

CURRICULUM VITAE

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Current Position

Assistant Professor

Urban Entomologist/Insect Ecologist

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College of Food and Agricultural Sciences

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Responsibilities: Teaching and Research (Event Director of FAMU Annual Field Day).

Educational Qualifications/Affiliations

- **Ph.D.** (Entomology), Charles Sturt University, Orange, Australia, December 2015.
Thesis title: Bionomics and nutritional ecology of three species of Aphalaridae (Psylloidea) of varied guilds in Australia feeding on different species of *Eucalyptus* (Myrtaceae) in central-western New South Wales (July 2011–December 2014).
- **M.Sc.** in Zoology (Entomology) from Jai Narain Vyas University, Jodhpur, India, 2008.
Conducted a field-based research study as part of M.Sc. title on the thesis: ‘Bee species (Hymenoptera: Apoidea) composition on *Vigna radiata* in and around Jodhpur city.’
- **B.Sc.** in Biology from Jai Narain Vyas University, Jodhpur, India, 2006.
- **Associate Ecologist**, certified by Ecological Society of America from June 1, 2018, to June 30, 2023.
- **Chair** for Regional Research meeting S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) since November 2018. Served as secretary for the group from 2017 to 2021.

Research Experience

Research Associate (April 2020 to November 2021)

Virginia Polytechnic Institute and State University

- Worked on ‘Feed the Future Nepal Integrated Pest Management (FTFNIPM)’ in collaboration with USAID (United States Agency for International Development).
- Worked on ‘Feed the Future Bangladesh Integrated Pest Management (FTFNIPM)’ in collaboration with USAID (United States Agency for International Development).
- Assisted in activities (research, developing source material for training, writing grants, hiring) related to 8 sub-awards in African and Asian countries.

Post-doctoral Research Associate (April 2017 — March 2020)

Montana State University

- Licensed pesticide applicator, obtained in 2018 from Montana, USA.

- Worked on ‘Evaluation of the effectiveness of entomopathogenic fungi, reduced risk chemicals, and trap crops for the management of wireworms on spring wheat’.
- Worked on ‘Evaluation of biopesticides against crucifer flea beetles and cabbage seedpod weevils on canola’.
- Worked on biological management of insect pests of pulses, such as pea weevil, pea leaf weevil, and southern cowpea weevil.
- Worked on evaluating the effectiveness of bio-pesticides against alfalfa weevil.

Served as Co-PI for following projects from September 2019 to March 2020

- Evaluation of the effectiveness of entomopathogenic fungi, reduced risk chemicals, and trap crops for the management of wireworms on spring wheat.
- Monitoring of Wheat Midge and its Parasitoids *Macroglanes penetrans* and *Platygaster tuberosula* in Irrigated and Dryland Spring Wheat in Golden Triangle, Montana.
- Developing management strategies for pulse insect pest complex in Montana.
- Pheromones as tools for monitoring the insect pests in the Northern Plains Instructive Tools for Agricultural Professional (serving as Co-PI since October 2017).

Technical Officer (11 November 2014—30 October 2015)

**Charles Sturt University
Orange, NSW, Australia**

- Collaborated with the project of Queensland Government, Centre for Agricultural Bioscience International, Australia to study ‘Biological control of bellyache bush (*Jatropha gossypiiifolia*) June 2015—October 2015’.
- Studied histology of *Jatropha gossypiiifolia* (Euphorbiaceae) galls infested and induced by *Prodiplosis longifila* (Diptera: Cecidomyiidae).
- Participated in Biological management of the invasive *Vachellia nilotica* ssp. *indica* in tropical Australia. Studied stress-inducing potential of *Anomalococcus indicus*, an agent of promise.
- Participated in the development of a project proposal on ‘Genetic analysis of *Eucalyptus canobolensis* and *Eucalyptus rubida* on Mount Canobolas (Orange, NSW, Australia)’ to study the genetic variation in two ambiguous taxa of *Eucalyptus* in South East Highlands Bioregion of New South Wales.

