Felipe Barreto da Silva

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EDUCATION

Ph.D. in Plant Protection (October 2022)
São Paulo State University (UNESP), Botucatu, Brazil
Relevant Coursework: General Plant Virology and Entomology

M.S. in Plant Protection (July 2019)
São Paulo State University (UNESP), Botucatu, Brazil
Relevant Coursework: Plant Virology and Pest Management

B.S. in Agronomy (June 2017)
Federal University of São Carlos (UFSCar), Araras, Brazil

International Education

Summer School "Plant Healthy and Quality"
Universitè D'Angers, France. Jun 2019 – Jul 2019.

Non-Degree International Student in Agricultural Engineering
University of Wisconsin, River Falls, USA. Aug 2013 – Dec 2014.

RESEARCH EXPERIENCE AND PROFESSIONAL APPOINTMENTS

Colorado State University – Department of Agricultural Biology, Fort Collins, Colorado – (Jun 2025 – Present)
Research Scientist I – Wheat Entomology
Supervisor: Dr. Punya Nachappa

- Genetic diversity of wheat stem sawfly and its parasitoid populations, as well as their compatibility and implications for pest management.

University of Florida – Gulf Coast Research and Education Center, Balm, Florida – (Nov 2022 – May 2025)
Postdoctoral Researcher Associate
Supervisor: Dr. Hugh Smith

- Develop taxonomic and molecular methods for improved diagnosis of invasive and endemic thrips.

- Develop bioassays to assess insecticide susceptibility in different horticultural pests.
- Evaluate the efficacy of chemical and biological insecticides against key pests for tomatoes, pepper, potato, and cabbage through field trials.
- Investigate potential entomopathogenic nematodes to control invasive thrips
- Summarize and communicate research results to broad audiences including growers and graduate students.

Graduate Student Research Assistant – Ph.D. (Aug 2019 – October 2022)
São Paulo State University (UNESP), Botucatu, Brazil
Plant Virology and Plant-Virus-Vector Interaction Laboratory – LAVIV
Supervisor: Renate Krause Sakate

- Collect insects (i.e., diamondback moth, whitefly, and thrips).
- Establish whitefly colonies.
- Collect and molecular identification (PCR/Sanger sequencing) of whitefly species.
- Develop molecular methods (RFLP and PCR) for thrips identification.
- Survey of whiteflies and plant viruses from soybean fields throughout São Paulo State.
- Evaluate virus-vector interaction.
- Evaluate the physiological quality of seeds from diseased plants.
- Identify new viruses in soybean using high-throughput sequencing.
- Evaluating the damage caused by whitefly and thrips-transmitted virus in the soybean crop through field trials.

Graduate Student Research Assistant – M.S. (Aug 2017 – Jul 2019)
São Paulo State University (UNESP), Botucatu, Brazil
Plant Virology and Plant-Virus-Vector Interaction Laboratory – LAVIV
Supervisor: Renate Krause Sakate

- Identified differences in virus transmission between different genetic groups of whiteflies.
- Reported the effects of whitefly, *Bemisia tabaci* transmitted virus cowpea mild mottle virus (CPMMV), in soybean cultivars in Brazil.
- Evaluated the damage caused by a whitefly-transmitted virus in the soybean crop through field trial.

Research & Development in Crop Protection Intern – (Jan 2017 – Jul 2017)
Dow Agrisciences Industrial Ltda. Mogi Mirim Field Station
Supervisor: Luis Claudio Vieira da Cunha

- Conducted, maintained, and evaluated field trials.
- Planned, conducted, maintained, and evaluated laboratory trials.
- Prepared pesticides (insecticides, fungicides, and herbicides) for application in field trials.

- Evaluated the efficacy of chemical pesticides against key pests, diseases, and weeds for different horticultural and field crops through field trials.
- Prepared and applied inoculum for field trials.
- Developed bioassays to evaluate insecticide susceptibility in different field crop pests.
- Summarized research results to researchers and leaders.

