

Curriculum Vitae  
Abdelaal H. A. Shehata  
Department of Entomology and Plant Pathology, Auburn University  
301 Funchess Hall  
(334) 498-4507  
[azs0331@auburn.edu](mailto:azs0331@auburn.edu)

### **Education**

Doctor of Philosophy, Plant Pathology, Auburn University, USA	<b>2024-present</b>
Master of Science, Plant Pathology, Auburn University, USA Thesis: <i>Molecular Research on Two Orthospoviruses Infecting Important Legumes in Alabama.</i>	<b>2022 to 2024</b>
Master of Coursework, Plant Pathology, Assiut University, Egypt	<b>2018 to 2021</b>
Bachelor of Agricultural Sciences, Assiut University, Egypt Major: Plant Protection   Minor: Plant Pathology	<b>2012 to 2016</b>

### **Professional Experience**

Research Assistant Department of Entomology and Plant Pathology, Auburn University, USA Conduct molecular research on plant pathogens, with a focus on Orthospoviruses. Assist in designing experiments and analyzing genomic data. Train undergraduate researchers in laboratory protocols.	<b>2022-Present</b>
Assistant Lecturer (Permanent – currently on a study leave) Department of Plant Pathology, Assiut University, Egypt Conducted research on bacterial, fungal, and viral diseases affecting crops. Taught and supervised practical sessions in plant pathology courses, such as: <ul style="list-style-type: none"><li>• Principles of Plant Pathology from 2018-2021</li><li>• Plant Pathogenic Bacteria and Viruses 2018-2021</li><li>• Plant Pathogenic Nematodes 2018-2021</li><li>• Horticulture Diseases 2018-2021</li><li>• Crop Field Diseases 2018-2021</li><li>• Integrated Control of Plant Pathogens 2018-2021</li><li>• Biological Control of Plant Diseases 2018-2021</li><li>• Practical Applications in Plant Disease 2018-2021</li></ul>	<b>2018-present</b>

### **Peer-Reviewed Publications**

Published Manuscripts & thesis:

1. Abo-Elyousr, K. A., Mourad, A. M., Baenziger, P. S., **Shehata, A. H.**, Eckstein, P. E., Beattie, A. D., & Sallam, A. (2022). *Identification of putative SNP markers associated with resistance to Egyptian loose smut race (s) in spring barley*. Genes, 13(6), 1075. <http://doi:10.3390/genes13061075>
2. **Shehata, A. H.** (2024). *Molecular Research on two Orthospoviruses Infecting Important Legumes in Alabama* (Master's thesis). <https://auetd.auburn.edu/handle/10415/9193>

3. **Shehata, A. H.**, Mayfield, M. A., Sikora, E. J., & Martin, K. M. (2025). *Characterization of soybean vein necrosis virus (SVNV) proteins: Sequence analysis of field strains and comparison of localization patterns in differing cell types*. *Virology*, 604, 110450. <https://doi.org/10.1016/j.virol.2025.110450>.
4. **Shehata, A. H.**, Conner, K. N., Sikora, E. J., Strayer-Scherer, A., & Martin, K. M. (2025). *First Report of the Detection of Soybean Vein Necrosis Virus (SVNV) in Peanut in the United States*. *Plant Disease*, 109(9), 2000. <https://doi.org/10.1094/PDIS-01-25-0209-PDN>
5. **Shehata, A. H.**, Livingston, R., Potnis, N., Sikora, E. J., & Martin, K. M. (2025). *Complete genome sequence of soybean vein necrosis virus (SVNV) from Alabama*. *Microbiology Resource Announcements*, 14(10), e00498-25. <https://doi.org/10.1128/mra.00498-25>
6. Rios, A. C., **Shehata, A. H.**, Strayer-Scherer, A., & Martin, K. M. (2025). *Tracking early cytological changes following expression of NSm and N proteins from tomato spotted wilt virus field isolates*. *Journal of General Virology*, 106(9), 002151. <https://doi.org/10.1099/jgv.0.002151>
7. **Shehata, A. H.**, Coneva, E. D., Conner, K., & Martin, K. (2025). *First Report of Grapevine Leafroll-Associated Virus-3 Infecting Vitis vinifera L. Grape in Alabama*. *Plant Disease*, (ja). <https://doi.org/10.1094/PDIS-09-25-1829-PDN>
8. **Shehata, A. H.**, Cooke, C., Clark, W., Mayfield, M. A., Kaur, L., Rios, A., Burch, K. B., Jordan, H., Jacobson, A., Graham S. H., Strayer-Scherer, A., & Martin, K. M. (2025). *Unmasking Tomato Spotted Wilt Virus in Peanuts: From Nucleocapsid Protein Sequence and Localization to Practical Management in Alabama*. *Phytopathology*, (ja). <https://doi.org/10.1094/PHYTO-06-25-0204-R>

