorated stink bug" Entomological Society America Annual Mtg., Vancouver, Canada
- TC Leskey, D Shapiro-Ilan, J Cullum, J Pinero, AL Nielsen, C Rodriguez-Saona 2018 "A multilife stage management strategy for the pervasive tree fruit pest, the plum curculio, *Conotrachelus nenuphar* (Herbst), in apple orchards" Entomological Society America Annual Mtg., Vancouver, Canada
- C Akotsen-Mensah, C Bergh, T Leskey, A Nielsen 2018 "Trapping and Management of *Halyomorpha halys* (Hemiptera: Pentatomidae) in Tree Fruit in mid-Atlantic" Entomological Society America Pacific Branch Meeting, Reno, NV
- **J Kaser**, C Akotsen-Mensah, A Rucker, T Leskey, A Nielsen **2018** "Area of response to baited traps used to monitor *Halyomorpha halys* in peach" Entomological Society America Eastern Branch Meeting, Annapolis, MD
- **B Blaauw**, R Isaacs, A Nielsen **2017** "Flower power: Habitat management to support crop pollination and pest management" Entomological Society America Annual Mtg., Denver,
- **AL Nielsen**, B Blaauw, M Toews **2017** "A recipe for detection: Using milk and egg to track stink bug movement patterns" Entomological Society America Eastern Branch Meeting, Newport, RI
- C Akotsen-Mensah, AL Nielsen, R Morrison, TC Leskey, C Bergh 2017 "Re-introducing IPM post BMSB detection in apples" Entomological Society America Eastern Branch Meeting, Newport, RI
- R Valentin, J Lockwood, B Maslo, AL Nielsen, DM Fonseca 2017 "Utility of eDNA in conducting surveillance of agricultural pests" Entomological Society America Eastern Branch Meeting, Newport, RI
- **AL Nielsen 2016** "Invasion Biology of the Brown Marmorated Stink Bug: A Behavioral and Ecological Perspective" Entomological Society America North Central Branch Meeting, Cleveland, OH
- **AL Nielsen,** EE Lewis **2015** "Creating the ideal environment for pest control with entomopathogenic nematodes: and example from nurseries" Entomological Society America Annual Meeting, Portland, OR
- **BR Blaauw**, C Rodriguez-Saona, G Hamilton, A Nielsen **2015** "Making scents of brown marmorated stink bug host selection" Entomological Society America Annual Meeting, Portland, OR

- **AL Nielsen**, BR Blaauw, D Polk "Steps towards a systems-level approach to invasive species management for brown marmorated stink bug" **2014** Entomological Society America Annual Meeting, Portland, OR
- **T Spanier, AL Nielsen, J Bradshaw 2014** "Becoming effective leaders and working in teams" Entomological Society America Annual Meeting, Portland, OR
- Nielsen AL, TC Leskey, C Rodriguez-Saona 2014 "Identifying BMSB injury in fruit" BMSB June Working Group Meeting
- **Nielsen AL, 2012** "Incorporating the reproductive biology of brown marmorated stink bug into phenological models" Entomological Society America Annual Meeting, Knoxville, TN
- **Nielsen AL,** T Leskey **2012** "Steps toward developing management programs for brown marmorated stink bug in the Mid-Atlantic region" Entomological Society America Annual Meeting, Knoxville, TN
- **AL Nielsen**, **2011** "Invasion biology and seasonality of BMSB in Pennsylvania and New Jersey" Entomological Society America Annual Meeting, Reno, NV
- **AL Nielsen, 2011** "Monitoring and management of the brown marmorated stink bug." Western Orchard Pest and Disease Conference, Portland, OR
- **AL Nielsen 2008** "Beating Around the Bush: Life-History of the Invasive Brown Marmorated Stink Bug in Pennsylvania." American Entomology Society, Newark, DE.
- **AL Nielsen**, Hoelmer, K., Bernon, G and Hamilton, G.C., **2008** "Life history traits of *Halyomorpha halys* (Hemiptera: Pentatomidae) on ornamentals." Entomological Society of America, Eastern Branch Syracuse, NY.
- AL Nielsen, Ingerson-Mahar, J and Ware, J 2007 "Student Debates CON: Research on potential insect invasive species that can transmit animal diseases should take precedence over invasive crop pests and diseases." Entomological Society of America Annual Meeting, San Diego, CA.
- **AL Nielsen** and Hamilton, G., **2007** "Damage Potential and Range Expansion of *Halyomorpha halys*." Entomological Society of America Eastern Branch, Harrisburg, PA.
- **AL Nielsen 2006** "*Halyomorpha halys* update" Entomology Society of Pennsylvania, State College, PA.
- AL Nielsen and Hamilton, G., 2006 "Halyomorpha halys (Stål) (Hemiptera: Pentatomidae) Biology and Seasonal Phenology." Entomological Society of America, Annual Meeting, Indianapolis, IN.
- **AL Nielsen**, Hamilton, G and Matadha, D., **2004** "Distributional survey of *Halyomorpha halys* in New Jersey and a study of their developmental rates at varying temperatures." Entomological Society of America Salt Lake City Annual Meeting, UT.

