Kiran R. Gadhave

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The Gadhave Lab

I. BACKGROUND INFORMATION

Education

PhD Biology (Entomology/Microbial Ecology) *Oct 2011-Jun 2015*
University of London, Royal Holloway College (RHUL), Egham, UK

Master of Professional Studies (Plant Breeding & Genetics) *Jun 2009-Jul 2010*
Cornell University (CU), Ithaca, NY, USA

Master of Science (Entomology) *Jul 2007-May 2009*
Tamil Nadu Agricultural University (TNAU), Coimbatore, India

Bachelor of Science (Agriculture) *Aug 2003-May 2007*
College of Agriculture, Kolhapur (ACK), Maharashtra, India

Employment

Assistant Professor- Entomology *Jan 2022-*
Texas A&M AgriLife Research, Amarillo, TX, USA
Texas A&M Department of Entomology (TAMU), College Station, TX, USA

Associate Specialist *Jun 2020-Dec 2021*
University of California, Riverside (UCR), CA, USA

Postdoctoral Research Associate *Oct 2017-Jun 2020*
North Carolina State University (NCSU), Raleigh, NC, USA

Postdoctoral Research Associate *Nov 2015-Oct 2017*
University of Georgia (UGA), Tifton, GA, USA

Awards & Honors

- **2025 Blavatnik National Awards for Young Scientists**. Nominated by Texas A&M AgriLife Research. *Oct 2024* (pending outcome).
- **2025** Schroth Faces of the Future. American Phytopathological Society. *Apr 2025*. *"The Schroth Faces of the Future Fund supports the symposium which is designed to acknowledge up-and-coming researchers shaping the future of their respective scientific discipline"*.
- **2024 William A. Dugas Early Career Award for Research Excellence**. Texas A&M AgriLife Research. *Jan 2025*. *"This $5,000 annual award honors an early career AgriLife Research Faculty member who has made an exceptional contribution to the agency and research in the prior year"*.

- **2023** New Innovator in Food and Agriculture Research Award. Foundation for Food & Agriculture Research. *Oct 2023*. The award is offered to *"support and promote the future generation of exceptionally talented and creative new faculty who are conducting critical and highly innovative research and are establishing research programs that will lead to expanded availability of food and facilitate the global practice of sustainable agriculture"* (2023 FFAR NIA RFA).
- **Fellow of the Royal Entomological Society (FRES)**, UK. *Aug 2022*. The fellowship is awarded *"to entomologists who have made a significant contribution to their science, through evidence of achievement, experience or publications"* (RES fellowship webpage).
- **2016** J. H. Comstock Outstanding Graduate Student Award. Entomological Society of America. *Sep 2016*. The award *"is given to an outstanding advanced graduate student (usually Ph.D. level) from each of the Entomological Society of America's six Branches..."* (ESA award webpage).
- **College Overseas Fees Scholarship** [£36,314], Royal Holloway, University of London, UK, *Oct 2011-2014*
- **Navajbai Ratan Tata Fellowship** [$32,215], Cornell-Sathguru Foundation, India, *Jun 2009- Jul 2010*
- **Junior Research Fellowship** [₹183,900], Indian Council of Agricultural Research (ICAR), India, *Jul 2007-May 2009*

II. RESEARCH

I aspire to become an international leader in insect vector biology, driving a cutting-edge research program centered on three key impact areas: (1) *Translational Research* – Developing innovative pest and disease management solutions based on fundamental and integrated research outcomes; (2) *Integrated Research* – Integrating various applied research components to devise tailored pest management strategies; and (3) *Fundamental Research* – Advancing our understanding of the mechanisms that govern insect vector–plant–pathogen interactions.

Publications

Summary: Publications: 31; Citations: 959 (Aug 2025); *h-index*: 16; *i10-index*: 22. *Corresponding author/s. The Gadhave lab personnel are undelined.

1. Gautam, S and Gadhave, KR†. Impact of Wheat Resistance Genes on Wheat Curl Mite Fitness and Wheat Streak Mosaic Dynamics Under Single and Mixed Infections. *Viruses*. doi.org/10.3390/v17071010.
2. Chinnaiah, S, Arora, A and Gadhave, KR†. Novel strains of tomato spotted wilt orthotospovirus (TSWV) are transmitted by western flower thrips in a context-specific manner. *PLOS One*. doi.org/10.1371/journal.pone.0323037.
3. Gautam, S, Workneh, F, Chinnaiah, S, Rush, CM, Xue, Q, Anderson, N, Crosby, KM and Gadhave, KR†. (2024). *Tsw*-resistant pepper cultivars offer limited protection against resistance-breaking isolates of tomato spotted wilt virus. *Plant Health Progress*. doi.org/10.1094/PHP-08-24-0075-RS.
4. Workneh, F, Ehrlich, B, Herron, B, Chinnaiah, S, Gautam, S, **Gadhave, KR*** and Rush, CM. (2024). Quantifying seasonal thrips population dynamics in relation to temperature and wheat senescence. *Entomologia Experimentalis et Applicata*. doi: 10.1111/eea.13428.