Undergraduate Intern – (Feb 2015 – Dec 2016)
Federal University of São Carlos (UFSCar), Araras, Brazil
Molecular Genetics Laboratory – LAGEM
Supervisor: Alfredo Seiiti Urashima
- Performed research in plant disease diagnoses.
- Performed extension services in disease identification for local farmers, including classical, serological, and molecular (PCR) tools.
- Investigated the gene flow in *Magnaporthe grisea* causing the wheat blast.

Undergraduate Intern – (Jun 2012 – Sep 2012)
Federal University of São Carlos (UFSCar), Araras, Brazil
Plant Physiology and Tissue Culture Laboratory
Supervisor: Lee Tseng Cheng Gerald
- Studied tissue culture techniques for a biofactory of *in vitro* production of sugar cane and orchids.
- Studied the influence of LED on the development of *in vitro* callus in sugarcane.

Undergraduate Student Academic Training – (May 2014 – Aug 2014)
University of Minnesota, Twin Cities Campus, USA
Supervisor: Brian J. Steffenson
- Collaborated in the Cereal Disease Resistance Project at the Plant Pathology Department.
- Performed field assays involving stem rust resistance in barley and wheat.
- Prepared and applied inoculum for field trials.
- Planning, conducting, maintaining, and evaluating field trials.

Undergraduate Intern – (Dec 2011 – Jul 2013)
Federal University of São Carlos (UFSCar), Araras, Brazil
Agricultural Sciences Study Group – GECA
Supervisor: Patricia Andrea Monquero
- Studied weed control, herbicides, and their effects in soil.
- Conducted experiments with pesticides on field crops such as maize and soybean.

Undergraduate Intern – (Jun and Jul 2011)
State University of Campinas (UNICAMP), Campinas, Brazil

Plant Physiology Laboratory
Supervisor: Paulo Mazzafera

- Analyzed lignin in sugarcane samples, within the BIOEN-FAPESP project.
- Analyzed nitrogen and amino acids in citrus plants.

Publications

Peer-reviewed publications

†Contributed equally, *corresponding author

1. Alvarez, D. L.; Hayashida, R.; Santos, D. M.; **Barreto da Silva, F**.; Krause-Sakate, R., Müller, C.; Krause-Sakate, R.; Hoback, W. W.; de Oliveira, R. C. Thermal Tolerance and Host Plant Suitability of Bemisia tabaci MED (Gennadius) in Brazilian Legume Crops. *Agronomy*, v.15:1622, 2025. DOI: 10.3390/agronomy15071622

2. Ribeiro-Junior, M. R.; Espindola, A.; Nascimento, D. N.; **Barreto da Silva, F.;** Krause-Sakate, R.; Ochoa-Corona, F. M. An Attempt Toward the Global Screening of Soybean Viruses Using EDNA-MiFi-Based Electronic Probes. *PhytoFrontiers*™, v. 5, p. 236-242, 2025. DOI: 10.1094/PHYTOFR-12-24-0141-FI

3. Ribeiro-Junior, M. R.; **Barreto da Silva, F.**, Marubayashi, J. M.; Nogueira; A. M.; Muller, C.; Lima, É. F. B.; Nascimento, D. M.; Ochoa-Corona, F. M.; Krause-Sakate, R. Molecular identification of thrips species in Brazilian agroecosystems. *Phytoparasitica*, v. 52:79, p. 1 -10, 2024. DOI: 10. 1007/ s12600- 024- 01198-8

4. **Barreto da Silva, F.***; Raposo, R. S. ; de Campos, S. F.; Uzan, J.; Marubayashi, J. M.; Ribeiro-Junior, M. R.; Nogueira, A. M.; Martines, C. C. ; Bello, V. H.; Müller, C.; Sartori, M. M. P.; Krause-Sakate, R. Exploring Bemisia tabaci Middle East-Asia Minor I and Mediterranean Cryptic Species Relationship with Cowpea Mild Mottle Virus and Their Dynamics in Soybean Fields. *Insects*, v. 15, p. 624, 2024. DOI: 10.3390/insects15080624

