Curriculum Vitae  
**John Grunseich**

Department of Entomology

Texas A&M University

College Station, TX 77843

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**Education**

B.S. in Soil and Crop Science and Entomology, Texas A&M University, College Station, Tx (December 2018)

• Cumulative GPA: 3.314

M.S. in Entomology, Texas A&M University, College Station, Tx (May 2021)

• Cumulative GPA: 3.339

**Employment and Research Experience**

**Graduate Student:**

**Research Assistantship(PhD)**, Bernal & Helms Laboratories, Department of Entomology, Texas A&M University, College Station, Texas. (July 2021 – Present)  
• P.I.: Dr. Julio Bernal 979-862-8378, [Julio.Bernal@ag.tamu.edu](mailto:Julio.Bernal@ag.tamu.edu)

Dr. Anjel Helms 979-458-5749; [amhelms@tamu.edu](mailto:amhelms@tamu.edu)

**Research Assistantship(Masters)**, Helms Laboratory, Department of Entomology, Texas A&M University, College Station, Texas. (January 2019 – May 2021)  
• P.I.: Dr. Anjel Helms 979-458-5749; [amhelms@tamu.edu](mailto:amhelms@tamu.edu)

**Undergraduate Research: Undergraduate Research Assistant,** Sword Laboratory, Department of Entomology, Texas A&M University, College Station, Texas. (May 2018 – December 2018)  
Duties included: maintenance of *Acalymma vittatum* colony, maintaining entomopathogenic nematode colonies, conducting pilot experiments, conducting behavioral assays,   
• P.I.: Dr. Anjel Helms; amhelms@tamu.edu

**Undergraduate Research: Undergraduate Research Assistant,** Sword Laboratory, Department of Entomology, Texas A&M University, College Station, Texas. (February 2018 – May 2018)  
Duties included: culturing fungal conidia, inoculating study-plants with fungal endophytes, tissue screening for colonization of fungal endophytes, maintenance of sugarcane aphid colonies,   
• P.I.: Dr. Greg Sword; gasword@tamu.edu

**Texas IPM Internship,** Texas AgriLife Extension and Texas Pest Management Association, Rosenberg, Texas, 77471 (May 2017 – August 2017)Intern, Duties included: harvest grain sorghum test plots, analyze yield, moisture, and bushel weights of harvested seed, scout test plots and monitor sugarcane aphid populations in grain sorghum fields, assess sugarcane aphid damage on grain sorghum plots.

**Research Interests**

Entomology, chemical ecology, biological control, plant-insect interactions, belowground chemical ecology, plant oxylipins

**Publications**

Published Peer-Reviewed Manuscripts:

Huang, P.-C.; **Grunseich, J.M**.; Berg-Falloure, K.M.; Tolley, J.P.; Koiwa, H.; Bernal, J.S.; Kolomiets, M.V. Maize OPR2 and LOX10 Mediate Defense against Fall Armyworm and Western Corn Rootworm by Tissue-Specific Regulation of Jasmonic Acid and Ketol Metabolism. Genes 2023, 14, 1732. https://doi.org/10.3390/genes14091732

Aguirre, N.M., **Grunseich, J.M.,** Lima, A.F., Davis, S.D. & Helms, A.M. (2023) Plant communication across different environmental contexts suggests a role for stomata in volatile perception. Plant, Cell & Environment, 46, 2017–2030. https://doi.org/10.1111/pce.14601

Lima, A.F., Aguirre, N.M., Carvalho, G.A., **Grunseich, J.M.**, Helms AM., Penaflor. Effects of neonicotinoid seed treatment on maize anti-herbivore defenses vary across plant genotypes. J Pest Sci (2023). https://doi.org/10.1007/s10340-023-01641-5