5. Juárez, I, Steczkowski, M, Chinnaiah, S, Rodriguez, A, **Gadhave, KR*** and Kurouski, D*. (2024). Using Raman spectroscopy for early detection of resistance-breaking strains of tomato spotted wilt orthotospovirus in tomatoes. *Frontiers in Plant Science*. doi: 10.3389/fpls.2023.1283399.
6. Chinnaiah, S, Gautam, S, Herron, B, Workneh, F, Rush, C and **Gadhave, KR***. (2023). Novel strains of a pandemic plant virus, tomato spotted wilt orthotospovirus (TSWV), increase vector fitness and modulate virus transmission in a resistant host. *Frontiers in Microbiology*. doi: 10.3389/fmicb-2023-1257724.
7. Chinnaiah, S, Gautam, S, Workneh, F, Crosby, K, Rush, C and **Gadhave, KR***. (2023). First report of *Sw-5b* resistance-breaking strain of tomato spotted wilt orthotospovirus infecting tomato from Texas. *Plant Disease*. doi: 10.1094/PDIS-11-22-2699-PDN.
8. Gautam, S, Chinnaiah, S, Herron, B, Workneh, F, Rush, C and **Gadhave, KR***. (2023). Seed transmission of wheat streak mosaic virus and Triticum mosaic virus in differentially resistant wheat cultivars. *Viruses*. doi: 10.3390/v150-81774.
9. Gautam, S, **Gadhave, KR**, Buck, JW, Dutta, B, Coolong, T, Adkins, S, Simmons, AM, Srinivasan, R. (2023). Effects of host plants and their infection status on acquisition and inoculation of a plant virus by its Hemipteran vector. *Pathogens*. doi: 10.3390/pathogens12091119.
10. Gautam, S, Chinnaiah, S, Workneh, F, Crosby, K, Rush, C and **Gadhave, KR***. (2023). First report of a resistance-breaking strain of tomato spotted wilt orthotospovirus infecting *Capsicum annuum* with the *Tsw* resistance gene in Texas. *Plant Disease*. doi: 10.1094/PDIS-09-22-2274-PDN.
11. Higgins, S, Sereda, V, Herron, B, **Gadhave, KR*** and Kurouski, D*. (2022). Confirmatory detection and identification of biotic and abiotic stresses in wheat using Raman spectroscopy. *Frontiers in Plant Science*. doi: 10.3389/fpls-2022-10355.
12. Dang, T, Bodaghi, S, Osman, F, ... **Gadhave, KR** ... and Vidalakis, G. (2022). A comparative analysis of RNA isolation methods optimized for high-throughput detection of viral pathogens in California's regulatory and disease management program for citrus propagative materials. *Frontiers in Agronomy*. doi: 10.3389/fagro-2022-911627.
13. **Gadhave, KR*** and Gange, A. (2022). Soil-dwelling *Bacillus* spp. affect aphid infestation of calabrese and natural enemy responses in a context-specific manner. *Agricultural & Forest Entomology*. doi: 10.1111/afe.12507.
14. Kwon, SJ, Bodaghi, S, Dang, **Gadhave, KR***, Ho, T, Osman, F, Maher, AR, Tzanetakis, IE, Simon, AE and Vidalakis, G.* (2021). Complete nucleotide sequence, genome organization and comparative genomic analyses of citrus yellow vein associated virus (CYVaV). *Frontiers in Microbiology*. doi: 10.3389/fmicb.2021.683130.
15. **Gadhave, KR***†, Gautam, S†, Rasmussen, D and Srinivasan, R. (2020). Aphid transmission of Potyvirus: the largest plant-infecting RNA virus genus. *Viruses*. doi: 10.3390/v12070773. †Equal contribution.
16. **Gadhave, KR***, Gautam, S, Dutta, B, Coolong, T, Adkins, S and Srinivasan, R. (2020). Low frequency of cucurbit leaf crumple virus horizontal and vertical transmission in whitefly *Bemisia tabaci* Gennadius. *Phytopathology*. doi: 10.1094/PHYTO-09-19-0337-R.
17. Gautam, S†, **Gadhave, KR**†, Buck, JW, Dutta, B, Coolong, T, Adkins, S and Srinivasan, R. (2020). Virus-virus interactions in a plant host and in a hemipteran vector: Implications for vector fitness and virus epidemics. *Virus Research*. doi: 10.1016/j.virusres.2020.198069. †Equal contribution.