## Other International

- **B Blaauw**, C Rodriguez-Saona, G Hamilton, A Nielsen **2016** When stink bugs react: Host stimuli and the brown marmorated stink bug XXV International Congress of Entomology, Orlando, FL.
- **S Fleischer,** A Nielsen, S Chen **2016** Phenology and dynamics of the invasive brown marmorated stink bug, *Halyomorpha halys*, as revealed in an agent-based model XXV International Congress of Entomology, Orlando, FL.
- **AL Nielsen,** J Pote, S Chen, S Fleischer **2014** "Developing a phenological model for the invasive Brown Marmorated Stink Bug in peaches" International Organization for Boiological Control WPRS Vienna, Austria
- **DF Fraga**, C Rodriguez-Saona, AL Nielsen, GC Hamilton, AC Busoli **2015** "O papel de voláteis de *Halyomorpha halys* na capacidade predação de ovos de *Orius insidiosus*" Siconbio, Rio de Janiero, Brazil

## Other National and Regional

- C Akotsen-Mensah, B Blaauw, C Rodriguez-Saona AL Nielsen 2019 "Behavioral response of Halyomorpha halys (Stål) and its egg parasitoid Trissolcus japonicus to host based plant volatiles" Entomological Society America Eastern Branch Meeting, Blacksburg, VA
- C Akotsen-Mensah, AL Nielsen 2019 "Behavioral responses of *Halyomorpha halys* and its egg parasitoid, *Trissolcus japonicus*, to host based plant volatiles" Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- **AL Nielsen**, A DiPaola, C Akotsen-Mensah, N Avila, K Rice **2019** "Foraging ecology and predictions of *Trissolcus japonicus* in fruit systems" Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- **T Lampasona**, AL Nielsen **2019** "Tracking in-situ distribution of plum curculio *Contrachelus nenuphar* in peach and blueberry orchards" Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- **T Lampasona**, AL Nielsen, C Akotsen-Mensah **2018** "Prevalence and heritability of host preference in *Conotrachelus nenuphar* (Coleoptera: Curculionidae)" Entomological Society America Annual Mtg., Vancouver, Canada
- **SJ Fleischer**, S Crawford, G von Kuster, S Chen, A Nielsen **2018** "PestWatch, iPIPE, and agent-based models: Tools for tracking migration and phenology." Entomological Society America Eastern Branch Meeting, Annapolis, MD
- C Akotsen-Mensah, J Kaser, TC Leskey, AL Nielsen 2018 "Halyomorpha halys (Hemiptera: Pentatomidae) responses to traps baited with pheromonal stimuli in peach and apple orchards." Entomological Society America Eastern Branch Meeting, Annapolis, MD
- **T Lampasona**, TC Leskey, AL Nielsen **2018** "Effect of protein immunomarking materials on behavior of plum curculio *Conotrachelus nenuphar*." Entomological Society America Eastern Branch Meeting, Annapolis, MD
- E Maslen, A Nielsen, F Pfab, D Dalton, A Rucker, D Lowenstein, N Wiman, M Bhattarai, A Soohoo-Hui, B Short, T Leskey, V Walton 2018 "Population estimates of two *Halyomorpha halys* (Hemiptera: Pentatomidae) populations based on temperature-related life table parameters" Entomological Society America Pacific Branch Meeting, Reno, NV
- C Akotsen-Mensah, T Leskey, C Bergh, AL Nielsen 2017 "IPM-CPR in apples and peaches." BMSB Areawide and Working Group, Winchester, VA Nov 2017
- **A Nielsen,** C Akotsen-Mensah, T Leskey, C Bergh, B Short, B Blaauw and D Polk **2017** "Impact of IPM-CPR on beneficial insects." Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- C Akotsen-Mensah, J Kaser, T Leskey, A Nielsen 2017 "Refining plum curculio degree day model in NJ." Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- **J Kaser,** C Akotsen-Mensah, A Rucker, A Nielsen **2017** "Zone of attraction and injury of *Halyomorpha halys* baited traps in peach orchards." Annual Cumberland-Shenandoah Fruit Workers Conf., Winchester, VA
- C Akotsen-Mensah, J Ware, A Nielsen 2017 "Refining plum curculio degree day model in NJ" Entomological Society America Annual Mtg., Denver, CO
- C Mathews, B Blaauw et al 2017 "Multi-state evaluation of polyculture trap crop for managing BMSB and native stink bugs in organic peppers." Entomological Society America Annual Mtg., Denver, CO
- R Valentin, J Lockwood, A Nielsen, G Hamilton, T Leskey, D Fonseca 2017 "Utility of eDNA based surveillance of invasives in terrestrial systems." Entomological Society America Annual Mtg., Denver, CO