#### Accepted Manuscripts:

1. **Shehata, A. H.**, McInnes, H. A., Jacobson, A., Conner, K. N., Sikora, E. J., Whitfield, A. E., Cremonez, S. G., & Martin, K. (2025). *First Report of the Resistance Breaking (RB) Strains of Tomato Spotted Wilt Virus (TSWV) Infecting Tomatoes with the Sw5-Resistance Gene in Alabama*. Accepted for publication at *Plant Disease* (January 14, 2026).

#### Written Manuscripts for Submission:

1. **Shehata, A. H.**, & Martin, K. (2026). *Evolutionary Dynamics of an Orthotospovirus Reveal Adaptive Mutations Linked to Protein Localization and Function*. *Journal of General Virology*.

#### Mentored Students' publication in the Auburn University Journal of Undergraduate Scholarship:

1. Alexandra C. Rios, **Abdelaal H.A. Shehata**, Amanda Strayer-Scherer, Kathleen M. Martin (2024) *Localizing the Movement Protein (NSm) of Tomato Spotted Wilt Virus in Nicotiana Benthamiana*. *Auburn University Journal of Undergraduate Scholarship*. <https://bpb-us-e2.wpmucdn.com/wordpress.auburn.edu/dist/a/151/files/2025/04/Final-2024-AUJUS.pdf>
2. Connor Waters, **Abdelaal H.A Shehata**, Kathleen M. Martin (2025) *Localizing and Comparing the Nucleocapsid Protein (N) of Four Orthotospoviruses in Nicotiana Benthamiana*. *Auburn University Journal of Undergraduate Scholarship*. <https://our.auburn.edu/aujus/>

#### Undergraduate Teaching & Mentoring

- Mentored undergraduate students in vector entomology and plant virology research in the Department of Entomology and Plant Pathology, Auburn University (2023-present).
- Trained students in molecular biology and plant virology techniques, including RNA extraction, RT-PCR, cloning, Sanger sequencing, and confocal microscopy-based protein localization.

- Supervised undergraduate research projects focused on the characterization and subcellular localization of Orthotospovirus proteins in *Nicotiana benthamiana*.
- Guided students through experimental design, data analysis, figure preparation, and scientific writing.
- Co-authored peer-reviewed undergraduate research highlights/publications resulting from mentored projects:
- Supported undergraduate students in preparing posters and presentations for university research symposia and conferences.

### **List of Mentored Undergraduates**

- 1- Alexandra C. Rios (Fall 202-Spring 2024)
- 2- Connor Waters (Spring 2024- Spring 2025)
- 3- Jacqui Dub (Summer 2025-Fall 2025)
- 4- Hadley Bearrentine (Spring 2025-Fall2025)

### **Contribution to GenBank**

Submitted more than 300 sequences to GenBank (all with assigned accession numbers), including Sanger and RNA-seq data. Contributions include the first complete SVNV genome from Alabama (PV592793-PV592795, PX890970-75), resistance-breaking TSWV NSm (PX634739-767; PP779553-560; PP763381), SVNV NSs/NSm/N genes (PP840107-163; PP855220-250; PQ821900-905), extensive TSWV N gene datasets (OR335592-599; OR349739-753; OR352830-896; OR364914-962; PP622724-731; PQ369627-653), GLRaV-3 CP/HSP70 first report in Alabama (PX123059-064), soybean RNA-seq SRAs (BioProject PRJNA1246688), and novel *Streptomyces* 16S rRNA sequences (MZ267260-275).