Visiting Research Scholar (23 May 2014— 29 June 2014)

**University of Nebraska
Lincoln, Nebraska, USA**

- As part of Ph.D., analysis of nutritional requirements of three species of Psylloidea was done which included profiling of total non-structural carbohydrates, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values, amino acids, fatty acids, sterols, and minerals in *Eucalyptus* leaves by using (LC—MS/MS) elemental analyzer, GC—MS system, Somogyi-Nelson alkaline-copper method.
- Study of the presence of enzymes in salivary glands of *Ctenarytaina eucalypti*, which was responsible for causing stress in *Eucalyptus globulus* was done by applying the SDS page to separate salivary proteins.

PhD (Entomology)

**Charles Sturt University,
Orange, Australia, July 2011—December 2015**

- Studied bionomics and nutritional ecology of three species of Aphalaridae (Psylloidea) of varied guilds in Australia feeding on different species of *Eucalyptus* (Myrtaceae) in central-western New South Wales.
- Evaluated different facets of the relationship of the most important flora and fauna of Australia.

- Displayed variation in bionomics and nutritional requirements of three feeding guilds of Psylloidea in terms of variations in carbohydrates, amino acids, fatty acids, minerals, and sterols in uninfested and infested leaves of *Eucalyptus*
- Evaluated the interaction of salivary proteins of free-living *Ctenarytaina eucalypti* causing stress in host plant *Eucalyptus globulus*; evaluated nutritional variation between three different guilds.
- Discovered that a group of sterols create this fidelity of gall-inducing Psylloidea to their specific hosts.

Research assistant (11 September 2008—31 May 2011)

Arid Forest Research Institute

Jodhpur, Rajasthan, India

- Contributed as an entomologist, in the Indo—Australian project (New biological control opportunity for Prickly Acacia: an exploration in India) pertaining to the search for potential arthropods useful in the biological management of *Acacia nilotica indica*.
- Cataloged the arthropods found on native species of Acacias, studied their life cycle on artificial diets, and performed choice tests for selection of potential biological control agents.
- Attended the national training course (28 February—9 March 2009) on the ‘Mass Production technology of Biological Control Agents’ at IARI, New Delhi.
- Analyzed loss of yield due to damage caused by selected species of Hemiptera and Lepidoptera on *Lawsonia inermis* and *Plantago ovata* and the impact of various types of integrated pest management strategies while participating in ‘Management of potential insect pests and diseases of important medicinal plants growing in arid and semi-arid regions’. The use of organic manure and *Azardirctha indica* extract proved to be the most economical and environmentally friendly method.
- Studied the life cycle of *Acanthophorus serraticornis* (Coleoptera: Cerambycidae), which is considered to be the most detrimental factor for mortality of *Prosopis cineraria* while working in ‘Integrated management of Khejri Mortality for socio-economic upliftment in Rajasthan’. *A. serraticornis* life cycle is prolonged in artificial conditions, and also varies on different diets.

Teaching Experience

Technical Officer (11 November 2014—30 October 2015)

Charles Sturt University

Orange, NSW, Australia

- Responsible for coordination and operation of the research laboratories, horticulture facilities, and associated field activities.
- Worked with undergraduate students, international coursework masters students, and research students, providing advice and direction in project development and risk management documentation and conduct their ecology-based research effectively and error freely in limited time frames.
- Organized and taught in residential schools (e.g., *The Biological Environment*), which included preparation of class materials for teaching.

Post-doctoral Research Associate (April 2017—March 2020)

Montana State University

- At MSU, I supervised undergraduate summer interns in 2017, 2018, and 2019.
- Supervised a Montana Agriculture Experiment Station (MAES) internship undergraduate student in 2017.
- Supervised a master’s student (May 2019- February 2020) as Co-PI of the project ‘Developing management strategies for pulse insect pest complex in Montana’.
- Involved in mentoring activities of a PhD student (April 2017 to February 2020).