5. da Cruz Martines, C.; Secler, L. C.; Favara, G. M.; de Oliveira, C. S.; Marubayashi, J. M.; **Barreto da Silva, Felipe**; Uzan, J.; Krause-Sakate, R. Passiflora virus Y in soybean: High susceptibility of soybean cultivars, unlikely transmission trough seeds and no detection of the virus in fields from São Paulo state, Brazil. *Tropical Plant Pathology*, v. 1, p. 1-6, 2024. DOI: 10.1007/s40858-024-00681-1

6. Watanabe, L. F. M.; Ribeiro-Junior, M. R.; Portilho, A. M. N.; Marubayashi, J. M.; **Barreto da Silva**, F.; Uzan, J.; Favara, G. M.; Krause-Sakate, R. High incidence of cassava common mosaic virus in cassava plants and complete genome sequence of a distinct isolate from Brazil. *Tropical Plant Pathology*, v. 1, p. 1-6, 2024. DOI: 10.1007/s40858-024-00679-9

7. Dimase, M., Rossitto De Marchi, B., **Barreto da Silva, F.**, Lahiri, S., Beuzelin, J., Hutton, S., Smith H. A. Monitoring the susceptibility of Bemisia tabaci Middle East-Asia Minor 1 (Hemiptera: Aleyrodidae) to afidopyropen, cyantraniliprole, dinotefuran, and flupyradifurone in south Florida vegetable fields. *Journal of Economic Entomology*, 2024, Vol. XX, No. XX. DOI: 10.1093/jee/toae104

8. Dimase, M., Rossitto De Marchi, B., Lahiri, S., Beuzelin, J., Hutton, S., **Barreto da Silva, F.**, Smith H. A. First report of Bemisia tabaci MEAM1 (Hemiptera: Aleyrodidae) resistance to spirotetramat in Florida. *Crop Protection*, 180(4):106661, 2024. DOI:10.1016/j.cropro.2024.106661

9. Ribeiro-Junior, M. R., **Barreto da Silva, F.,** Marubayashi, J. M., Uzan, J., Nogueira, A. M., Muller, C., Nascimento, D. M., Yuki, V. A., Narita, N., Pavan, M. A., Ochoa-Corona, F. M., Krause-Kakate, Renate. Molecular and biological characterization of an isolate of the potyvirus passiflora virus Y naturally infecting soybean (Glycine max) in Brazil*. Archives Of Virology*, v. 1, p. 1, 2022. DOI: 10.1007/s00705-022-05605-5

10. Bello, V.H.†, **Barreto da Silva, F.†**, L.F.M. Watanabe, E. Vicentin, C. Muller, R.C.O.F. Bueno, J.C. Santos, B. Rossitto De Marchi, A.M. Nogueira, V.A. Yuki, J.M. Marubayashi, M.M.P. Sartori, M.A. Pavan, M. Ghanim, R. Krause-Sakate. Detection of Bemisia tabaci Mediterranean cryptic species on soybean in São Paulo and Paraná States (Brazil) and interaction of cowpea mild mottle virus with whiteflies. *Plant Pathology* 70(6): 1508-1520, 2021. DOI: 10.1111/ppa.13387

11. Krause-Sakate, R., L.F.M. Watanabe, E.S. Gorayeb, **F. Barreto da Silva**, D.L. Alvarez, V.H. Bello, A.M. Nogueira, B. Rossitto De Marchi, E. Vicentin, et al. Population dynamics of whiteflies and associated viruses in South America: Research Progress and Perspectives. *Insects* 11(12): 847, 2020. DOI: 10.3390/insects11120847

12. **Barreto da Silva, F.***, C. Muller, V.H. Bello, L.F.M. Watanabe, B. Rossitto De Marchi, L.M. Fusco, M.R. Ribeiro-Junior, G.B. Minozzi, L.M. Vivan, et al. Effects of cowpea mild mottle virus on soybean cultivars in Brazil. *PeerJ*, 8: e9828, 2020 DOI 10.7717/peerj.9828

