

CURRICULUM VITAE

University of Idaho

NAME: Justin R. Clements

DATE: 6/17/2020

RANK OR TITLE: Assistant Professor and Extension Specialist -Entomology

DEPARTMENT: Entomology, Plant Pathology and Nematology

OFFICE LOCATION: Parma Research and Extension Center
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DATE OF FIRST EMPLOYMENT AT UI: January 5th, 2020

EDUCATION:

Degrees:

Ph.D., 2016 University of Wisconsin-Madison, Madison, WI -Molecular and Environmental Toxicology
M.S., 2013 University of Wisconsin-Madison, Madison, WI -Molecular and Environmental Toxicology
B.S., 2010 New Mexico Institute of Mining and Technology, Socorro, NM -Biology

Certificates and Licenses:

ISDA Professional Applicator License: Categories AI CH DR LS SW

EXPERIENCE:

Teaching, Extension and Research Appointments:

University of Idaho: (January 2020- Present)

Position: Assistant Professor and Extension Specialist -Entomology
Department of Entomology, Plant Pathology, and Nematology

University of Wisconsin-Madison: (January 2017-December 2019)

Position: USDA AFRI ELI Postdoctoral Fellow
Principle Lab: Christopher A. Bradfield (Ph.D.), Department of Oncology
Molecular and Environmental Toxicology Center, Department of Entomology

University of Wisconsin-Madison: (September 2016-December 2016)

Position: Postdoctoral Research Associate
Principle Lab: Russell Groves (Ph.D.), Department of Entomology,
Department of Entomology

University of Wisconsin-Madison: (March 2014- August 2016)

Position: Research Assistant, Distinguished Graduate Fellow
Principle Lab: Russell Groves (Ph.D.), Department of Entomology,
Molecular and Environmental Toxicology Center, Doctoral Degree obtained

University of Wisconsin-Madison: (May 2013- March 2014)

Position: Research Assistant and Teaching Assistant
Principle Lab: Que Lan (Ph.D.), Department of Entomology (Deceased March 2014),
Molecular and Environmental Toxicology Center

University of Wisconsin-Madison: (September 2011- May 2013)

Position: Research Assistant and Teaching Assistant
Principle Lab: William Hickey (Ph.D.), Department of Soil Sciences,
Molecular and Environmental Toxicology Center, Master's Degree obtained

Non-Academic Employment:Los Alamos National Laboratory: (2005-2011)

Position: Student Intern

Principle Lab: B-9 (Bioscience Division)

Employed: January 2005-August 2006, Summers of 2007-2011

Los Alamos National Laboratory: (2011)

Position: Student Intern

Principle Lab: XTD-5 (X Theoretical Design Division)

Employed: Part time, Summer 2011

TEACHING ACCOMPLISHMENTS:**Areas of Specialization:**

Molecular and Environmental Toxicology, Pest Management and Evolutionary Biology

Courses Taught:UW-Madison Assistant Course Coordinator and Lecturer

Ecotoxicology 632,633,634 (Fall of 2015)

With the help of Dr. Karasov and Dr. Bradfield I redesigned Ecotoxicology 632 over the spring and summer of 2015 with the needs of current graduate students in mind. In the fall of 2015, I led all modules of the course and gave multiple lectures regarding the evolution of pesticide resistance.

Wisconsin Alumni Research Foundation (WARF) Student Ambassador (2014-2015)

Student ambassadors improve WARF's presence on the UW campus and teach students and faculty about WARF's role at UW-Madison.

UW-Madison Teaching Assistant

Toxicology 625 (Fall of 2012) and Ecotoxicology 632,633,634 (Fall of 2013)

Duties included leading discussion sections, proctoring exams, writing exams, grading homework assignments and exams, and organizing outside speakers.