18. Gentzel, IN, Park, CH, Bellizzi, M, Xiao, G, **Gadhave, KR**, Murphree, C, Yang, Q, LaMantia, J, Redinbaugh, MG, Balint-Kurti, P, Sit, T and Wang, G-L. (2020). A CRISPR/dCas9 toolkit for functional analysis of maize genes. *Plant Methods*. doi: 10.1186/s13007-020-00675-5.
19. Gautam, S, Mugerwa, H, Sundaraj, S, **Gadhave, KR**, Murphy, JF, Dutta, B and Srinivasan, R. (2020). Specific and spillover effects on vectors following infection of two RNA viruses in pepper plants. *Insects*. doi:10.3390/insects11090602.
20. Gadhave, KR*, Dutta, B, Coolong, T and Srinivasan, R. (2019). A non-persistent aphid transmitted Potyvirus differentially alters the fitness of its vector and non-vector. *Scientific Reports*. doi: 10.1038/s41598-019-39256-5.
21. **Gadhave, KR**†, Devlin, PF†, Ebertz, A, Ross, A and Gange, AC (2018). Soil inoculation with *Bacillus* spp. modifies root endophytic bacterial diversity, evenness and community composition in a context specific manner. *Microbial Ecology*. doi: 10.1007/s0024. †Equal contribution.
22. Gange, AC and **Gadhave, KR**. (2018). Plant growth promoting rhizobacteria promote plant size inequality. *Scientific Reports*. doi: 10.1038/s41598-018-32111-z.
23. **Gadhave, KR*** and Gange, AC (2018). Interactions involving rhizobacteria and foliar feeding insects. In: Ohgushi, T., Wurst, S., Johnson, S. *Aboveground-Belowground Community Ecology*. Springer Publishing Company, NY. doi: 10.1007/978-3-319-91614-9-6.
24. **Gadhave, KR***, Dutta, B, Coolong, C, Sparks, AN, Adkins, S and Srinivasan, R. (2017). First Report of a Cucurbit yellow stunting disorder virus in cucurbits in Georgia, United States. *Plant Health Progress*. doi: 10.1094/PHP-03-17-0016-BR.
25. Barman, AK, **Gadhave, KR**, Dutta, B and Srinivasan, R. (2017). Plasticity in host plant utilization by two host-associated lineages of *Aphis gossypii* Glover. *Bulletin of Entomological Research*. doi: 10.1017/S0007485317000852.
26. **Gadhave, KR***, Hourston, J and Gange, AC. (2016). Developing soil microbial inoculants for pest management: Can one have too much of a good thing? *Journal of Chemical Ecology* 42: 348-356.
27. **Gadhave, KR***, Finch, P, Gibson, TM and Gange, AC. (2015). Plant growth-promoting *Bacillus* suppress *Brevicoryne brassicae* field infestation and trigger density-dependent and density-independent natural enemy responses. *Journal of Pest Science*. doi: 10.1007/s10340-015-0721-8.
28. **Gadhave, KR*** and Gange, AC. (2015). Plant-associated *Bacillus* spp. alter the life history traits of the specialist, *Brevicoryne brassicae* L. *Agricultural & Forest Entomology* 18: 35-42.
29. Yan, J, Qi, N, Wang, S, **Gadhave, KR**, Zhao, J and Yang, S. (2014). Characterization of secondary metabolites of an endophytic fungus from *Curcuma wenyujin*. *Current Microbiology* 69: 740-744.
30. **Gadhave, KR**, Thangamalar, A, Muthuswami, M and Subramanian, S. (2009). Characterization of gram-negative bacterial isolates from gut of few multivoltine silkworm breeds. *Kar Agric Sci* 22: 517-518.
31. Subramanian, S, **Gadhave, KR**, Mohanraj, P and Thangamalar, A. (2009). Use of 16S rRNA probes for characterization of gut microflora of silkworm (*Bombyx mori* L.) breeds. *Kar Agric Sci* 22: 476-478.

Research Support

Awarded Grants

Summary: Number of awards since *September 2021*: **20** (15 PI, 5 Co-PI); Total funds awarded: **$5,033,987**; The Gadhave lab: **$2,623,577**. The Gadhave Lab personnel are underlined.

- **PI, Hatch & Hatch-Multistate Equipment Grant, [$32,149]**. *Sep 2025*.
- **Co-PI, Insect Vectored Diseases Grant Program, [Total: $259,335; Gadhave: $104,085], Texas A&M AgriLife Research**. *Eco-friendly control of thrips and tomato spotted wilt virus in tomato using ZIF-8 encapsulated dsRNA biopesticides. Sep 2025- Aug 2027*.
- **Co-PI, Insect Vectored Diseases Grant Program, [Total: $320,000; Gadhave: $86,841], Texas A&M AgriLife Research**. *Elucidating transmission dynamics and resistance to mite-vectored diseases in differentially resistant cultivars of winter wheat. Sep 2025- Aug 2027*.
- **PI, Texas Wheat Producers Board Grant, [$10,000]**. Co-PI: Arora, A. *Developing RNAi based pesticide for greenbug management. Sep 2025-26*.
- **PI, Texas Department of Agriculture Zero Agricultural Pest & Disease Grant Program, [Gadhave: $105,000]**. Co-PI: Kumar, S. *Developing a tailored CRISPR-based tool for efficient detection and surveillance of pandemic specialty crop pathogens. May 2025- Apr 2027*.
- **PI, USDA-Specialty Crop Multi-State Program, [Total: $887,000; Gadhave: $491,538]**. *Integrative strategies for the surveillance, detection and management of resistance breaking strains of tomato spotted wilt virus and its supervector, thrips. Oct 2024- Sep 2027*.
- **PI, Texas A&M AgriLife Research Capacity Support for Graduate Students and Post-doctoral Scholars Program, [Gadhave: $20,835]**. *Salary support for Dr Surender Kumar. Apr-Aug 2024*.
- **Co-PI, NSF-NIFA Plant Biotic Interactions Program, [Total: $993,002; Gadhave: $245,188]**. *Resistance breaking strains of tomato spotted wilt virus: Gaining insights into the molecular basis of host-virus interactions. July 2024- June 2027*.
- **PI, New Innovator in Food and Agriculture Research Award, [Total: $499,157 Gadhave: $468,266], Foundation for Food & Agriculture Research**. *Using a novel RNA therapy to tackle the dual threat of tomato spotted wilt virus, a pandemic agricultural pathogen, and its supervector, thrips. Jan 2024- Dec 2026*.
- **PI, Insect Vectored Diseases Grant Program, [Total: $350,000; Gadhave: $147,557], Texas A&M AgriLife Research**. *Decoding the fundamental mechanisms of tomato spotted wilt virus (TSWV) evolution and transmission and developing a multifaceted approach to TSWV and thrips management. Sep 2023- Aug 2025*.
- **PI, Hatch & Hatch-Multistate Equipment Grant, [$136,375]**. *Oct 2023*.
- **Co-PI, Hatch & Hatch-Multistate Equipment Grant, [$104,335]**. *Oct 2023*.
- **PI, Texas Wheat Producers Board Grant, [$10,000]**. Co-PI: Gautam, S. *Mite-vectored virus diseases: impact on wheat root health and management using novel species of rhizobacteria. Sep 2023-24*.
- **PI, Hatch & Hatch-Multistate Equipment Grant, [$130,000]**. *Apr 2023*.
- **PI, Texas Corn Producer's Board Grant, [Total: $34,705; Gadhave: $22,455]**. *Investigating dual threat of spider mites and a new bacterial disease to corn production in the Texas Panhandle. Jan-Dec 2023*.