### **Awards & Honors**

#### **Fellowships:**

1. Fulbright Scholarship awardee  
Funded by the Binational Fulbright Commission in Egypt (BFCE) & Auburn University, AL, USA  
**Program:** Master of Science in Plant Pathology, Department of Entomology and Plant Pathology, College of Agriculture (July 22, 2022 – May 12, 2024)  
**Thesis:** *Molecular Research on Two Orthotospoviruses Infecting Important Legumes in Alabama*  
**Advisor:** Dr. Kathleen Martin
2. Fully Funded Research Internship  
Funded by the Department of Biology, Faculty of Science, Lund University, Lund, Sweden  
**Role:** Visiting Student Researcher, Department of Biology, Faculty of Science (November 4, 2019-December 19, 2019)  
**Project:** *Gene Deletion in Streptomyces venezuelae*  
**Advisor:** Professor Klas Flärdh

#### **Awards:**

1. **ASV Student Travel Awardee (2025)**  
American Society for Virology (NIH-supported)  
- Awarded to attend the 44th Annual Meeting of the American Society for Virology, Montréal, Canada  
- Registration fee waiver for ASV 2025 Annual Scientific Meeting
2. **Winner, Graduate Research Poster Showcase**  
College of Agriculture, Auburn University (October 24, 2024)

**Title:** *The Subcellular Localization in Plant Cells of Soybean Vein Necrosis Virus Proteins Reveals Nuclear Localization in the Nucleocapsid.*

**Authors:** Abdelaal H.A. Shehata and Kathleen M. Martin.

3. **Top 10 Finalist, Three Minute Thesis (3MT)**

Auburn University (October 24-25, 2023)

**Title:** *Full Genome Sequencing of Tomato Spotted Wilt Virus Infecting Peanut in Alabama.*

**Authors:** Abdelaal H.A. Shehata and Kathleen M. Martin.

4. **Winner, Best Scientific Poster Award**

Graduate Research Poster Showcase, Assiut University (March 21, 2022)

**Title:** *Molecular Characterization of txtAB, tomA, and nec1, the Most Common Genes Responsible for the Pathogenicity in Certain Streptomyces Isolates.*

**Authors:** Abdelaal H.A. Shehata, Mohamed A.A. Sallam, Klas Flardh, Mohamed A.E. Hassan, Ameer E. Elfarash, and Hadeel M.M.K. Bagy.

5. **Winner, Best Scientific Poster Award**

How To Design and Present a Scientific Poster Workshop Competition (February 20, 2022)

**Title:** *Characterization of the Pathogenicity of Some Pathogenic Streptomyces Isolates In Vitro and Molecularly Investigating the Responsible Genes.*

**Authors:** Abdelaal H.A. Shehata, Mohamed A.A. Sallam, Klas Flardh, Mohamed A.E. Hassan, Ameer E. Elfarash, and Hadeel M.M.K. Bagy.

## **Poster, Competition, and Oral Presentations**

### **Posters and Competitions:**

1. Plants, Insects, and Microbes Symposium, Auburn, AL, USA. (May 21, 2025)

**Title:** *Natural Mutations in the Movement Protein (NSm) of Soybean Vein Necrosis Virus Enable Expression and Delay Cell Death in Plants.*