- C Rodriguez-Saona, J Hernandez-Cumplido et al 2017 "Testing novel attractants for Drosophila suzukii" Entomological Society America Annual Mtg., Denver, CO
- **A Nielsen,** E Ogburn, J Walgenbach **2017** "Studies on critical diapause termination cues in *Halyomorpha halys*" Entomological Society America Annual Mtg., Denver, CO
- **J Kaser,** G Hamilton, A Nielsen **2017** "Pentatomid diversity in mid-Atlantic blacklight traps post-*Halyomorpha halys* invasion" Entomological Society America Annual Mtg., Denver, CO
- **R Valentin,** JL Lockwood, AL Nielsen, GC Hamilton, T Leskey, D Fonseca **2017** "Utility of eDNA as a surveillance framework in terrestrial systems" Ecological Society of America Annual Mtg., Portland, OR
- WR Morrison III, BD Short, BR Blaauw, JC Bergh, AL Nielsen, G Krawczyk, Y-L Park, B Butler TC Leskey 2017 Using pheromone-based technology to manage the invasive brown marmorated stink bug in commercial apple orchards in an attract-and-kill approach Entomological Society America North Central Branch Meeting, Indianapolis, IN
- AL Nielsen, S Chen, **SJ Fleischer**, G Von Kuster **2017** Agent-based model of BMSB phenology, dynamics, and voltinism under current climate conditions International Heteroptera Symposium Monterrey, CA April 18-20
- **J Kaser**, P Abram, A Nielsen **2017** Parasitoid-induced host egg abortion and enemymediated indirect effects Entomological Society America Eastern Branch Meeting, Newport, RI
- A Nielsen, J Kaser, C Akotsen-Mensah 2016 "Differences in population response of Halyomorpha halys to pheromone traps in apple and peach." Annual Cumberland-Shenandoah Fruit Workers Conf
- WR Morrison III, A Nielsen, C Bergh, G Krawczyk, B Short, K Rice TC Leskey 2016 "Efficacy of attract-and-kill in commercial apple orchards: SARE Project Update" December BMSB Working Group Meeting, Winchester, VA
- **A Nielsen**, S Chen, S Fleischer **2016** "Individual-based modeling of *H halys* population phenology and dynamics" NE Plant, Pest, and Soils Conference, Philadelphia, PA
- **JM Pote**, AL Nielsen **2016** "Life stage specific predation of *Halyomorpha halys* (Stål) NE Plant, Pest, and Soils Conference, Philadelphia, PA
- C Mathews, B Blaauw, AL Nielsen 2016 "Integrating pheromone traps in a trap crop system for managing stink bugs in organic pepper production" NE Plant, Pest, and Soils Conference, Philadelphia, PA
- TC Leskey, R Morrison, BD Short, AL Nielsen, BR Blaauw, J Bergh, G Krawczyk 2016 "Evaluating an 'attract & kill' system for the invasive brown marmorated stink bug in commercial apple orchards" NE Plant, Pest, and Soils Conference, Philadelphia, PA [25]
- AL Nielsen 2015 "Organic management of BMSB year 3" December BMSB Working Group Mtg, Winchester, VA
- **AL Nielsen**, S Chen, S Fleischer **2015** "Developing a phenological model for *H halys*" Annual Cumberland-Shenandoah Fruit Workers Conf
- **DF Fraga**, C Rodriguez-Saona, GC Hamilton, AL Nielsen and AC Busoli **2015** "Stink lover: A predator uses a common stink bug volatile to find an invasive host pest." ESA Annual Meeting, Minneapolis, MN
- **JM Pote**, DM Fonseca, R Valentin, AL Nielsen **2015** "Identifying predators of *Halyomorpha halys* using molecular gut content analysis." Entomology Society Am, Portland, OR [30]
- C Rodriguez-Saona, TC Leskey, A Zhang, AL Nielsen, C Michel 2015 "Progress towards developing behavior-based control strategies for spotted wing drosophila." Entomology

- Society Am, Portland, OR
- **BR Blaauw**, R Isaacs, and AL Nielsen **2015** "The effect of native wildflower habitat on beneficial insects and their services." National Native Seed Conference, Santa Fe, NM
- J Pote, AL Nielsen, DM Fonseca, R Valentin 2015 "Using Molecular Techniques to Identify Natural Enemies of BMSB" BMSB Working Group Meeting, Beltsville, MD
- **B Blaauw,** AL Nielsen **2015** "Understanding dispersal behavior to enhance the sustainability of brown marmorated stink bug management" Entomological Society America Eastern Branch Meeting, Rehobeth Beach, DE
- J Pote, and AL Nielsen 2014 "Identifying the predators of brown marmorated stink bug" Entomological Society America Annual Meeting, Portland, OR
- **AL Nielsen**, C Mathews, G Dively, CRR Hooks, BR Blaauw, JM Pote, G Zinati **2014** "The potential of trap crops for BMSB management on organic farms" Entomological Society America Eastern Branch, Williamsburg, VA
- J Pote and AL Nielsen 2014 "Determining the predators of Brown Marmorated Stink Bug: a multidisciplinary approach" Entomological Society America Eastern Branch Meeting, Williamsburg, VA
- **BR Blaauw**, AL Nielsen **2014** "Exploiting dispersal behavior: A more sustainable approach for managing brown marmorated stink bug" Entomological Society America Eastern Branch Meeting, Williamsburg, VA
- **AL Nielsen**, B Blaauw, D Polk **2014** "IPM CPR: The application of behaviorally-based strategies for successful management of BMSB in peach" Orchard Pest Disease Management Conference Portland, OR
- **AL Nielsen**, A Rucker **2013** "Selecting insecticides for season-long brown marmorated stink bug management in peach" Cumberland-Shenandoah Fruit Workers Conference
- J Pote, AL Nielsen, M Grieshop, L Gut and K Buehrer 2013 "Biology of the re-emergent pest apple flea weevil, *Orchestes pallicornis* Say, and methods for its organic control" Entomological Society America Annual Meeting, Austin, TX
- AL Nielsen, 2013 "Refining the pre-oviposition period for *Halyomorpha halys* and incorporation into phenological models" Entomological Society America Annual Meeting, Austin, TX
- **BR Blaauw**, D Polk, AL Nielsen **2013** "Behaviorally-based reduced input management for brown marmorated stink bug in peach" Entomological Society America Annual Meeting, Austin, TX
- AL Nielsen, S Chen, S Fleischer, M Saunders 2013 "Environment Driven Individual Based Model for Brown Marmorated Stink Bug Population Dynamics" BMSB June Working Group Meeting
- J Xu, DM Fonseca, G Hamilton, K Hoelmer, AL Nielsen 2013 "Tracing the origin of US BMSB" BMSB June Working Group Meeting
- AL Nielsen "Reduced-risk Management Options for BMSB" 2013 Eastern Branch ESA
- **AL Nielsen**, and A Rucker "Steps toward BMSB Management in Peach" **2012** Cumberland-Shenandoah Fruit Workers Conference
- **AM Wallner,** N Hahn, C Rodriguez-Saona, AL Nielsen, GC Hamilton **2012** "Examining landscape factors that are facilitating the distribution of the brown marmorated stink bug (*Halyomorpha halys*) in New Jersey" Entomological Society America Annual Meeting, Knoxville, TN
- **AL Nielsen,** G Hamilton **2012** "Utility of black light traps for monitoring spread and population growth of BMSB in NJ" BMSB Working Group, Winchester, VA
- **AL Nielsen,** S Fleischer, M Saunders **2012** "Incorporating female physiology into voltinism studies" BMSB Working Group, Westminster, MD