- **PI, Hatch & Hatch-Multistate Equipment Grant, [$150,000]**, *Oct 2022*.
- **PI, Insect Vectored Diseases Grant Program, [Total: $394,556; Gadhave: $161,200], Texas A&M AgriLife Research**. *Transmission biology of wheat curl mites and the pathogens they transmit: wheat streak mosaic virus and Triticum mosaic virus*. *Sep 2021- Aug 2023*.
- **Co-PI, Insect Vectored Diseases Grant Program, [Total: $392,650; Gadhave: $97,200], Texas A&M AgriLife Research**. *New tools, technology, and approaches for study and management of tomato spotted wilt*. *Sep 2021- Aug 2023*.
- **PI, California Citrus Research Board Grant, [$168,420], University of California, Riverside** (Resigned from the UCR position in January 2022). *Field evaluation of a novel virus-like RNA as an expression vector for Huanglongbing (HLB) & Tristeza management*. *Oct 2021- Sep 2023*.

Industry Support

- **PI, Ascribe Bioscience (Ithaca, NY) product efficacy trial, [$11,468]**. *Efficacy of Phytalix® against potato zebra chip development*. *Jan-Apr 2022*
- **Silvec Biologics Matching Support for FFAR New Innovator Award [Total: $25,000]**. *Jan 2024-Dec 2026*

Symposium/Travel Awards

- Plant Health 2025 Symposium: *The Ascendancy of Persistent Propagative Vector-borne Plant Viruses* funded by *Virology* and *Vector-Pathogen Complexes* Committees of the *American Phytopathological Society*. [$5,856]. *Aug 5, 2025*
- NC State Postdoc & House Officers Travel Award [$750 (declined)], NC State University, USA, *Apr 2019*
- Conference Participation Funds [£300+£225+£400], Royal Entomological Society, UK, *Feb 2015, Mar 2014 & Jan 2012*
- Postgraduate Research Study Costs Grant [£500], Royal Holloway, UK, *May 2014*
- Company of Biologists Travel Grants [£500+£300], Society for Experimental Biology, UK, *Apr 2014 & February 2012*
- Indian Subcontinent Fund Award [£1,000], Royal Holloway, UK, *Mar 2014*
- New Phytologist Poster Prize, New Phytologist Trust, UK, *Nov 2013*
- New Phytologist Symposium Grant [$200], New Phytologist Trust, UK, *Oct 2013*
- Annual Fund Award [£1,000], Royal Holloway, UK, *Jul 2013*

Presentations

1. *Breaking barriers: From host plant resistance to RNAi pest management* (invited talk, virtual), Department of Entomology Fall 2025 Seminar Series, University of Nebraska-Lincoln, NE. *Sep 5, 2025*
2. *Genomic, phylogenetic, and functional characterization of novel resistance-breaking tomato spotted wilt virus strains* (invited talk), Schroth Faces of the Future Symposium, Plant Health 2025 Meeting, Honolulu, HI. *Aug 4, 2025*

3. *Wheat streak mosaic dynamics and transmission in differentially resistant wheat cultivars* (invited talk), Entomological Society of America (ESA) Southwestern Branch Meeting, Round Rock, TX. *Mar 26, 2025*
4. *Breaking the Cycle: Understanding Insect Vector-Plant Pathogen Interactions for Smarter Management* (invited talk), Spring 2025 Seminar Series, Department of Plant and Soil Sciences, Texas Tech University, Lubbock, TX. *Feb 20, 2025*
5. *Using independent-mobile RNA to manage thrips and thrips-transmitted tomato spotted wilt virus* (invited talk), Entomological Society of America, Phoenix, AZ. *Nov 13, 2024*
6. *Novel resistance breaking strains of tomato spotted wilt virus: characterization, transmission and management through an RNAi-based approach* (invited talk), International Symposium on the Plant Bunyaviricetes and their Vectors, Bari, Italy. *Sep 25, 2024*
7. *Fighting fire with fire: using a novel virus-like RNA to develop targeted interventions against vector-transmitted plant pandemic virus* (invited talk), XXVII International Congress of Entomology, Kyoto, Japan. *Aug 29, 2024*
8. *Thrips transmission of novel tomato spotted wilt virus (TSWV) resistance breaking (RB) strains* (invited talk), 2023 Annual Meeting, Entomological Society of America, National Harbor, MD, USA. *Nov 8, 2023*
9. *Transmission biology of novel resistance breaking (RB) strains of tomato spotted wilt virus (TSWV)* (poster), Plant Health 2023 Meeting, Denver, CO, USA. *Aug 14, 2023*
10. *Using RNAi to innovate pest management: target genes and sequences* (invited talk), Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, India. *Apr 17, 2023*
11. *An independent-mobile RNA tool against plant antagonists: a 70-year journey* (invited talk), W13: Novel Methodology and Technology, American Society for Virology Meeting, Madison, WI, USA. *Jul 17, 2022*
12. *Turning enemies into allies: exploiting plant viruses as a multifaceted tool against plant antagonists* (invited talk), International Conference on Insect & Plant Biology 2021, Hansraj College, University of Delhi, New Delhi, India. *Oct 8, 2021*
13. *Plant viruses and insect vectors: strong alone, but unstoppable together?* (invited talk), Special Seminar, Seoul National University, Seoul, S. Korea. *Sep 6, 2021*
14. *Citrus yellow vein associated virus (CYVaV) novel RNA: 70-year-old California tale* (invited talk), 2021 Western Extension Research Activity (WERA) 20 Meeting, UC Riverside, CA, USA. *May 13, 2021*
15. *Vector-virus interactions in non-persistently and persistently transmitted plant viruses* (invited talk), 2019 Annual Meeting, Entomological Society of America, St. Louis, MO, USA. *Nov 20, 2019*
16. *Multi-trophic interactions between microbes, plants and insects* (invited talk), Entomology & Plant Pathology Fall 2019 Seminar Series, NC State University, Raleigh, NC, USA. *Aug 28, 2019*
17. *Barley yellow dwarf virus: literature review and research update*, Technical Area 1 Team Meeting, NC State University, NC, USA. *Oct 16, 2018*
18. *Vascular puncture inoculation of maize seed kernels for virus delivery*, Technical Interchange Meeting II, DARPA Headquarters, Arlington, VA, USA. *Jun 25-26, 2018*
19. *Papaya ring spot virus differentially manipulates vector and non-vector fitness* (invited talk), 2017 Entomological Society of America Southeastern Branch Meeting, Memphis, TN, USA. *Mar 13, 2017*