**Authors:** Abdelaal H.A. Shehata, Edward J. Sikora, and Kathleen M. Martin

2. Three Minute Thesis Competition (3MT), Auburn University (October 23, 2024)

**Title:** *Preventing the Genome Exchange of TSWV & SVNV to Minimize Legume Yield Loss.*

**Authors:** Abdelaal H.A. Shehata, Edward J. Sikora, Kathleen M. Martin

3. American Society for Virology (ASV) (June 27, 2023)

**Title:** *Sequencing and Localizing the Nucleocapsid of Tomato Spotted Wilt Virus to Understand Peanut Breaking Resistance in Alabama.*

**Authors:** Abdelaal H.A. Shehata, Wilson Clark, Michael A. Mayfield, Katherine B. Burch, Henry Jordan, Alana Jacobson, Scott H. Graham, Amanda Strayer-Scherer, Kathleen M. Martin

4. Auburn Research Symposium (March 28, 2023)

**Title:** *Sequencing and Localizing the Nucleocapsid of Tomato Spotted Wilt Virus to Understand Peanut Breaking Resistance in Alabama.*

**Authors:** Abdelaal H.A. Shehata, Wilson Clark, Michael A. Mayfield, Katherine B. Burch, Henry Jordan, Alana Jacobson, Scott H. Graham, Amanda Strayer-Scherer, Kathleen M. Martin

5. Peanut Trade Show of Florida and Alabama (February 2, 2023)

**Title:** *Sequencing and Localizing the Nucleocapsid of Tomato Spotted Wilt Virus is a Step Toward Understanding the Peanut Breaking Resistance in Alabama.*

**Authors:** Abdelaal H.A. Shehata, Wilson Clark, Michael A. Mayfield, Alana Jacobson, Amanda Strayer-Scherer, Kathleen M. Martin

6. Three Minute Thesis Competition (3MT), Auburn University (October 23, 2022)

**Title:** *Whole Genome Sequencing of (SVNV) is Vital for Understanding and Preventing the Spread of a Devastating Disease.*

**Authors:** Abdelaal H.A. Shehata, Kathleen M. Martin

**Oral Presentations:**

1. The 44th Annual Meeting of the American Society for Virology (ASV), Montreal, Canada. Student Travel Fund awardee. Flash talk, followed by a poster presentation (July 14-17, 2025)  
**Title:** *Characterization of Soybean Vein Necrosis Virus (SVNV) Proteins: Comparison of Localization Patterns in Differing Cell Types.*  
**Authors:** *Abdelaal H.A. Shehata, Michael A. Mayfield, Edward J. Sikora, and Kathleen M. Martin*
2. The 16th International Symposium of Plant Viruses Epidemiology (ISPVE), A Challenge for Agriculture in the 21st Century, Sao Paulo, Brazil (June 29-July 3, 2025)  
**Title:** *Diversity and Evolution of Plant Orthospoviruses Infecting Important Crops in Alabama*  
**Authors:** *Abdelaal H.A. Shehata, Edward J. Sikora, and Kathleen M. Martin*
3. Auburn Research Symposium (March 24, 2025)  
**Title:** *Natural Variations in Soybean Vein Necrosis Virus Movement Protein (NSm) Enable Expression and Delay Cell Death in Plants.*  
**Authors:** *Abdelaal H.A. Shehata, Edward J. Sikora, and Kathleen M. Martin*
4. The Soybean Board Meeting (January 19, 2025)  
**Title:** *Understanding Viruses in Soybeans in Alabama 2024-2024*  
**Authors:** *Abdelaal H.A. Shehata, Edward J. Sikora, and Kathleen M. Martin*
5. BeltWide Cotton Conferences, New Orleans, USA (January 14-16, 2025)  
**Title:** *Sequence Characterization of Soybean Vein Necrosis Virus (SVNV) from Field Isolates in Alabama.*  
**Authors:** *Abdelaal A.H. Shehata, Edward J. Sikora, and Kathleen M. Martin.*
6. The International Symposium on Plant Bunyaviricetes (ISPBV) (September 23, 2024)  
**Title:** *Comparing the Localization Patterns of the Proteins of Divergent Orthospoviruses in Alabama to Understand Infection.*  
**Authors:** *Kathleen M. Martin, Abdelaal A.H. Shehata, Edward J. Sikora, Chen Y, Michael A. Mayfield, Montero-Astúa M, and Anna E. Whitfield.*
7. Auburn Research Symposium (March 26, 2024)  
**Title:** *Protein Localization of Soybean Vein Necrosis Virus (SVNV) in Plant Cells; an Abundant Orthospovirus.*  
**Authors:** *Abdelaal H. A. Shehata and Kathleen M. Martin*
8. The American Phytopathology Society (APS) (February 26-29, 2024)  
**Title:** *Nucleocapsid Protein Comparison Between Tomato Spotted Wilt Virus and Soybean Vein Necrosis Virus; Two Important Orthospoviruses*  
**Authors:** *Abdelaal H.A. Shehata, Alana Jacobson, Amanda Strayer-Scherer, and Kathleen M. Martin.*
9. BeltWide Cotton Conferences, Texas, USA (January 4-6, 2024)  
**Title:** *Protein Localization of Soybean Vein Necrosis Virus in Plant Cells: An Abundant Orthospovirus.*  
**Authors:** *Abdelaal A.H. Shehata, Edward J. Sikora, and Kathleen M. Martin.*
10. Southeastern Branch of the American Society for Microbiology (ASM), Auburn University (November 3-5, 2023)