13. Bello, V.H., L.F.M. Watanabe, L.M. Fusco, B. Rossitto De Marchi, **F. Barreto da Silva**, E.S. Gorayeb, M.F. Moura, I.M. de Souza, C. Muller, F.J.S. Salas, V.A. Yuki, R.C.F.O. Bueno, M.A. Pavan, R. Krause-Sakate. Outbreaks of Bemisia tabaci Mediterranean species in vegetable crops in São Paulo and Paraná states, Brazil. *Bulletin Of Entomological Research,* 110(4): 487-496, 2020

14. Bello, V. H., E.S. Gorayeb, L.F.M. Watanabe, B. Rossitto De Marchi, M.R. Ribeiro-Junior, E. Vicentin, **F. Barreto da Silva**, and R. Krause-Sakate. First Report of Tomato chlorosis virus infecting cucumber in Brazil. *Plant Disease,* 104(2): 603, 2019. DOI: 10.1017/S0007485319000841

15. Watanabe, L.F.M., V.H. Bello, B. Rossitto De Marchi, **F. Barreto da Silva**, L.M. Fusco, M.M.P. Sartori, M.A. Pavan, R. Krause-Sakate. Performance and competitive displacement of Bemisia tabaci MEAM1 and MED cryptic species on different host plants. *Crop Protection,* 124: 104860, 2019 https://doi.org/10.1016/j.cropro.2019.104860

16. Rossitto De Marchi, B., V.H. Bello, L.F.M. Watanabe, **F. Barreto da Silva**, C. Müller, M.A. Pavan, R. Krause-Sakate. Characterization and complete genome sequence of groundnut ringspot orthotospovirus in soybean in Brazil. *Journal Of Plant Pathology,* 101(2): 401, 2018. https://doi.org/10.1007/s42161-018-0172-1

17. Silva, P. V., Monquero, P. A., **Barreto da Silva, F.**, Bevilaqua, N. C., Malardo, M. R. Influence of sugarcane straw and sowing depth on the emergence of weed species. *Planta Daninha*, v. 33, p. 405-412, 2015. https://doi.org/10.1590/S0100-83582015000300003

18. Gomes, D. S., Bevilaqua, N. C., **Barreto da Silva. F**, Monquero, P. A., Supressão de plantas espontâneas pelo uso de cobertura vegetal de crotalária e sorgo. *Revista Brasileira de Agroecologia*, v. 9, p. 206-213, 2014.

PROFESSIONAL SERVICE

Inter-REC 2024, Wimama, FL, USA

- Judge for the student poster and oral competition session.

Ad Hoc Journal Reviewer

Annals of Applied Biology (1)
Florida Entomologist (1)
PLOS One (1)
Crop Health (1)
Crop Protection (1)

TEACHING

Course Instruction

2020	Plant Diseases, Substitute Professor (UNESP)
2021	General Agricultural Entomology, Teaching Assistant (UNESP)
2019	Plant Diseases, Teaching Assistant (UNESP)
2016	Plant Pathology, Teaching Assistant (UFSCar)

Student training

Undergraduate students mentored: Sarah Furlan (UNESP), Rodrigo Raposo (UNESP), Eduardo Berndt (UNESP)

Undergraduate student committees

Jul 2023 Raposo, Rodrigo de Sarandy. Final Paper Title: Transmission properties of Cowpea mild mottle virus (CPMMV) by *Bemisia tabaci* Middle East Asia Minor 1 – MEAM1 (biotype B) and Mediterranean – MED (biotype Q) in soybean. Sao Paulo State University (UNESP). Chair: Renate Krause-Sakate.

Jan 2021 Fermino, Luiz Guilherme da Silva. Final Paper Title: Techniques for measuring electrical conductivity in precision agriculture. Final Paper. Federal University of Sao Carlos (UFSCar). Chair: Rubismar Stolf.