- Actively participated in the supervisory activities for a Ph.D. student, working on the 'insect-fern interaction' from the Department of Environmental Sciences, Central University of Kerala, Kasaragod, Kerala, India (March 2019-February 2020).

Extension Experience

Research assistant (11 September 2008—31 May 2011)

Arid Forest Research Institute Jodhpur, Rajasthan, India

- Worked with farmers to disseminate the information on biological control of insect pests of *Lawsonia inermis* and *Plantago ovata*.
- Worked on growing conditions of agroforestry tree, *Prosopis cineraria*, and its management along with other crops, such as *Vigna radiata*.
- Co-organized brainstorming session on 'Khejri mortality, and its evaluation in North-Western Rajasthan', November 2010 to disseminate the information to the farmers.

Post-doctoral Research Associate (April 2017—March 2020)

Montana State University

- Served as Co-PI, Western Region SARE-USDA-NIFA, Professional Development Program (PDP). Dr. G.V.P. Reddy (PI), Pheromones as tools for monitoring the insect pests in the Northern Plains Instructive Tools for Agricultural Professionals. Organized workshop in March 2019, Great Falls, Montana.
- Worked with extension agents to assess local insect pest issues.
- Regularly participated in meetings, seminars, and workshops to talk about my research.
- Actively published outreach articles.

Research Associate (April 2021 to date)

Virginia Polytechnic Institute and State University

- Published IPM packages.
- Actively published outreach articles.
- Organized and presented in the webinars.

Refereed Journal Publications

1. **Sharma, A.**, Muni, R., Burckhardt, D., 2024. First record of *Mycopsylla gardenensis* (Bhanotar, Gosh & Gosh) (Hemiptera: Psylloidea, Carsidaridae) on *figus religiosa* in Nepal. Indian Journal of Entomology (in process).
2. Gaffke, A., Millar, N., **Sharma, A.**, Allan, S., 2024. (in process). Attraction of sweet potato whitefly, *Bemisia tabaci* (Hemiptera: Aleyrodidae), and two generalist predators, *Macrolophus praeclarus* (Hemiptera: Miridae) and *Delphastus catalinae* (Coleoptera: Coccinellidae), to green leaf volatile compounds. Arthropod-Plant Interactions.
3. Muniappan R, Ba M, **Sharma A (corresponding author)** and Hendery S. 2024. Editorial: Integrated Pest Management of tropical crops. Front. Agron. 6:1407495. doi: 10.3389/fagro.2024.1407495.
4. **Sharma A** and Raman A. 2022. Gall-inducing Psylloidea (Insecta: Hemiptera)—plant interactions. *Journal of Plant Interactions*. **17**, 580-594.
5. **Sharma A**, Muniappan R. 2021. Ecology and management of papaya mealybug (*Paracoccus marginatus* Williams and Granara de Willink) in Indian subcontinent - achievements and lessons. Indian Journal of Entomology. 83. Online published Ref. No. e21198
6. **Sharma A**, Muniappan R. 2021. Yelseti Ramachandra Rao's contribution to entomology and his pioneering work on invasive plant species. Current Science. **121**, 167-170.
7. **Sharma A**, Muniappan R. 2021. IPM for Tropical Crops: Lentil. CAB Reviews 2021 16, No. 052.