## POSTERS PRESENTED (SINCE 2012): (^ indicates undergraduate research project)

- N Avila, K Rice, AL Nielsen 2019 "Effects of marking on *Trissolcus japonicus* behavior" Entomological Society of America Eastern Branch Meeting, Blacksburg, VA
- C Akotsen-Mensah, TC Leskey, C Bergh, B Blaauw, B Short, AL Nielsen **2018** "Management of *Halyomorpha halys* (Hemiptera: Pentatomidae) using integrated pest management crop perimeter restructuring in commercial apple orchards" Entomological Society America Annual Meeting, Vancouver, Canada
- A DiPoala, A Nielsen, C Akotsen-Mensah, B Blaauw **2018** "Impact of floral groundcover management on the abundance and diversity of bees collected in peach and apple orchards." Entomological Society America Eastern Branch Meeting, Annapolis, MD
- M Rollins^, J Kaser, A Nielsen **2018** "Do katydid feeding preferences gravitate towards parasitized or unparasitized brown marmorated stink bug egg masses?" Entomological Society America Eastern Branch Meeting, Annapolis, MD
- B Blaauw, AL Nielsen **2016** "Supporting natural enemies and their services with native wildflowers" NE Plant, Pest, and Soils Conference, Philadelphia, PA
- DF Fraga, C Rodriguez-Saona, GC Hamilton, AL Nielsen and AC Busoli **2015** "Tridecane, a brown marmorated stink bug volatile reacts and arrests *Orius* spp." Entomological Society America Annual Meeting, Minneapolis, MN
- Ogburn E, R Bessin, M Grieshop, C Mathews, J Moore, A Nielsen, C Welty and J Walgenbach **2015** "Natural enemies' impact on invasive brown marmorated stink bug (*Halyomorpha halys*) eggs in organic agroecosystems: a multistate assessment." Entomological Society America Annual Meeting, Minneapolis, MN
- AL Nielsen **2015** "Impact of Invasive Pests on NJ Wine Grapes" Entomological Society America Eastern Branch Meeting, Rehoboth Beach, DE
- DF Fraga, C Rodriguez-Saona, GC Hamilton, AL Nielsen, AC Busoli **2014** "The role of volatiles from brown marmorated stink bug, *Halyomorpha halys*, on host location and egg predation by minute pirate bug, *Orius insidiosus*." Entomological Society America, Portland, OR
- C Rodriguez-Saona, TC Leskey, AL Nielsen "Testing the "trap-bush" concept to manage plum curculio adults in blueberries." **2014** Entomological Society America Annual Meeting, Portland, OR
- Petty B, AL Nielsen, D Polk **2014** "Damage, timing and varietal preference for two new invasive pests in New Jersey wine grapes, the brown marmorated stink bug (*Halyomorpha halys*) and spotted wing drosophila (*Drosophila suzukii*)" Entomological Society America Eastern Branch Meeting, Williamsburg, VA
- Blaauw BR and AL Nielsen **2014** "Whole-Farm Management Strategies for the Brown Marmorated Stink Bug" MOSES Organic Farming Annual Conference, WI
- Grieshop M, E Pochubay, AL Nielsen, J Pote **2012** "Observations on organic insect pest management in perennial fruit high tunnels" Entomological Society America Annual Meeting, Knoxville, TN

#### **EXTENSION:**

## Popular Media or Trade Journals (since 2012)

- o WHYY "Asian wasp's arrival in S Jersey brings hope to scientists, farmers fighting stink bugs" reporting by Catalina Jamarillo August 30, 2018 <a href="https://whyy.org/segments/asian-wasps-arrival-in-s-jersey-brings-hope-to-scientists-farmers-fighting-stink-bugs/">https://whyy.org/segments/asian-wasps-arrival-in-s-jersey-brings-hope-to-scientists-farmers-fighting-stink-bugs/</a>
- Science "Control Freaks" by Kelly Servick, August 10, 2018 http://science.sciencemag.org/content/361/6402/542