Bernal, J.S., Helms, A.M., Fontes-Puebla, A.A., DeWitt, T.J., Kolomiets, M.V., **Grunseich, J.M.,** . Root volatile profiles and herbivore preference are mediated by maize domestication, geographic spread, and modern breeding. Planta 257, 24 (2023). https://doi.org/10.1007/s00425-022-04057-0

Wright, C., Helms, AM., Bernal JS., **Grunseich, JM.,** Medina, R.F., *Aphelinus nigritus* Howard (Hymenoptera: Aphelinidae) Preference for Sorghum Aphid, *Melanaphis sorghi* (Theobald, 1904) (Hemiptera: Aphididae), Honeydew Is Stronger in Johnson Grass, *Sorghum halepense*, Than in Grain Sorghum, *Sorghum bicolor,* Insects 14(1), 10, https://doi.org/10.3390/insects14010010

Thompson, M.N., **Grunseich, J.M.**, Marmolejo, L.O., Aguirre, N.M., Bradicich, P.A., Behmer, S.T., Suh, C.P., Helms, A.M. Undercover operation: Belowground insect herbivory modifies systemic plant defense and repels aboveground foraging insect herbivores. Frontiers in Ecology and Evolution, (2022) https://doi.org/10.3389/fevo.2022.1033730

Rivera-Vega, L.J.; **Grunseich, J.M.**; Aguirre, N.M.; Valencia, C.U.; Sword, G.A.; Helms, A.M. A Beneficial Plant-Associated Fungus Shifts the Balance toward Plant Growth over Resistance, Increasing Cucumber Tolerance to Root Herbivory. Plants. 11, 282. (2022) https://doi.org/10.3390/plants11030282

**Grunseich, J.M.,** Aguirre N.M., Thompson M.N., Ali J.G., Helms AM. Chemical Cues from Entomopathogenic Nematodes Vary Across Three Species with Different Foraging Strategies, Triggering Different Behavioral Responses in Prey and Competitors. Journal of Chemical Ecology. 47, 822-833 (2021). https://doi.org/10.1007/s10886-021-01304-8

Walsh EM, Khan O, **Grunseich J**, Helms AM, Ing NH and Rangel J (2021) Pesticide Exposure During Development Does Not Affect the Larval Pheromones, Feeding Rates, or Morphology of Adult Honey Bee (Apis mellifera) Queens. Front. Ecol. Evol. 9:681506. doi: 10.3389/fevo.2021.681506

**Grunseich, J.M.,** Thompson, M.N., Hay, A.A., Gorman, Z., Kolomiets, M.V., Eubanks, M.D., Helms A.M. Risky roots and careful herbivores: Sustained herbivory by a root-feeding herbivore attenuates indirect plant defences. Functional Ecology. 34,1779–1789 (2020). https://doi. org/10.1111/1365-2435.13627

**Grunseich, J.M.,** Thompson, M.N., Aguirre, N.M., Helms A.M.The Role of Plant-Associated Microbes in Mediating Host-Plant Selection by Insect Herbivores. Plants. 9, 6 (2020). https://doi.org/10.3390/plants9010006

**Awards**

• **College of Agriculture Excellence Fellowship (PhD)**(**September 2021)**

• **Second Place: Graduate Student Paper Competition (November 2021),** Entomological Society of America, Annual Meeting

• **First Place: Graduate Student Paper Competition (June 2021),** Entomological Society of America, Southwestern Branch Meeting

• **Second Place: Linnaean Games Competition (June 2021),** Entomological Society of America, Southwestern Branch Meeting

• **Texas Plant Protection Association Graduate Student Award (MS) (December 2020),** 32nd Annual Texas Plant Protection Conference

• **Plant-Insect Ecosystems Master’s Student Achievement in Entomology Award (November 2020),** Entomology Society of America, Annual Meeting

• **Second Place: Graduate Student Poster Competition (November 2019),** Entomological Society of America, Annual Meeting

• **Second Place: Graduate Student Poster Competition (April 2019),** Entomological Society of America, Southwestern Branch Meeting