8. Sandhi RK, Shapiro-Ilan D, **Sharma A**, Reddy GVP. 2020. Efficacy of entomopathogenic nematodes against the sugarbeet wireworm, *Limonijs californicus* (Mannerheim) (Coleoptera: Elateridae). *Biological Control*. <https://doi.org/10.1016/j.biocontrol.2020.104190>
9. **Sharma A**, Sandhi RK, Reddy GVP. 2019. Interaction of the insect biological control agents with semiochemicals. *Insects*. <https://doi.org/10.3390/insects10120439>.
10. **Sharma A**, Jaronski S, Reddy GVP. 2019. Impact of the granular carriers to improve the efficacy of entomopathogenic fungus against wireworms in spring wheat. *Journal of Pest Science*. DOI: 10.1007/s10340-019-01161-1.
11. **Sharma A**, Shrestha G, Reddy GVP. 2019. Trap Crops: How far we are from using them in cereal crops. *Annals of the Entomological Society of America* **112**, 330-339.
12. Reddy GVP, Shrestha G, **Sharma A**, 2019. Special issue on the Application of Trap and Cover Crops in the Insect Pest Management. Editorial. *Annals of the Entomological Society of America*. **112**, 293-294.
13. Ichinose K, Reddy, GVP, Shrestha G, **Sharma A**, Okada Y, Yoshida M, Sakai T. 2019. Interplanting Different Varieties of a Sweet Potato Crop to Reduce Damage by Oligophagous Insect Pests. *Annals of the Entomological Society of America* **112**,365-371.
14. **Sharma A**, Sandhi RK, Briar SS, Miller JH, Reddy GVP. 2018. Assessing the performance of pea and lentil at different seeding densities as trap crops for the management of wireworms in spring wheat, *Journal of Applied Entomology*, **143**,460-469.
15. **Sharma A**, Jha P, Reddy GVP. 2018. Multidimensional relationships of herbicides with insect-crop food webs. *Science of the Total Environment* **643**, 1522–1532.
16. Briar SS, Shrestha G, **Sharma A**, Reddy GVP. 2019. Effect of Nitrogen rate on *Phyllotreta cruciferae*, flea beetle and *Ceutorhynchus obstrictus*, cabbage seed pod weevil injury pressure, and canola yield parameters in a dry land system, *Phytoparasitica, in communication with Phytoparasitica*.
17. Burckhardt D, **Sharma A**, Raman A, 2018. Checklist and comments on the jumping plant-lice (Hemiptera: Psylloidea) from the Indian subcontinent. *Zootaxa* **4457**, 001-038.
18. Briar S, Antwi F, Shrestha G, **Sharma A**, Reddy GVP, 2018. Potential biopesticides for crucifer flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae) management under dryland canola production in Montana. *Phytoparasitica*, **46**, 247-254.
19. Reddy GVP, **Sharma A**, Gadi RL, 2017. Biology, Ecology, and Management of the Pea Weevil, *Bruchus pisorum* (Coleoptera: Chrysomelidae). *Annals of Entomological Society of America*. **111**, 161-171.
20. Raman A, **Sharma A**, 2017. The past and present of Indian Psylloidea (Hemiptera: Sternorrhyncha). *Indian Journal of Entomology*, **79**, 383–393.
21. Dhileepan K, Nesar S, Rumiz D, Raman A, **Sharma A**, 2017. Host associations of gall-inducing *Prodidiplosis longifila* (Diptera: Cecidomyiidae) from Bolivia: implications for its use as a biological control agent for *Jatropha gossypifolia* (Euphorbiaceae). *Florida Entomologist*, **100**, 777–786.
22. **Sharma A**, Raman A, 2017. Feeding biology and nutritional physiology of Psylloidea (Insecta: Hemiptera): implications in host-plant relations. *Current Science*, **113**, 1543–1552.
23. AL-Habsi SN, **Sharma A**, Raman A, 2017. Arthropod biodiversity and abundance in organically and conventionally managed, cool-climate vineyards in Orange, New South Wales, Australia. *International Journal of Ecology and Environmental Sciences* **43**, 9–15.
24. **Sharma A**, Allen J, Madhavan S, Raman A, Taylor G, Fletcher M, 2016. Complex lipids and sterols in the leaves of three species of *Eucalyptus* (Myrtaceae) hosting three species of Aphalaridae (Hemiptera: Psylloidea): do they have a role in regulating host fidelity? *Annals of Entomological Society of America*. **109**, 890–898.
25. **Sharma A**, Allen J, Madhavan S, Raman A, Taylor G, Fletcher M, 2015a. How do free-living, lerp-forming, and gall-inducing Aphalaridae (Hemiptera: Psylloidea) affect the nutritional quality of *Eucalyptus* leaves? *Annals of Entomological Society of America*, **109**, 127–135. doi: 10.1093/aesa/sav094).