- NJTV "A cute but invasive species has state's agriculture community worried" reporting by Andrew Schmertz <a href="https://www.njtvonline.org/news/video/a-cute-but-invasive-species-has-states-agriculture-community-worried/">https://www.njtvonline.org/news/video/a-cute-but-invasive-species-has-states-agriculture-community-worried/</a>
- Scientific American "Scientists Pick Up the Genetic Scent of Stinkbug Invaders" by Daniel Ackerman, July 12, 2018 <a href="https://www.scientificamerican.com/article/scientists-pick-up-the-genetic-scent-of-stinkbug-invaders/">https://www.scientificamerican.com/article/scientists-pick-up-the-genetic-scent-of-stinkbug-invaders/</a>
- o Nature Publications highlighted research "Stink bugs leave footprints on produce" May 14, 2018 https://www.nature.com/articles/d41586-018-05184-z
- Good Fruit Grower "Put a ghost in your orchard to keep away BMSB" by Leslie Mertz, March 14, 2018 <a href="https://www.goodfruit.com/put-a-ghost-in-your-orchard-to-keep-away-bmsb/">https://www.goodfruit.com/put-a-ghost-in-your-orchard-to-keep-away-bmsb/</a>
- Growing Produce "Brown Marmorated Stink Bug Predator Egg Mass Found" by David Eddy, July 14, 2017
- Farmington Hills Patch "Stink bug hordes back, ready for courtship: what to do" by Beth Dalbey, May 9, 2016 <a href="http://patch.com/michigan/farmington-mi/stink-bug-hordes-back-ready-courtship-what-do">http://patch.com/michigan/farmington-mi/stink-bug-hordes-back-ready-courtship-what-do</a>
- Wisconsin Public Radio "Brown Marmorated Stink Bug Challenges Pest Control Strategies: by Scott Gordon, April 28, 2016 <a href="http://www.wpr.org/brown-marmorated-stink-bug-challenges-pest-control-strategies">http://www.wpr.org/brown-marmorated-stink-bug-challenges-pest-control-strategies</a>
- Wisconsin Public Radio "The uncertainties of preparing for the brown marmorated stink bug" by Scott Gordon, April 29, 2016 <a href="http://wiscontext.org/uncertainties-preparing-brown-marmorated-stink-bug">http://wiscontext.org/uncertainties-preparing-brown-marmorated-stink-bug</a>
- o Good Fruit Grower "Stink bug challenges organic growers" by Richard Lehnert, May 5, 2015 <a href="http://www.goodfruit.com/stinkbug-challenges-organic-growers/">http://www.goodfruit.com/stinkbug-challenges-organic-growers/</a>
- o Growing Produce Jan 2015, A Nielsen research featured in "How to manage BMSB and not abandon IPM"
- o Good Fruit Grower Nov 20, 2014 "Great Lakes EXPO Lineup"
- o Fruit Grower News, "Researchers seeking strategies for the brown marmorated stink bug" by Matt Milkovich, Dec 2013
- The Maryland Grapevine "Managing the Alphabet Soup: BMSB, SWD and GBM" Vol 33 (4)
  Winter 2013

#### National Electronic Materials

- o NJAES Spotted Lanternfly https://njaes.rutgers.edu/spotted-lanternfly/
- Integrated Pest Management for Brown Marmorated Stink Bug in Vineyards (lead author) 2016 English and Spanish
  <a href="http://www.stopbmsb.org/stopBMSB/assets/File/BMSB-in-Grapes-English.pdf">http://www.stopbmsb.org/stopBMSB/assets/File/BMSB-in-Grapes-English.pdf</a>
- Integrated Pest Management for Brown Marmorated Stink Bug in Orchard Crops (multiple authors) 2016 English and Spanish <a href="http://www.stopbmsb.org/stopBMSB/assets/File/BMSB-in-Orchard-Crops-English.pdf">http://www.stopbmsb.org/stopBMSB/assets/File/BMSB-in-Orchard-Crops-English.pdf</a>
- o eOrganic Fact Sheet 2015 BMSB Natural Enemies (multiple authors) http://eorganic.info/brown-marmorated-stink-bug-organic/resources
- Rutgers University Fact Sheet 2015 Spotted Wing Drosophila: A Key Pest of Small Fruits in New Jersey, FS1246 (C Michel, AL Nielsen, D Polk, C Rodriguez-Saona) <a href="http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1246">http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1246</a>