Instructional Courses Taken:Attended Teaching Academy "Learning Environment and Pedagogics" August 22-23, 2018Attended Delta Program "Teaching Inclusively Workshop" February 20, 2018Attended University of Wisconsin Teaching Academy's winter retreat "Fostering the Wisconsin Experience: Empathy and Humility" January 26, 2018Took and taught the Molecular and Environmental Toxicology Program teaching assistant training in 2013 (Took), 2014 (Taught), 2015 (Helped instruct), and 2017 (Participated)**Students Advised:**

2013: Gang Zhang (Undergraduate Student, Que Lan Lab)

2013: Ryan Swanson (Undergraduate Student, Que Lan Lab)

2013-2014: Ryan Helf (Undergraduate Student, Que Lan Lab)

2015: Nathan Clements (Undergraduate Student, Russell Groves Lab)

2016: Dries Amezian (Master's Exchange Student, Russell Groves Lab)

2016-2017: Tabatha Davis (Undergraduate Student, Russell Groves Lab)

Summer 2017: Gracie Wilson (High School Student, Russell Groves Lab)

2017-2018: Brett Dvorak (Undergraduate Student, Russell Groves Lab)

2017-2018: Mahad Siad (Undergraduate Student, Russell Groves Lab)

2017-2018: JoAnn Cava (Undergraduate Student, Russell Groves Lab)

2016-2019: Marjorie Garcia (Scientist, Russell Groves Lab)

2017-2019: Benjamin Sanchez-Sedillo (Graduate Student, Russell Groves Lab)

2018-2019: Shannon Piper (Graduate Student, Russell Groves Lab)

2018-2019: Faith Kulzer (Undergraduate Student, Russell Groves Lab)
 2018-2019: Marah Tews (Undergraduate Student, Russell Groves Lab)
 2018-2019: Alicia Dixon (Undergraduate Student, Russell Groves Lab)
 2018-2019: Faith Kulzer (Undergraduate Student, Russell Groves Lab)
 2019: Megan Lipke (Graduate Student, Russell Groves Lab)

Courses Developed:

UW-Madison Assistant Course Coordinator and Lecturer

Ecotoxicology 632,633,634 (Fall of 2015)

With the help of Dr. Karasov and Dr. Bradfield I redesigned Ecotoxicology 632 over the spring and summer of 2015 with the needs of current graduate students in mind. In the fall of 2015, I led all modules of the course and gave multiple lectures regarding the evolution of pesticide resistance.

Invited Lectures:

UW-Madison Guest Lecturer

Ecotoxicology 634 (2017 and 2019)- Lectures Titled “Chemically Mediated Evolution” and “Evolution of Pesticide Resistance”.

UW-Stevens Point Guest Lecturer

Integrated pest management UWSP crop scout school (2018)- Lecture Titled “Biologically-based, insect pest management in vegetables”.

SCHOLARSHIP ACCOMPLISHMENTS:

Publications:

Refereed:

- **Clements J**, Garcia M, Bradford B, Crubaugh L, Piper S, Duerr E, Zwolinska A, Hogenhout S, Groves RL. Genetic variation among geographically disparate isolates of Aster Yellows phytoplasma in the contiguous United States. *Economic Entomology*. toz356
- **Clements J**, Groves RL, Cava J, Barry CC, Chapman S, Olson JM. Conjugated linoleic acid as a novel insecticide targeting the agricultural pest *Leptinotarsa decemlineata*. *Plos One*. 14(11), 2019, e0220830
- **Clements J**, Olson JM, Sanchez-Sedillo B, Bradford B, Groves RL. Changes in emergence phenology, fatty acid composition, and xenobiotic-metabolizing enzyme expression is associated with increased insecticide resistance in the Colorado potato beetle. *Archives of Insect Biochemistry and Physiology*. 2019, e21630
- **Clements J**, Sanchez-Sedillo B, Bradfield C, Groves RL. Transcriptomic analysis reveals similarities in genetic activation of detoxification mechanisms resulting from imidacloprid and chlorothalonil exposure. *Plos One*. 13(10), 2018, e0205881
- **Clements J**, Schoville S, Clements A, Amezian D, Davis T, Sanchez-Sedillo B, Bradfield C, Huseth AS, Groves RL. Agricultural fungicides inadvertently influence the fitness of Colorado potato beetles, *Leptinotarsa decemlineata*, and their susceptibility to insecticides. *Sci Rep*. 8 (13282), 2018, DOI:10.1038/s41598-018-31663-4
- **Clements J**, Schoville S, Peterson N, Huseth AS, Lan Q, Groves RL. RNA interference of three up-regulated transcripts associated with insecticide resistance in an imidacloprid resistant population of *Leptinotarsa decemlineata*. *Pest Biochem Physiol*. 135, 2017, pp. 35-40
- **Clements J**, Schoville S, Clements N, Chapman S, Groves RL. Temporal patterns of imidacloprid resistance throughout a growing season in *Leptinotarsa decemlineata* populations. *Pest Manag Sci*. 73(3), 2016, pp. 641-650
- **Clements J**, Schoville S, Peterson N, Lan Q, Groves R. Characterizing Molecular Mechanisms of Imidacloprid Resistance in Select Populations of *Leptinotarsa decemlineata* in the Central Sands Region of Wisconsin. *Plos One*. 11(1), 2016, e014788
- Schoville S, Chen Y, Andersson M, ...**Clements J**, ...Richards S. A model species for agricultural pest genomics: the genome of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). *Sci Rep*. 8 (1931), 2018, doi:10.1038/s41598-018-20154-1
- Groves R, Chapman S, Crubaugh L, Duerr E, Bradford B, **Clements J**. Registered and experimental foliar insecticides for control of Colorado potato beetle and potato leafhopper in potato, 2016. *Arthropod Manag*

Test. 42 (1), 2017, tsx057

- Velappan N, **Clements J**, Kiss C, Valero-Aracama R, Pavlik P, Bradbury AR. Fluorescence linked immunosorbant assays using microtiter plates. *J Immunol Methods*. 336(2), 2008, pp 135-141.

Other:

Select Professional Handouts (Non-Refereed):

- Groves RL, Chapman SA, Bradford B, **Clements J**, Garcia M, Crubaugh L, Duerr E. 2018 Hancock Agricultural Experiment Station Day; Potato and Vegetable Insect Research. 2018
- Groves RL, Chapman SA, Bradford B, Crubaugh L, Duerr E, **Clements J**, Sedillo B, Garcia M, Rittmeyer A, Emrick C, Chadwick C, Phillips N. 2017 Hancock Agricultural Experiment Station Day; Potato and Vegetable Insect Research. 2017
- Groves RL, Chapman SA, Crubaugh L, Duerr E, Bradford B, Prince K, **Clements J**, Davis T, Rebman C, Rittmeyer A, Sorensen N. 2016 Hancock Agricultural Experiment Station Day; Potato and Vegetable Insect Research. 2016
- Groves RL, Chapman SA, Crubaugh L, Duerr E, Bradford B, Prince K, Bloomingdale C, **Clements J**, Stiff C, Stiff M, Starkenburg R, Stewart C, Meyer J. 2015 Hancock Agricultural Experiment Station Day; Potato and Vegetable Insect Research. 2015
- Groves RL, Chapman SA, Crubaugh L, Duerr E, Bradford B, Zhang C, Prince K, Bloomingdale C, **Clements J**, Loberger J, Chomitz I, Stiff C, Stiff M, Starkenburg R, Stewart C, Meyer J. 2014 Hancock Agricultural Experiment Station Field Day; Potato and Vegetable Insect Research. 2014

Journal Articles:

- Spudman - NPC awards \$10,000 scholarship August 17,2016 <https://spudman.com/news/npc-awards-10000-scholarship/>
- Badger Commentator “Badger Beat” Pesticide Interactions Influence Resistance Development Russell Groves and Justin Clements Volume 70 No.3 March 2018
- Badger Commentator “People” Madison Student Lands Scholarship for Potato Research Volume 68 No.10 October 2016