26. **Sharma A**, Madhavan S, Raman A, Taylor G, Fletcher M, 2015b. Salivary gland structure of *Ctenarytaina eucalypti* (Hemiptera: Aphalaridae) and interaction of salivary proteins with *Eucalyptus globulus globulus*. *Polish Journal of Entomology*, **84**, 21–32.
27. **Sharma A**, Raman A, Taylor G, Fletcher M, Nicol H, 2015c. Feeding and oviposition behaviour of a gall-inducing species of *Glycaspis (Syngycaspis)* (Hemiptera: Psylloidea: Aphalaridae) and development of galls on the leaves of *Eucalyptus macrorhyncha* (Myrtaceae) in central western New South Wales, Australia. *European Journal of Entomology*, **112**, 75–90.
28. **Sharma A**, Raman A, Taylor G, Fletcher M, Nicol H, 2015d. Development, feeding and oviposition behaviour of *Ctenarytaina eucalypti* (Maskell) (Hemiptera: Psylloidea: Aphalaridae) on *Eucalyptus globulus* (Myrtaceae) in the central tablelands of New South Wales. *Austral Entomology*, **54**, 159–171.
29. Khan AN, **Sharma A**, Raman A, Dhileepan K, Hodgkins DS, 2014. Biological management of the invasive *Vachellia nilotica* ssp. *indica* (Benth.) Kyal. & Boatwr. (Fabales: Mimosoideae) in tropical Australia: stress-inducing potential of *Anomalococcus indicus* Ramakrishna (Insecta: Hemiptera: Coccoidea: Lecanodiaspididae), an agent of promise. *The Arboricultural Journal* **36**, 63–75.
30. **Sharma A**, Raman A, Taylor G, Fletcher M. 2013 Nymphal development and lerp construction of *Glycaspis* sp. (Hemiptera: Psylloidea) on *Eucalyptus sideroxylon* (Myrtaceae) in central-west New South Wales, Australia. *Arthropod Structure & Development*, **42**, 551–564.
31. **Sharma A**, Khan AK, Subrahmanyam S, Raman A, Taylor GS, Fletcher MJ, 2013. Salivary proteins of plant-feeding hemipteroids – implication in phytophagy. *Bulletin of Entomological Research*, **104**, 117–136.
32. Raman A, **Sharma A**, 2013. Remembering T.V. Ramakrishna, the doyen of Indian entomology. *Current Science*, **105**, 712–717.

Book Chapters

1. Sharma, A., Mendu, V., Reddy, G.V.P. 2024. Host Plant Resistance to Insect Pests in Wheat. In: Kumar, S., Furlong, M. (eds) Plant Resistance to Insects in Major Field Crops. Springer, Singapore. https://doi.org/10.1007/978-981-99-7520-4_5
2. Al- Tawaha ARM, **Sharma A**, Banerjee D, Sengupta J. 2021. Insect-Plant Interactions, in Climate Change and Plants Biodiversity, Growth and Interactions (Fahad S, Sonmez O, Saud S, Wang D, Wu C, Adnan M, Turan V)., CRC Press. Pp.226.
3. Reddy GVP, **Sharma A**, Guerrero A. 2020. Advances in the use of semiochemicals in integrated pest management: pheromones. In: Biopesticides for sustainable agriculture, Vol 1. Editor (Birch, N., and Glare, T)., pp. 251-281. Burleigh Dodds Science Publishing, Cambridge, UK.
4. **Sharma A**, Reddy GVP. 2020. IPM and Pollinator Protection in Canola Production in the USA. In Springer book series: 'Progress in Biological Control'. Editor (Yulin Gao, Heikki Hokkanen, & Ingeborg Menzler-Hokkanen). Springer.