- O Northeast IPM Center 2014 Host Plants of the Brown Marmorated Stink Bug in the U.S (multiple authors) <a href="http://www.stopbmsb.org/where-is-bmsb/host-plants/">http://www.stopbmsb.org/where-is-bmsb/host-plants/</a>
- o CABI Invasive Species Compendium 2014 *Halyomorpha halys* <a href="http://www.cabi.org/">http://www.cabi.org/</a>
- eOrganic Webinar Series "Brown Marmorated Stink Bug: Invasion, Biology, Monitoring and Management" 2013 [135 participants]
  <a href="http://www.youtube.com/watch?v=MaM3Nbr3-fo">http://www.youtube.com/watch?v=MaM3Nbr3-fo</a>
- Northeast IPM Center: 2013 BMSB Video Series Part 3 "Monitoring and Mapping" http://www.stopbmsb.org/more-resources/video-series/
- Northeast IPM Center: 2013 BMSB Video Series Part 4 "Monitoring and Mapping" http://www.stopbmsb.org/more-resources/video-series/
- MSU CAT Alert "IPM and mating disruption in the age of brown marmorated stink bug" <a href="http://news.msue.msu.edu/news/article/ipm">http://news.msue.msu.edu/news/article/ipm</a> and BMSB
- MSU CAT Alert "Brown Marmorated Stink Bug," 2011 <a href="http://www.ipmnews.msu.edu/fruit/Fruit/tabid/123/articleType/ArticleView/articleId/3247/Brown-Marmorated-Stink-Bug.aspx">http://www.ipmnews.msu.edu/fruit/Fruit/tabid/123/articleType/ArticleView/articleId/3247/Brown-Marmorated-Stink-Bug.aspx</a>
- Guest post "Brown Marmorated Stink Bug" NC Small Fruit, Specialty crops and Tobacco IPM 2010 <a href="http://ncsmallfruitsipm.blogspot.com">http://ncsmallfruitsipm.blogspot.com</a>
- C Welty, D Shetlar, R Hammond, S Jones, B Bloetscher, A Nielsen, 2008 "Brown Marmorated Stink Bug" Ohio State University Extension, FS3824-08 <a href="http://www.wmigreengardeners.com/Brown Marmorated Stink Bug OSU.pdf">http://www.wmigreengardeners.com/Brown Marmorated Stink Bug OSU.pdf</a>
- Hamilton G, A Nielsen, P Shearer, 2008"Brown Marmorated Stink Bug" Rutgers NJAES
  Fact Sheet FS002 <a href="https://njaes.rutgers.edu/pubs/publication.asp?pid=fs002">https://njaes.rutgers.edu/pubs/publication.asp?pid=fs002</a>
- Gill S, G Bernon, R Hoebeke, G Hamilton, A Nielsen, P Shearer, G Williams, K Bernhard, G Krawczyk "Regional Pest Alert - Brown Marmorated Stink Bug" NE IPM Center <a href="http://www.northeastipm.org/neipm/assets/File/BMSB%20Resources/BMSB-Pest-Alert.pdf">http://www.northeastipm.org/neipm/assets/File/BMSB%20Resources/BMSB-Pest-Alert.pdf</a>

## **Expertise**

- o NIFA USDA SBIR grant review panel (2019)
- o SWD OREI stakeholder advisory panel (2016-2018)
- o NIFA USDA ELI grant review panel (2015)
- New Zealand Invasive Species Risk Assessment Reviewer (2010, 2015, 2018)
- o External reviewer for Minnesota and Oregon

## Talks (number of attendees in "[]", \* invited regional speaker)

#### 2018

- o Rutgers Extension Webinar "Invasive Spotted Lanternfly in New Jersey", Sept 2018 [20]
- \*Xerces Society "Conserving beneficial insects in agricultural fields" Bordentown, NJ April 2018 [25]
- o North Jersey twilight, Lebanon, NJ "Midseason management of tree fruit pests" [20]
- o South Jersey twilight, Mullica Hill "BMSB trapping and mid-season pests" [25]
- o South Jersey twilight, Glassboro, NJ "Plum curculio management in variable weather" [20]
- o North Jersey twilight, Pittstown, NJ "Plum curculio management in tree fruit" [40]
- o Spotted Lanternfly Workshop, Pittstown, NJ "Spotted Lanternfly" [100]
- North Jersey Fruit Mtg, March "Optimizing Fruit Management Programs with Mating Disruption + Friends and Foes" [50]
- South Jersey Fruit Mtg, February "Optimizing Fruit Management Programs with Mating Disruption + Friends and Foes" [65]

- \* Great Lakes Fruit and Vegetable EXPO, Grand Rapids, MI Dec 2017 "Strategies for managing BMSB in stone fruit" Grand Rapids, MI [300]
- \* Great Lakes Fruit and Vegetable EXPO, Grand Rapids, MI Dec 2017 "Update on organic pest management tactics for the BMSB", Grand Rapids, MI [30]
- \*Brown Marmorated Stink Bug Clinic, Walker, MI, June "Origins and current pests status of BMSB" [90]
- \*Brown Marmorated Stink Bug Clinic, Walker, MI, June "Feeding injury in apple and peach"
  [90]
- \*Brown Marmorated Stink Bug Clinic, Walker, MI, June "Taking advantage of movement to time management decisions in orchards" [90]
- o \*Brown Marmorated Stink Bug Clinic, Walker, MI, June "Control strategies in stone fruit" [90]
- o South Jersey fruit twilight, May "Updates on BMSB Research in Peaches and Apples" [25]
- South Jersey fruit twilight, March "Early season pest management: Focus on CM and OFM"
  [25]
- o Grape Expectations, March "Managing Key Pests in the Vineyard: Old and New" [20]
- South Jersey Fruit Mtg, February, "Protecting Pollinators and Natural Enemies in the Orchard"
  [65]
- o NJ Agricultural Convention, Atlantic City, NJ, February "Insect Pests in the Vineyard" [30]
- o Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA, January "Protecting Pollinators and Natural Enemies in the Orchard" [200]