GRANTS

Pendind

Contributor

USDA Plant Protection Act 7721 (Farm Bill). Sustainable management of Megalurothrips usitatus in Puerto Rico. Submitted July, 2024. $179.201

Awarded

Contributor

2022 São Paulo Research Foundation (FAPESP), Ph.D. Scholarship. Transcriptome analysis of the whitefly Bemisia tabaci MEAM1 during feeding on soybean plants infected with the carlavirus cowpea mild mottle virus

São Paulo Research Foundation (FAPESP), Ph.D. Scholarship. Cowpea mild mottle virus in Soybean: Virus-Vector Interaction, Incidence and Associated Vector, Virus Variability and Impacts on Physiological Quality of Seeds from Diseased Plants. 2021 – 2023.

São Paulo Research Foundation (FAPESP). Regular Research Grant/Continuous Funding Stream. Virus interactions with different cryptic species of Bemisia tabaci, competition among species, insecticide susceptibility and Next Generation Sequencing of Bemisia tabaci collected in Brazil. U$47,288.42. 2018 – 2020.

Higher Education Personnel (CAPES), Brazil Scientific Mobility Program. Sandwich Undergraduate Program at the University of Wisconsin, River Falls. 2013 – 2014.

National Council for Scientific and Technological Development (CNPq). Undergraduate Research Scholarship. Gene flow in *Magnaporthe grisea* causing the wheat blast. 2015 – 2016.

São Paulo Research Foundation (FAPESP), Undergraduate Research Scholarship. Influence of temperature, light, soil texture, sowing depth and amount of straw cane sugar in the germination of seeds of Ipomoea purpurea, *Merremia aeyptia* (Convolvulaceae) and *Luffa aegyptiaca* (Cucurbitaceae). 2012 – 2013.

PRESENTATIONS

Professional Conferences – Oral Presentations

Barreto Da Silva, F. and Smith, H. Genetica de poblaciones de *Megalurothrips usitatus*, trips invasor que amenaza la producción de leguminosas en el sur de Florida, Centro América y el Caribe. Programa Cooperativo Centroamericano para el Majoramiento de Cultivos y Animales (PCCMCA), Costa Rica, 2024.

Barreto Da Silva, F., Rossitto De Marchi, B., Soto-Adames, F., Rugman-Jones, P., and Smith, H. Morphological and molecular survey of thrips in commercial snap bean and lablab fields in south Florida. Annual meeting of the Entomological Society of America, National Harbor, MD, USA, November 2023

Barreto Da Silva, F., Rossitto De Marchi, B., Soto-Adames, F., Rugman-Jones, P., and Smith, H. Morphological and molecular survey of the invasive Asian Bean Thrips (*Megalurothips usitatus*) in commercial snap bean and lablab fields in South Florida. Annual meeting of the Florida Entomological Society, Jupiter, FL, USA, August 2023

Invited Speaker

Barreto da Silva, F. Diversidad y estudios de poblaciones de *Megalurothrips usitatus*. Avances en la investigacion de la plaga emergente de frijol *Megalurothrips usitatus* en Hoduras. Unidad de Investigacion y Desarollo de Cultivos de la EAP-Zamorano. August 2024. Virtual.

Barreto da Silva, F. Exploring Thrips Diversity in Snap Bean and Lablab Fields of South Florida: A Morphological and Molecular Investigation. Gulf Coast Research and Education Center, Wimauma, FL, USA. February 2024.

Barreto da Silva, F. Whitefly, *Bemisia tabaci* Management: Current events and pesrpectives. XIII Winter School in Agricultural Entomology. Jaboticabal, Sao Paulo, Brazil. August 2019.

Barreto da Silva, F. Viruses transmitted by *Bemisia tabaci* in soybean. III Lecture Cycle: Current events in Plant Health and Commemoration of 30 years of the Graduate Program in Agronomy: Plant Protection. Botucatu, Sao Paulo, Brazil. September 2018.