20. *Potyvirus vector and –non-vector interactions: preference, biology, and biochemistry* (invited talk), XXV International Congress of Entomology, Orlando, FL, USA. *Sep 29, 2016*
21. *Poster Huddle: Vector transmission of plant viruses – is it simple or complex?*, 2016 Annual Phytopathological Society Meeting, Tampa, FL, USA. *Aug 1, 2016*
22. *Aphid-mediated potyvirus transmission: host plant chemistry, vector biology & interactions* (poster), 2016 Annual Phytopathological Society Meeting, Tampa, FL, USA. *Aug 1, 2016*
23. *Do potyviruses modify host plant chemistry & vector biology?*, 2016 Georgia Entomological Society Annual Meeting, Pine Mountain, GA, USA. *Apr 7, 2016*
24. *Vector-virus-natural enemy interactions: molecules, ecology & applications* (poster), Graduate Education Meeting, University of Georgia, Tifton, USA. *Mar 17, 2016*
25. *Tri-trophic interactions: how Bacillus species matter?* (poster), K. S. Krishnan School for Chemical Ecology, NCBS, Bangalore, India. *Feb 23, 2015*
26. *Soil microbial inoculants in pest management: patterns, field efficacy & recommendations* (invited talk), Ecology & Evolutionary Biology Meeting, Royal Holloway, UK. *Dec 05, 2014*
27. *Plant growth promoting Bacillus mediated multi-trophic interactions* (invited talk), Xth European Congress of Entomology (ECE), York, UK. *Aug 06, 2014*
28. *Plant growth promoting bacteria and arbuscular mycorrhizal fungi: plant defense toolbox* (invited talk), Café Plant, Royal Holloway, University of London, UK. *Feb 27, 2014*
29. *Plant growth promoting Bacillus modify plant-insect interactions* (poster prize), 32nd New Phytologist Symposium, Universidad Católica Argentina, Buenos Aires, Argentina. *Nov 20, 2013*
30. *Soil microbial community & plant-insect interactions* (invited talk), XXIV International Congress of Entomology, Daegu, S. Korea. *Aug 21, 2012*
31. *Potential applications of plant growth promoting rhizobacteria in pest management* Postgraduate Symposium 2012, SBS, Royal Holloway, University of London, UK. *Apr 27, 2012*
32. *PGPR as chemical modulators of induced plant defenses* (poster), Max Planck Institute for Chemical Ecology (MPICE), Jena, Germany. *Nov 27, 2012*
33. *Integrated pest management in protected cultivation* (invited talk), Farmer training program, College of Agriculture, Pune, India. *Feb 04, 2011*

Postdoc/Student/Collaborator Talks

1. Arora A and Gadhave KR. *Developing RNAi based pesticide for greenbug management*. 2025 Small Grains Workers Meeting, College Station, TX. *Aug 6, 2025*
2. Hallan V and Gadhave KR. *Analysis of midgut and salivary gland components suggests the replication of tomato leaf curl Palampur virus in the whitefly vector Bemisia tabaci*. Plant Health 2025 Meeting, Honolulu, HI. *Aug 5, 2025*
3. Mitra A, Gadhave KR and Vidalakis G. *P-596 - Investigating the Impacts and Pollen Transmissibility of Citrus Yellow Vein-associated Virus in a California Field Trial*. Plant Health 2025 Meeting, Honolulu, HI. *Aug 5, 2025*
4. Kumar S. *Grower demonstration: Using LAMP assay for Candidatus Liberibacter solanacearum (Lso) detection*. Five growers. *Jun 17, 2025*
5. Arora A. Guest lecture: *Global Changes in Transcripts: RNA-Seq Analysis* (virtual). Course: *ENY6934 Omics in Entomology/Nematology Research*. University of Florida. *Jun 5, 2025*.