Non-Refereed Publications

1. Sharma A, Shrestha G, Miller DA, Lane T, and Reddy GVP. 2019. Wheat head armyworm monitoring: a survey and lure dose response in Montana, USA. *Journal of Eco-friendly Agriculture*. **14**: 55-59.
2. Dhileepan K, Balu A, Ahmed SI, Singh S, Srivastava K, Senthilkumar M, Murugesan S, Senthilkumar P, Gorain M, **Sharma A**, Sharma N, Mahalakshmi R & Shivas R. New biological control opportunities for prickly acacia: exploration in India. New biological control opportunities for prickly acacia: Exploration in India. In: Proceedings of the 17th

Australasian Weeds Conference, (ed. Zydembos SM.), Christchurch: *New Zealand Plant Protection* 2010, 231–234.

3. K.K. Srivastava, Neelam Verma, Sangeeta Singh, Bhawana Sharma and **Anamika Sharma (2011)**. Selection of an efficient strain of arbuscular mycorrhizal fungi for mehndi (*Lawsonia inermis*) and ashwagandha (*Withania somnifera*). In: Abstract of the Indian Forestry Congress, at New Delhi, pp. 200-201.

Book reviews

1. Raman A, **Sharma A** & Subrahmanyam S. Effectors in plant-microbe interactions. *Journal of Plant Interactions*, Taylor & Francis, U.K., 7 (4), 2012, 376.
2. Raman A, **Sharma A** & Hodgkins D. Nature's weapons in the war on weeds. *ECOS* [CSIRO publishing, Victoria], 2012.
<http://www.ecomagazine.com/paper/EC12366.htm>.
3. Book proposal review: CABI new book proposal. Basics of Entomovectoring (Editors: Hokkanen, Heikki MT and Menzler-Hokkanen, Ingeborg).

Extension/Popular Articles

1. Santos, P., Ashbrook, A., **Sharma, A.**, 2024. Scientists, PMPs Collaborating to Map Termite Distribution in Southern U.S. Pest Control Technology, May 19, 2024.
<https://www.pctonline.com>
2. **Sharma, A.**, and Ferguson T. 2024. The Red Imported Fire Ant and Its Sting, PestPro, March-April 2024- Extension article in popular magazine.
3. Muniappan, R., **Sharma, A.**, Hendery, S., Sidhu, J., Fayad, A., Ba, M., Tefera, T. 2021. IPM Packages for Tropical Crops. Published by the Center for International Research, Education, and Development, Virginia Tech, Virginia, USA. 72 p.
4. **Sharma, A.** 2021. Augmentative biological control. *International Pest Control* – November/December 2021 – Vol 63, Nr.6. (November 23, 2021).
5. **Sharma, A.** 2021. IPM Packages Streamline Crop-Pest Solutions in Developing Countries. *Entomology Today*, July 22, 2021
6. **Sharma, A.** 2021. Why Augmentative Biological Control Holds Promise for Advancing Agriculture in Developing Countries, *Entomology Today*, Oct 25, 2021.
7. **Sharma A**, Muniappan R. 2021. IPM package for cucurbits.
8. **Sharma A**, Muniappan R, Hanh Tran. 2021. IPM package for longan.
<https://ipmil.cired.vt.edu/wp-content/uploads/2021/09/Longan-IPM-Package.pdf>
9. **Sharma A**, Muniappan R, Malick Ba. 2021. IPM package for pearl millet in Asia and Africa. <https://ipmil.cired.vt.edu/wp-content/uploads/2021/08/Pearl-Millet-IPM-Package-4.pdf>
10. **Sharma A**, Muniappan R, Tadele Tefera, and Damessa Gezahegne. 2021. IPM package for chickpea in Asia and Africa. <https://ipmil.cired.vt.edu/wp-content/uploads/2021/09/Chickpea-IPM-Package.pdf>.
11. **Sharma A**, and Muniappan R. 2021. IPM package for maize in Asia and Africa. <https://ipmil.cired.vt.edu/wp-content/uploads/2021/06/Maize-Package.pdf>.
12. **Sharma A**, and Muniappan R. 2021. IPM package for rice in Asia, <https://ipmil.cired.vt.edu/wp-content/uploads/2021/03/Rice-IPM-Package.pdf>
13. **Sharma A**, and Muniappan R. 2020. IPM package for lentil in Nepal, <https://ipmil.cired.vt.edu/wp-content/uploads/2020/10/Lentils-Package-2.pdf>.
14. Sandhi RK, **Sharma A**, and Reddy GVP. 2019. A potential tool to manage wireworms in wheat and barley. *Traders Dispatch*, August 2019, Conrad, Montana.