• **Second Place: Linnaean Games Competition (April 2019),** Entomological Society of America, Southwestern Branch Meeting

**Presentations**

2022 **Grunseich, J.M.,** Thompson, M. N., Hay, A. A., Gorman, Z., Kolomiets, M. V., Eubanks, M. D., & Helms, A. M., A root-feeding herbivore uses chemical cues to avoid competition and elevated predation risk. International Congress of Entomology, Helsinki, Finland

2022 **Grunseich, J.M.**, Helms, A.M., Bernal, J.S., Kolomiets, M.V., Linking maize enzymes to herbivore defense. Poster Presentation. Southwestern Branch Entomological Society of America Meeting. Fort Worth, USA

2021 **Grunseich, J.M.,** Aguirre N.M., Thompson M.N., Ali J.G., Helms AM.;Olfactory cues from entomopathogenic nematodes vary across species with different foraging strategies, triggering different behavioral responses in prey and competitors. Annual Meeting – Entomological Society of America. Denver, USA

2021 **Grunseich, J.M.,** Aguirre N.M., Thompson M.N., Ali J.G., Helms AM.;Olfactory cues from entomopathogenic nematodes vary across species with different foraging strategies, triggering different behavioral responses in prey and competitors. Southwestern Branch Meeting- Entomological Society of America, Virtual

2020 **Grunseich, J.M.,** Helms, A.M. Timing is everything: root-feeding herbivore overcomes biological control by reducing recruitment of entomopathogenic nematodes with sustained herbivory. Texas Plant Protection Association Annual meeting. Virtual.

2020 **Grunseich, J.M.,** Thompson, M. N., Hay, A. A., Gorman, Z., Kolomiets, M. V., Eubanks, M. D., & Helms, A. M. A root-feeding herbivore suppresses indirect plant defenses to avoid elevated predation risk. 23rd Annual Graduate Student Forum. Virtual

2020 **Grunseich, J.M.,** Thompson, M. N., Hay, A. A., Gorman, Z., Kolomiets, M. V., Eubanks, M. D., & Helms, A. M. A root-feeding herbivore suppresses indirect plant defenses to avoid elevated predation risk. Entomological Society of America Meeting. Virtual.

2020 **Grunseich, J.M.,** Helms, A.M.Temporal changes in olfactory cues from plant roots influence foraging by entomopathogenic nematodes. Oral Presentation. North-Central/Southwestern Branch Entomological Society of America Joint Meeting. Virtual.

2019 **Grunseich, J.M.,** Helms, A.M. A specialist herbivore uses chemical cues from host plant roots to avoid competition and elevated predation risk. Poster presentation. Entomological Society of America Meeting. St. Louis, USA.

2019 **Grunseich, J.M.,** Helms, A.M. The effects of belowground chemical cues from entomopathogenic nematodes and conspecifics on host plant selection of diabroticite beetle larvae. Poster presentation. Southwestern Branch Entomological Society of America Meeting Tulsa, USA.

**Outreach and Leadership Activities**

• **Department of Ecology and Evolutionary Biology, Darwin Day, Community Outreach** (February 2020) Taught members of the community and children about insect and plant coevolution and host specificity.

• **Entomological Society of America, Southwestern Branch Meeting, Insect Expo, Community Outreach** (October 2019) Taught members of the community and children about insects at conference center insect expo.

**Research Skills:**

***Laboratory Techniques***

gas chromatography mass spectrometry, solid-phase microextraction, high pressure liquid chromatography, plant-hormone extraction, plant metabolite sampling, insect rearing, fungal spore propagation

***Field techniques***

Crop yield estimations, Insect sampling/scouting, plant breeding

***Computer Programs***

RStudio; JMP; GraphPad Prism9, Microsoft – Word, Excel and PowerPoint; ImageJ; ChemStation Data Analysis; Agilent – MassHunter.