Conferences/ Abstracts:

- 2019 North Central Branch Annual Meeting Entomological Society of America, conference speaker, “Leptinotarsa decemlineata temporal patterns of delayed emergence results in increased insecticide resistance to agriculturally relevant insecticides.”
- 2019 UW Extension & Wisconsin Potato and Vegetable Growers Association, conference speaker, “Fungicides as inadvertent drivers of insecticide resistance.”
- 2019 Wisconsin Agribusiness Classic, conference speaker, “Fungicides as inadvertent drivers of insecticide resistance.”
- 2018 Entomology Society of America Joint Annual Meeting, symposium speaker, “Fungicides as inadvertent drivers of insecticide resistance.”
- 2018 NIFA Pre-doctoral and Postdoctoral Fellowship Program Director’s Meeting, “Fungicides as inadvertent toxicological drivers of insecticide resistance in *Leptinotarsa decemlineata*.”
- 2018 Wisconsin Seed Potato Annual Meeting, meeting speaker, “Fungicides as inadvertent drivers of insecticide resistance in Colorado potato beetles.”
- 2017 Entomology Society of America Annual Meeting, conference speaker, “Fungicides as inadvertent drivers of insecticide resistance in Colorado potato beetles.”
- 2017 BBSRC UK-US International Partnering Award Meeting: Vector-borne diseases in the UK and the US: Common Threats and Shared Solutions, meeting speaker, “Phylogenetic variations between geographically discrete populations of *Aster phytoplasma* in the contiguous United States.”
- 2017 National Potato Council Summer Meeting, invited speaker, “A Brief Research Review and the Value of the National Potato Council Academic Scholarship.”
- 2016 National Turfgrass Entomology Workshop and Pollinator Summit, active participant.
- 2016 North Central Branch Annual Meeting Entomological Society of America, poster presenter, “Uncovering the genetic mechanisms of imidacloprid resistance in *Leptinotarsa decemlineata* in the Central Sands region of Wisconsin.”
- 2016 Society of Toxicology Annual Meeting, poster presenter, “Uncovering the genetic mechanisms of imidacloprid resistance in *Leptinotarsa decemlineata* in the Central Sands region of Wisconsin.”

- 2016 UW Extension & Wisconsin Potato and Vegetable Growers Association, conference speaker “Knocking out resistance mechanisms in Colorado potato beetles.”
- 2015 Africa and the Environment Symposium, active participant.
- 2014 UW Extension & Wisconsin Potato and Vegetable Growers Association, conference guest speaker in lieu of Dr. Que Lan, “Molecular mechanisms of imidacloprid resistance in Colorado potato beetles in Wisconsin.”
- 2014 Entomology Society of America Annual Meeting, student speaker, “Molecular mechanisms of imidacloprid resistance in Colorado potato beetles in Wisconsin.”

PROFESSIONAL DEVELOPMENT:**Outreach:**

- 2015: WARF Discovery Challenge Organizer and Volunteer
- 2014-2015: Personal and Professional Development/ Data Club Student Representative for the Molecular and Environmental Toxicology Center (METC)
- 2013-2014: Outreach Representative METC Student Liaison Committee
- 2012-2013: Student Representative for METC Student Liaison Committee
- 2004-2010: Assistant Tae Kwon Do Instructor for Los Alamos YMCA

Awards:

- 2016: National Potato Council Academic Scholarship
- 2015-2016: Lillian & Alex Feir Wisconsin Distinguished Graduate Fellowship Award
- 2010: Graduated with honors from New Mexico Institute of Mining and Technology
- 2010: New Mexico Institute of Mining and Technology Scholar
- 2007-2010: New Mexico Institute of Mining and Technology Honor Roll
- 2006-2010: New Mexico Institute of Mining and Technology Academic Scholarship
- 2006-2010: New Mexico Legislative Lottery Scholarship

Professional Associations:

- 2016- Present: Society of Toxicology
- 2014- Present: Entomology Society of America