- o OCPVA quarterly meeting, November "Progress on RBaV survey" [12]
- o South Jersey grape twilight, May "Grape berry moth insecticide timing" [30]
- o North Jersey fruit twilight, May "Biology and management of European Apple Sawfly" [25]
- o South Jersey fruit twilight 2, May "Insect management with low fruit load"[35]
- o South Jersey fruit twilight 1, April "Early season management of plum curculio and scale" [15]
- o North Jersey Fruit Growers Meeting, March "Insect pest management update: Borer control and Italian management of BMSB" [100]
- o Grape Expectations, February "2015 Survey: Grape berry moth and red blotch virus" [40]
- South Jersey Fruit Growers Meeting, February "Insect pest management update: Borer control and Italian management of BMSB" [45]
- o NJ Agricultural Convention, Atlantic City, NJ, February "Insect Pests in the Vineyard" [25]

#### 2015

- North Jersey grape twilight, "Grape berry moth seasonality and management" [20]
- o North Jersey fruit twilight, May "Management of plum curculio" [40]
- o South Jersey fruit twilight 2, May "Early season management of plum curculio" [25]
- o South Jersey fruit twilight 1, May "Adopting low spray tactics in the orchard" [35]
- o South Jersey Fruit Meeting, Feb "Old and new pests in the orchard" [35]
- NJ Agricultural Convention, Atlantic City, NJ, February "Spotted Wing Drosophila Management in Berries" [25]
- NJ Agricultural Convention, Atlantic City, NJ, February "Insect Pests in the Vineyard"
  [45]
- o Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA, January "Bringing IPM Back to Peaches in the Face of BMSB" [100]
- o \*NOFA-NJ Winter Conference, Lindcroft, NJ, January "Understanding and Management of Brown Marmorated Stink Bug on Organic Farms" [5]

## 2014

 Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA - Jan 2014 "Effective IPM Programs for BMSB in Peach: Better and Less Spraying" [150]

- Grape Expectations Feb 2014 "Impact of New Pests Throughout the Growing Season in NJ Wine Grapes" Monroe, NJ [94]
- o Organic Growers Meeting Feb 2014 "Updates on organic management of BMSB" [17]
- South Jersey Fruit Meeting Feb 2014 "Managing BMSB and OFM with Less Insecticides (and Less Money)" [40]
- North Jersey Fruit Meeting March 2014 "Management of BMSB and New Insecticides for Key Fruit Pests" [55]
- o South Jersey Fruit Twilight April 2014 [31]
- North Jersey Fruit Twilight April 2014 [55]
- \*Great Lakes Fruit and Vegetable EXPO, Grand Rapids, MI Dec 2014 "How to manage Brown Marmorated Stink Bug and not abandon IPM" [200]
- \*Great Lakes Fruit and Vegetable EXPO, Grand Rapids, MI Dec 2014 "Management of Brown Marmorated Stink Bug on Organic Farms" [65]

- OCPVA Aug 2013 Impacts of high heat, cool weather, lots of rain on insects [25]
- \*MDGGA Harford Winery June 2013 Managing and Identifying the Insect Soup [60]
- o North Jersey Fruit Twilight Meeting, May 2013 "Current Pests" [15]
- North Jersey Commercial Fruit Growers Mtg, March 2013 "BMSB Phenology and Management in Fruit (What to spray and when)" [40]
- o OCPVA April 2013 [20]
- o South Jersey Twilight Meeting, April 2013 "Early season pests" [25]
- o NJ Vegetable Mtg, Feb 2013 -"A new invasive pest, SWD, attacking small fruit" [45]
- o Mid-Atlantic Fruit and Vegetable Convention, Jan 2013 —"Using a Phenological Model and Border Spray for BMSB" [200]
- o Grape Expectations, Feb 2013 -"Two invasive late-season pests in wine grapes" [95]

#### 2012

- NJ Fruit Twilight Mtg, May 2012 "BMSB biology and management in diverse landscapes" [35]
- NRCS NJ twilight, Oct 2012 "Steps toward a sustainable management for BMSB and key orchard pests" [18]
- NJ Fruit Twilight Mtg 2012 "Managing BMSB in diverse landscapes"

#### 2011

- o Great Lakes Fruit Expo 2011 "BMSB in Michigan"
- o Great Lakes Fruit Expo 2011- "Update on Apple flea weevil"
- o Al-Mar Field Day 2011 "Apple flea weevil in Michigan"
- MI Western Fruit Grower Weekly Breakfast 2011 "Update on BMSB Working Group"
- o Spring Tree Fruit Mtg 2011 "Two new invasive pests of tree fruit BMSB & SWD"
- o MSU Tree Fruit IPM School 2011 "Apple Flea Weevil"
- MSU Tree Fruit IPM School 2011 "Strip Cultivation as an Alternative to Herbicides"
- MSU Tree Fruit IPM School 2011 "Borer Biology and Management in Michigan"

#### **Publications**

#### 2019

 NJAES Plant and Pest Advisory "Plum Curculio Phenology Model" by Anne Nielsen and Clement Akotsen-Mensah, April 22, 2019

#### 2018

- o NJAES Plant and Pest Advisory "How to scout for SLF eggs" by Anne Nielsen, August 18, 2018
- o NJAES Plant and Pest Advisory "Spotted Lanternfly in NJ" by Anne Nielsen, July 18, 2018

- NJAES Plant and Pest Advisory "Grape Root Borer Do I need to Treat?" by Dean Polk and Anne Nielsen, July 26, 2017
- o NJAES Plant and Pear Advisory "BMSB is under attack!", July 12, 2017
- NJAES Plant and Pest Advisory "Spotted Lanternfly", July 10, 2017
- o NJ Tree Fruit Production Guide Entomology Subject Editor
- o NJ Wine Grape Production Guide Entomology Subject Editor