**Title:** *Sequencing and Localizing the Nucleocapsid of Tomato Spotted Wilt Virus is a Step Toward Understanding the Peanut Breaking Resistance in Alabama.*

**Authors:** Abdelaal H.A. Shehata, Michael A. Mayfield, Wilson Clark, Alexandra C. Rios, Alana Jacobson, Amanda Strayer-Scherer, and Kathleen M. Martin.

### **Invited Speaker**

#### **1. May 2025**

*Molecular Genetics & Biotechnology Seminars (MGBS), hosted online via Microsoft Teams by the Department of Genetics, Faculty of Agriculture, Assiut University.*

**Title:** *Sequence Characterization of Soybean Vein Necrosis Virus (SVNV) from Field Isolates in Alabama.*

#### **2. May 2024**

*Molecular Genetics & Biotechnology Seminars (MGBS), hosted online via Microsoft Teams by the Department of Genetics, Faculty of Agriculture, Assiut University.*

**Title:** *Protein Localization of Soybean Vein Necrosis Virus (SVNV) in Plant Cells; an Abundant Orthotospovirus.*

#### **3. May 2023**

*Molecular Genetics & Biotechnology Seminars (MGBS), hosted online via Microsoft Teams by the Department of Genetics, Faculty of Agriculture, Assiut University.*

**Title:** *Sequencing the Nucleocapsid is a Step Toward Understanding the Peanut Breaking Resistance to Tomato Spotted Wilt Virus in Alabama.*

#### **4. May 2022**

*Molecular Genetics & Biotechnology Seminars (MGBS), hosted online via Microsoft Teams by the Department of Genetics, Faculty of Agriculture, Assiut University.*

**Title:** *First report of new pathogenic species of Streptomyces causing common scab disease on potato tubers in Egypt.*

### **Professional Activities**

#### **Organizer:**

1. *Molecular Genetics & Biotechnology Seminars (MGBS), Department of Genetics, Faculty of Agriculture, Assiut University (2019, 2020, 2021, 2022, 2023, 2024, and 2025).*
2. *The 10th Conference for Junior Researchers at Faculty of Agriculture, Assiut University, Egypt, (March 21, 2022)*
3. *How To Design and Present a Scientific Poster Workshop, Department of Genetics, Faculty of Agriculture, Assiut University (February 13-20, 2022)*
4. *1st–3rd International Plant Genetics & Genomics Symposium (IPGG) (2019, 2020, and 2021).*
5. *How to Design and Present a Scientific Poster, Faculty of Agriculture, Assiut University (February 2022).*
6. *How to Write and Publish a Scientific Paper, Assiut University (2021).*