15. **Sharma A**, Gadi R, Reddy GVP. 2019. Tackling issues of the pulse insect pest complex in the Golden Triangle Region. Traders Dispatch, June 2019, Conrad, Montana.
16. **Sharma A**, Jaronski S, Reddy GVP. 2019. Efficacy of entomopathogenic fungus for managing wireworms on spring wheat in Golden Triangle region of Montana. Traders Dispatch, May 2019, Conrad, Montana.
17. Reddy GVP, **Sharma A**. 2019. Montana Agricultural Professionals receive training. Traders Dispatch, April 2019, Conrad, Montana
18. **Sharma A**, Reddy GVP, Sandhi RK. 2019. IPM Bulletin Montana State University. Management of wireworms: present status in Montana.
19. Reddy GVP, Shrestha G, **Sharma A**. 2019. Trap and cover cropping role in pest management. Traders Dispatch, March 2019, Conrad, Montana.
20. **Sharma A**, Reddy GVP. 2019. Efficacy of bio-pesticides for managing flea beetles on canola. Traders Dispatch, February 2019, Conrad, Montana.
21. **Sharma A**, Shrestha G, Miller DA, Reddy GVP. 2018. Survey and monitoring of wheat head armyworm by using pheromone traps. Traders Dispatch, December 2018, Conrad, Montana.
22. **Sharma A**, Reddy GVP. 2018. Trap crops for cereal crops in Montana: where are we heading? Traders Dispatch, November 2018, Conrad, Montana.
23. Reddy GVP, **Sharma A**, Shrestha G. 2018. Southern cowpea weevil appears as new pest on pulse crops. Traders Dispatch, October 2018, Conrad, Montana.
24. Reddy GVP, **Sharma A**, Miller JH, and Shrestha G. 2018. WTARC Farmers Field Day. Traders Dispatch, August 2018, Conrad, Montana.
25. **Sharma A**, Sandhi RK, and Reddy GVP. 2018. A focused effort to manage wireworms in the Golden Triangle Area of Montana. Traders Dispatch, July 2018, Conrad, Montana.
26. Reddy GVP, Shrestha G, **Sharma A**, Jaronski, ST. May 2018. Alfalfa blotch leafminer: A new serious threat to alfalfa crop in Montana? Traders Dispatch, May 2018, Conrad, Montana.
27. **Sharma A**, Reddy GVP, Jha Prashant. March 2018. Impact of herbicide overuse on insect pests and their natural enemies in no-till farming. Traders Dispatch, March 2018, Conrad, Montana.
28. Reddy, GVP, Shrestha, G, **Sharma A**, Gadi R, Miller D. December 2017. Pulse entomology experts exchange ideas. Traders Dispatch, December 2017, Conrad, Montana.
29. **Sharma A**, Briar, SS, Reddy, GVP, Jaronski, ST. June 2017. Management of wireworms using new insect pathogenic strains. Traders Dispatch, June 2017, Conrad, Montana.
30. **Sharma A**, 2013. Spectacular grass tree is a bloomin' beauty. Central Western Daily, Orange, NSW, Australia.