6. Gautam S and Gadhave KR. *Host plant resistance alters virus titer in host plants and vectors* (Poster). McFadden 2023 Wheat Symposium, Dallas, TX. *Apr 24, 2023*
7. Gautam S and Gadhave KR. *Seed transmission of wheat streak mosaic virus and Triticum mosaic virus in differentially resistant wheat cultivars*. APS-Caribbean Division Meeting, South Padre Island, TX. *Feb 9, 2023*
8. Chinnaiah S and Gadhave KR. *Emergence of novel resistance-breaking strains of tomato spotted wilt orthotospovirus infecting tomato and pepper in Texas* (Poster). APS-Caribbean Division Meeting, South Padre Island, TX. *Feb 9, 2023*
9. Gautam S and Gadhave KR. *Resistance to the wheat curl mite and mite-transmitted viruses in wheat: Implications on virus and mite fitness*. Small Grains Workers Meeting, College Station, TX. *Aug 3, 2022*

Research Commercialization

- *Development and evaluation of novel RNA biopesticides* in collaboration with Silvec Biologics, MD. *Jun 2020-*.
  Silvec Biologics is currently developing a novel RNA therapy-based products targeting tree crop pests. PI Gadhave co-discovered/characterized independent-mobile RNA (or iRNA) that forms the basis of novel RNA therapy. The Gadhave lab has developed iRNA-based tool against western flower thrips (See 'Research Summary' and 'Simon Support Letter' for more details).

III. TEACHING & MENTORING

Mentoring, Supervising or Advising, Texas A&M AgriLife Research

Postdoctoral Research Associates

1. **Rahul Mohan Singh** *Mar 2025-present*
2. **Arinder Arora** *May 2024-present*
3. **Surender Kumar** *Feb 2024-present*
4. **Senthilraja Chinnaiah** *Aug 2022-Jan 2025*. Current position: Postdoctoral Researcher, Middle Tennessee State University, Murfreesboro, TN
5. **Saurabh Gautam** *Apr 2022-Nov 2023*. Current position: Entomologist & Field Operation Manager, Alliance of Pest Control Districts, Visalia, CA

Graduate Students

1. **Udvashika Puri**, PhD (Entomology) student in the Texas A&M Department of Entomology. *May 2024-present*
2. **Richard Smith**, PhD (Plant, Soil & Environmental Science) student at West Texas A&M University. *August 2025-*
3. **Rohith Mettumpurath Sasi**, PhD (Entomology) student in the Texas A&M Department of Entomology. *Starting Spring 2026*
4. **Chakri Voruganti**, Committee Member- PhD (Department of Plant & Soil Sciences), The Rajan Lab, Texas Tech University. *Aug 2025-*

Research Staff

1. **Johnathan McDougal**, Research Technician I. *Sep 2025-*
2. **Benjamin Herron**, Former Technician II (PI Gadhave). *May 2022-Aug 2023*. Current position: Soil & Water Management Research Agronomist, USDA- ARS, Bushland, TX

Undergraduate Students

1. **Thomas Grimes**, West Texas A&M University, Major: Agriculture. *May 2025-present*
2. **Johnathan McDougal**, West Texas A&M University, Major: Agriculture. *Oct 2024-May 2025*
3. **Jewels Hernandez**, West Texas A&M University, Major: General Agriculture. *May 2024-Aug 2024*
4. **Justice Crowder**, Amarillo College, Major: Horticulture *Sep 2023-Apr 2024*
5. **Nichaela Moore**, Amarillo College, Major: Horticulture *Sep 2023-Apr 2024*
6. **Tyler Schneider**, West Texas A&M University, Major: Crop and Soil Sciences. *Sep 2022-Jul 2023*
7. **Cassidy Jagers**, West Texas A&M University, Major: Agricultural Education. *Sep 2022-Dec 2022*
8. **Alejandra Camarillo**, West Texas A&M University, Major: Agriculture. *Jan-May 2022*. Current position: Terrell County Extension Agent, Texas A&M AgriLife Extension

Mentor- EntoMentos

A virtual mentoring program of the Entomological Society of America.
Provided targeted mentorship to graduate students by addressing their individual academic and professional development needs.

1. **Katherine Paulos**- A PhD Student at Cornell University Department of Entomology. Currently providing guidance on productivity metrics for succeeding as a PhD student and securing a career in academia. *Aug-Nov 2025*.
2. **Rohith Sasi**- An Erasmus Mundus Master's student in Plant Health at Ghent University, Belgium. Actively mentoring Mr. Sasi through the PhD application process as he aspires to pursue a doctorate in the United States. *Jun-Nov 2025*.
3. **Amanda Quadrel**. Offered insights and guidance on the application and interview process for industry positions. According to her, this mentorship helped her secure her current role as Agriculture & Natural Resources Senior Program Coordinator – IPM at Rutgers University. *July 2024*.