Barreto da Silva, F. Guest lecture to Undergraduate School at the Sagrado Coração de Jesus University, Bauru, São Paulo, Brazil 2018.

Professional Conferences – Posters

Barreto da Silva, F., Uzan, J., Marubayashi, J. M., Raposo, R. S., Martinez, C. C., Ribeiro-Junior, M. R., Nogueira, A. M., Pavan, M. A., Krause-Sakate, R. Bemisia tabaci Mediterranean cryptic species survey on soybean in Sao Paulo State (Brazil) and its interaction with cowpea mild mottle virus. 2022. Poster. 15th International Symposium of Plant Virus Epidemiology. Madri, Spain, June 2022.

Barreto da Silva, F., Muller, C., Fusco, L. M., Bello, V. H., Watanabe, L. F. M., Minozzi, G. B., Tamai, M. A., Krause-Sakate, R. Bemisia tabaci survey associated with soybean and cotton in middle east Bahia State. Poster. XXVI Congresso Brasileiro e X Congresso Latino-Americano, 2018, Gramado, Rio Grande do Sul, Brazil. September 2018.

LEADERSHIP EXPERIENCE

University of Florida – Gulf Coast and Education Center (2024)

- Vice-President at the Gulf Coast Postdoc and Student Association

São Paulo State University (UNESP) (2020 – 2022)

- Graduate student representative

Federal University of São Carlos (UFSCar) (2011 – 2013)

- Undergraduate student representative

MENTORING

Ph.D. Co-Chair (2024 - In progress)

Machado, Daniele Tasior Nunes. Dissertation: Epidemiological Studies of Tobacco streak virus (TSV) and Seed Transmission of the Virus in Soybean Crops. Ph.D. Dissertation Department of Plant Protection, São Paulo State University (UNESP), (Chair: Renate Krause-Sakate).

MEMBERSHIPS

- Gulf Coast Pos Doc and Student Association – GCPSA (2022 – Present)
- Entomological Society of America (2023 – Present)
- Florida Entomological Society (2023 – 2025)
- The American Phytopathological Society (APS) (2014).
- Crop and Soil Science Club, UWRF (2013 – 2014).
- Destination Domestic Service Trip, UWRF (2014). Helping Living Lands & Waters to clean up the banks of the Mississippi River in Memphis, Tennessee.

EVENT PLANNING

- InteREC 2024, University of Florida GCREC, Wimauma, FL, USA.
- Graduation studies abroad: Sharing Experiences. São Paulo State University, Botucatu, Brazil. November 2020.
- Third Lecture Cycle: Current events in Plant Health and Commemoration of 30 years of the Graduate Program in Agronomy: Plant Protection. São Paulo State University, Botucatu, Brazil. September 2018.
- 38° Paulista Congress of Plant Pathology. Araras, Brazil, February 2015.

AWARDS

Outstanding in Research Award - Programa Cooperativo Centroamericano para el Majoramiento de Cultivos y Animales (PCCMCA), Costa Rica, 2024.

- First place in Oral Presentation in the leguminous section.

RELATED PROFESSIONAL SKILLS

Field Skills

- Planning, conducting, maintaining, and evaluating field trials.
- Planting and harvesting.
- Applying pesticides using a backpack spray or drench application.
- Seed treatment.
- Insect collection and identification.
- Plant disease collection and identification.

Laboratory Skills

- Extensive knowledge of molecular techniques.
- DNA/RNA extraction of insects and plants, polymerase chain reaction (PCR), reverse transcription polymerase chain reaction (RT-PCR), restriction fragment length polymorphism (RFLP), gel electrophoresis, and primer design.
- Preparing samples for Sanger sequencing.
- Seed quality evaluation.

Sequence Analysis & Sequencing Skills

- Geneious for sequence analysis and QIAGEN CLC Genomics Workbench for de novo genome assembly
- BLASTn.

Other Relevant Skills

- Proficient in Microsoft Excel, Word, and PowerPoint
- Language proficiencies: Portuguese (Native language). Fluent in English. Can read and understand Spanish.