#### 2016

- o NJAES Fruit Plant and Pest Advisory "Insect Management with Low Fruit Load"
- o NJ Tree Fruit Production Guide Entomology Subject Editor

#### 2015

- o NJ Tree Fruit Production Guide Entomology Subject Editor
- o NJ Wine Grape Production Guide Entomology Subject Editor

## 2014

- o NJ Tree Fruit Production Guide Entomology Subject Editor
- o NJAES Plant and Pest Advisory "Volunteers Needed for BMSB Count", Sept 9, 2014
- o NJAES Plant and Pest Advisory "Proposed Importation of Apples from China", July 29, 2014
- o NJAES Plant and Pest Advisory "Polar Vortex vs BMSB" Feb 24 2014 (282 pages views by 3/8/14)

#### 2013

- o NJ Tree Fruit Production Guide Entomology Subject Editor
- o NJAES Fruit Plant and Pest Advisory "Fruit Flies at Grape Harvest" Sept 17, 2013
- o NJAES Fruit Plant and Pest Advisory "Insecticide Trial Results for BMSB" July 26, 2013
- o NJAES Fruit Plant and Pest Advisory "BMSB Populations in Mid-July" July 18, 2013
- o NJAES Fruit Plant and Pest Advisory "BMSB Insecticide Options" July 1, 2013
- o NJAES Fruit Plant and Pest Advisory "BMSB in Peaches" May 30, 2013
- o NJAES Fruit Plant and Pest Advisory "BMSB Movement in Orchards" May 17, 2013
- o NJAES Fruit Plant and Pest Advisory "Periodical Cicada Should you be worried?" May 10
- o NJAES Fruit Plant and Pest Advisory "Plum Curculio Activity" April 23, 2013
- o NJAES Fruit Plant and Pest Advisory "Dinotefuran Supplemental Label" April 23, 2013
- o NJAES Fruit Plant and Pest Advisory "Guthion Use Extension in Apple" Jan 23, 2013

#### 2012

- o NJAES Fruit Plant and Pest Advisory "Where are the BMSB populations" 24 July 2012
- o NJAES Fruit Plant and Pest Advisory "SWD found in small fruit" 24 July 2012
- o NJAES Fruit Plant and Pest Advisory "BMSB activity in orchards" 14 May 2012

## **SERVICE ACTIVITIES (selected):**

#### Academia

- Rutgers University School of Environmental and Biological Science Strategic Planning Committee (2019)
- Rutgers Entomology Qualifying Exam Committee
- Rutgers Entomology Graduate student selection committee, Graduate student progress committee
- Rutgers Entomology Strategic Planning Committee (2015- current)

#### Subject Editor

- Journal of Economic Entomology (2019 present)
- Journal of Insect Science (2014-2015)

#### Entomological Society of America

- Journal of Economic Entomology, Editorial Board Member (2019 2021)
- ESA EB President-Elect (2019)
- ESA EB Program Chair/Co-Chair (2014, 2018-2019)
- ESA EB Horticultural Awards Committee (2016 present)
- ESA Diversity and Inclusion Committee (2015 present)
- ESA EB Program Chair/NEPPSC Program Co-Chair (2015),
- ESA Student Debates, faculty advisor (2012-2016)

## Symposia Participation

- Co-Organizer/Moderator, ICE (2016) The Brown Marmorated Stink Bug An Invasive Insect of Global Importance
- Organizer/Moderator, ESA EB (2014) Are We Winning the Battle against Invasive Pests? The Brown Marmorated Stink Bug and Spotted Wing Drosophila
- Organizer/Moderator, ESA EB (2013) "Growing Towards a Sustainable Future: Current Research and Insights on Sustainable Pest Management"
- Organizer/Moderator, ESA Section Symposium (2011) "Impact of Brown Marmorated Stink Bug in the Agroecosystem", Reno, NV

## **Professional Organizations**

- Entomology Society of America (ESA)
- Ecological Society of America
- Florida Entomologists
- International Pest Risk Research Group

#### Professional

- Cumberland Shenandoah Fruit Workers Conference Board of Directors (2015 present)
- IR-4 Compton-Markel Outstanding Graduate Student Award review panel member (2017 present)

## Peer-Reviewer

- Royal Society Open Science (2018)
- Zootaxa (2018)
- Biological Invasions (2017 present)
- J of Pest Science (2016 present)
- PeerJ (2015 present)
- Journal of Economic Entomology (2013-present)
- Environmental Entomology (2013 present)
- J Canadian Entomol (2014)
- Annals of the Entomological Society of America (2009 present)
- Journal of Insect Science (2012 present)
- Biological Control (2010- present)
- PLoSone (2015 present)
- Insect Science (2015 present)

#### Community

- Board of Education, Woodstown-Pilesgrove Township (2018-2021)
  - o BOE liaison to Pilesgrove Township
- Den Leader Cub Scout Troop #7238 Woodstown, NJ (2017-2018)
- 1st grade Insect development (Mary Shoemaker School, Woodstown, NJ) (2017 present)

- Kindergarten "Insect communication" (Early Childhood Learning Center, Woodstown, NJ) (2016- 2017)
- Pre-Kindergarten "Bugs Are Cool" (Early Childhood Learning Center, Woodstown, NJ) (2016)