Lab Training, NCSU, UCR & UGA

Postdoctoral Research Associates, NCSU

1. **Ordom Huot** and **Colin Murphee**. Vascular puncture inoculation of plant viruses. *2018*
2. **Alma Laney** and **Qin Yang**. Transient expression of proteins in corn protoplasts. *2018*

Graduate Students

1. **Stacey Comstock**. Citrus protoplast extraction and CYVaV transfection. UCR. *2021*
2. **Saurabh Gautam**. DNA/RNA extraction, RT-PCR, Geneious software. UGA. *2016*
3. **Anita Shrestha** and **Wendy Merchant**. Statistical analyses. UGA. *2016*

Undergraduate Research Project Advisor, UCR & RHUL

1. **Michael Carrasco** and **Catherine Velasco-Dong**. Aphid and pollen transmission studies of citrus yellow vein associated virus. UCR. *Summer 2021*
2. **Arabella Ross**. Rhizobacterial community analysis. RHUL. *Aug-Oct 2014*
3. **Elizabeth Plumb**. Characterization of calabrese root endophytic bacteria. RHUL. *Sep-Dec 2013*

Nuffield foundation A-level Student Research Project Advisor, RHUL

1. **Andrew Russell**. Diversity of calabrese phyllobacteria. *Jul-Aug 2014*
2. **Caroline Clarke**. Rhizobacteria effect on aphid fitness. *Jul-Aug 2013*

Teaching

Guest Lectures

1. **PSES5371 Field Crop Entomology** and **PSES2313 Economic Entomology** *Insect vector biology program at Texas A&M AgriLife Research*. West Texas A&M University. *Oct 25, 2023*
2. **PSES2313 Economic Entomology** *Harnessing virus and insect genes to innovate pest management*. West Texas A&M University. *Mar 27, 2023*
3. **PSES2313 Economic Entomology** *Insect vector biology: basic, applied and translational research*. West Texas A&M University. *April 13, 2022*
4. **PATH3530 Introduction to Plant Pathology** *Reverse transcription and polymerase chain reaction*. UGA. *Feb 2016*

Undergraduate Teaching Assistant, RHUL

1. **BS2090 Insects, Plants, Fungi** Instructor: A. Gange. *Jan-Mar 2014*
2. **BS1070 Cell Biology & Genetics** Instructor: E. Leadbeater. *Sep-Dec 2013*
3. **BS1040 Diversity of Life** Instructor: E. Lopez. *Sep-Dec 2012 & 2013*
4. **BS1030 Principles of Molecular Bioscience** Instructor: J. McEvoy. *Sep-Dec 2012*

IV. EXTENSION/OUTREACH

Extension Activities

1. Provided thought leadership for developing Texas A&M AgriLife Research- Amarillo website as a member of the web strategy team. *Nov 2022-Apr 2024*
2. Presented the overview of *Entomology Program at Texas A&M AgriLife Research* at Small Grains Plot Tour, Bushland, TX (40 participants). *May 26, 2022*
3. Co-created The Vegetable Blog with Bhabesh Dutta (UGA). The blog offers disease/pest management recommendations to 3500 subscribers. *Jul 2016-Oct 2017*
4. Co-organized a farmer training program on *Protected Floriculture & Olericulture* at College of Agriculture, Pune, India (50 participants). *Feb 1-4, 2011*
5. Conducted ten method demonstrations on various aspects of crop production and protection during the Rural Agricultural Work Experience program in Gadhinglaj, India (100 participants). *Jun-Nov 2006*

6. Co-organized 'Kisan' agricultural exhibition to introduce farmers to latest tools and novel practices in agriculture, Kolhapur, India (100 participants). *Nov 2006*
7. Co-organized a panel discussion to help farmers address their agricultural issues, Kolhapur, India (200 participants). *Oct 2006*.

Outreach Activities

1. Outreach talk: *My journey in academia*, Rajendra Junior College, Khandala (India), 50 teachers. *Apr 2024*
2. Outreach talk: *Higher education opportunities for agricultural science graduates* at Mokashi Krishi Vikas Pratishthan, Karad (India) (100 participants). *Sep 15, 2015*
3. Published the article The Curious Case of the Large Blue Butterfly — a Conservation Success Story in Entomology Today. *Apr 4, 2014*
4. Presented outreach talk *Diversity of insect life* on National Insect Day at Eton College Natural History Museum, UK (50 school children). *Jul 1, 2012*
5. Presented outreach talk *Life history of butterflies and moths* on Open Day at Windsor Great Park School, UK (50 school children). *Jun 13, 2012*
6. Co-led a group of 17 Cornell University students (Rural Infrastructure Team); introduced them to various aspects of rural life in India as a part of the International Agriculture and Rural Development (IARD6020) field trip to India. *Jan 3-17, 2010*

Media Coverage

1. Federal Awards Press Coverage: AgriLife Today; EurekAlert! *Jan 14, 2025*. *Highlighted in USDA-NIFA Newsletter in Jan 2025; Trending story on Morning AgClips in Texas; Viewed/read by over 2400 visitors (TAMU MarComm Stats)*.
2. AgriLife Research Director's Awards Press Coverage: AgriLife Today *Jan 7, 2025*.
3. FFAR NIA Award Press Coverage: AgriLife Today *Apr 3, 2024*; Greenhouse Magazine *Apr 9, 2024*
4. Will lemons be vaccinated too? (Translation of the original Deutsche Welle article in Greek) *Jul 5, 2021*
5. ARD (German National Public Radio) Interview. *Jun 25, 2021*
6. Decoded genome of little-known disease offers hope for citrus. UC Riverside News. *Jun 10, 2021*
7. How Plant 'Vaccines' Could Save Us From a World Without Fruit. The Discover Magazine Article. *Apr 15, 2021*

V. SERVICE

Editing & Reviewing

- **Associate Editor**, *Frontiers in Insect Science*. *Apr 2024-present*
- **Reviewer**, 48 manuscripts.

* 35 interdisciplinary journals: *Plant, Cell & Environment (1), Virus Evolution (1), Cell Press Multi-Journals (1),Entomologia Experimentalis et Applicata (4),Frontiers in Microbiology (1), Journal of Phytopathology (1), New Phytologist (1), Plant Disease (1), PLoS One (1), Physologia Plantarum (1), Current Opinion in Insect Science (1), Phytopathology (1), Scientific Reports (1), Virus Research (4), Weed Research (1), Canadian Entomologist (1), Frontiers in Plant Science (2), Journal of Plant Pathology (1), Plants (3), Arthopod-Plant Interactions (1), Journal of Citrus Pathology (1), Journal of Plant Pathology (1), Scientific Reports (3), Viruses (1), Agronomy (1), Insect Molecular Biology (1), Insect Science (1), Insects (2), Pest Management Science (2), Microbial Metatranscriptomics Belowground (1 book proposal), Biological Control (1), Environmental Microbiology Reviews (1), Heliyon (1), Journal of Applied Microbiology (1), Journal of Ecology (1)*

– **Panelist/Grant Reviewer**

1. **Panelist**
   NSF-NIFA Plant Biotic Interactions Program. Presented 7 proposals; reviewed 35 proposals *2024*.
   NSF-NIFA Plant Biotic Interactions and NSF Physiological Mechanisms and Biomechanics (Plant) Programs. *May 16-18, 2023* (Invitation declined due to other committments)
2. **Foundation for Food & Agriculture Research** (FFAR) New Innovator Award Program Proposals. *May 2024, 2025*
3. **NSF IOS-Symbiosis, Infection & Immunity** Proposal. *Nov 2023*
4. **Insect Vectored Diseases Grant Program**, Texas A&M AgriLife Research, 6 Proposals. *Sep 2023, May 2025*
5. **Binational Agricultural Development Fund** (BARD). 2 Proposals: *Jan 2022 & Apr 2019*

Service & Leadership

– **Elected Member, Faculty Advisory Committee**, Texas A&M University Department of Entomology. The committee serves as a bridge between faculty and the department head as a means to convey matters of importance and as a mechanism to delegate specific tasks that require faculty leadership. *Sep 2025-2027*

– **Member, Search Committee**, Assistant Professor and Extension Specialist (Entomology) position at Texas A&M AgriLife Research- Amarillo. *Sep 2024-present*

– **Member, NIH Task Force**. Appointed by Texas A&M AgriLife Research leadership to increase agency-wide NIH funding. *Mar 2024-present*

– **Member, Graduate Admissions Committee**, Texas A&M University Department of Entomology. Evaluate graduate student applications for their admissibility. *Dec 2023-2025*

– **Member, Crop Sciences Coordinating Committee**, Texas A&M AgriLife Research- Amarillo. Advise Center Director on agency-wide research program, infrastructure and staffing needs. *Oct 2023-2025*

– **Member, Search Committee**, Assistant Professor (Plant Pathology) position at Texas A&M AgriLife Research- Amarillo. *Sep 2022- Apr 2023*

– **Adjunct Professor**, Paul Engler College of Agriculture & Natural Sciences, West Texas A&M University, Canyon, TX. *Oct 2022-present*

– **Symposia Organized at Scientific Meetings**

1. *The Ascendancy of Persistent Propagative Vector-borne Plant Viruses*, Plant Health 2025

Meeting, Honolulu, HI, USA. *Aug 5, 2025*.
2. *10-2. Harnessing insect vector-plant-pathogen interactions to innovate pest management*, XXVII International Congress of Entomology, Kyoto, JP. *Aug 29, 2024*
3. *Emerging Diseases*, American Phytopathological Society- Caribbean Division Meeting, S. Padre Island, TX, USA. *Feb 11, 2023*

- **Vice-Chairman**
  Postdoctoral Committee, NC State Entomology & Plant Pathology, *Oct 2018-Jun 2020*
  University of Georgia Postdoctoral Association (Tifton campus), *Jun 2016-2017*
- **Judge- student competitions**
  1. PhD 10-min Presentations, Entomological Society of America (ESA) Southwestern Branch Meeting 2025, Round Rock, TX, USA, *Mar 26, 2025*
  2. Grad MUVE: Vector Biology & Management, Entomology 2023 Meeting, National Harbor, MD, USA, *Nov 6, 2023*
  3. Grad P-IE, Molecular and Cell Biology/Novel Tools, Entomology 2019 Meeting, St Louis, MO, USA, *Nov 18, 2019*
  4. Regional Science & Engineering Fair, ABAC, Tifton, GA, USA, *Jan 2016 & 2017*

Other professional activities

- **Co-founder and Head (Communication)**, Scholar Foundation (India), Raised ₹228,000 to help underprivileged students and underfunded schools in India. *2016-2021*
- **Residential Support Assistant**, Led welfare teams, resolved student issues and conflicts, contributed to creating a safe living environment in the North A30 Halls of Residence at Royal Holloway, UK. *Sep 2012-2014*
- **Student Mentor**, Education Support Office, Royal Holloway, UK. Mentored 2 students with special needs. *Sep 2013-14*
- **Examinations Invigilator**, Undergraduate and postgraduate final examinations, Royal Holloway, UK. Invigilated undergraduate and graduate final exams, ensured the security of exams, prevented student malpractices. *Apr-May 2012 & 2013*

Memberships

- **American Society for Virology**, *Jan 2022-2024*
- **American Phytopathological Society**, *Mar 2016-present*
- **Entomological Society of America**, *Aug 2012-present*
- **Royal Entomological Society**, *2010-2015*