Invited/Organized talks/Presentations/Posters

1. Wesly, S., Sharma, A., Haseeb, M., Anandhi, A., Kanga, L., 2024. Evaluation of efficacy of IPM traps for urban arthropod pests, Florida Entomological Society, July 1-3, 2024, at Quincy, Florida.
2. Daniels, J., Sharma, A., Gaffke, A., Aderibigbe, A., Kanga, L., 2024. Evaluation of life cycle, behavior, and nutritional value of black soldier fly (*Hermetia illucens*) on varied diets, Florida Entomological Society, July 1-3, 2024, at Quincy, Florida.2024.
3. Sharma, A., Ashbrook, A., Portugal, S. 2024. Monitoring of termite diversity in the urban landscape. Florida Entomological Society, July 1-3, 2024, at Quincy, Florida.
4. Santos, P., Ashbrook, A., Sharma, A., 2024. Surveying Termite Diversity in SUS Working Group. National Conference in Urban Entomology on May 21, 2024.
5. Presented at National Conference in Urban Entomology, May 19-22, on IPM for urban landscape and agriculture on May 21 in Mobile, Alabama.
6. Presented in ARD Research Symposium 2024 on April 9, 2024 (April 6--9, 2024), Atlanta, GA [IPM for urban landscape and agriculture].

7. Invited to present a seminar at Nebraska on March 8, 2024, on biological control and IPM.
8. Presented at NWFLPMC (Northwest FL Pest Management Conference, FAMU, and UF collaboration) on February 13, 2024, in Niceville FL. (IPM for urban landscape).
9. Toews, M.D., S. Wu, C. Dunlap, **A. Sharma**, P. Avery and D Shapiro-Ilan. 2023. Epizootics of entomopathogenic fungi in Georgia and Florida. Annual Meeting of the Entomological Society of America. November 8, National Harbor, MD.
10. Invited to present in 'Ant Symposium' at Florida Entomological Society annual meeting (30 July-2 August 2023). Presented talk on 'Survey of natural enemies of Red-Imported Fire Ants in North Florida' on 1st August (Anamika Sharma and Kiara Ivy).
11. Invited to present in 'Detection and Management of Invasive Insect Pests in Florida and the Caribbean' at Florida Entomological Society annual meeting (30 July-2 August 2023). Presented talk on Detection and Identification of Urban Invasive Insect Species in Florida on 1st August.
12. Survey of Phorid Flies *Pseudacteon* sp. to Manage Red Imported Fire Ants [*Solenopsis invicta* (Hymenoptera: Formicidae)] in Northwest Florida. Kiara Ivy¹, Anamika Sharma, Lambert Kanga, Jesusa Legaspi, and Islam Elsharkawy, (on March 30th, 2023) at FAMU student appreciation week.
13. Presented at NWFLPMC (North West FL Pest Management Conference, FAMU, and UF collaboration) on Feb 28, 2023, in Niceville FL.
14. FAMU- CAFS seminar on 29 November 2022, 'Current Status and Future Prospective of Urban Entomology at FAMU'.
15. Spoke at FAMU- CAFS seminar on 29 November 2022, 'Current Status and Future Prospective of Urban Entomology at FAMU'.
16. Presented in Florida Entomological Society on "Status and management of *Tuta absoluta* (Lepidoptera: Gelechiidae) on June 21, 2022, at Gainesville, Florida.
17. Presented in ARD Research Symposium 2022 on April 5, 2022 (April 2--5, 2022), Atlanta, GA [IPM for a crop- Theory, and Practice].
18. Presented in 2022 the 10th International IPM Symposium in Denver, Colorado, (February 28--March 3, 2022), presented 'IPM package for Longan [*Dimocarpus longan* (Sapindaceae)].
19. Presented in 2022 the 10th International IPM Symposium in Denver, Colorado, (February 28--March 3, 2022), presented 'IPM for a crop'.
20. Presented in 2021 at the Annual Meeting of the Entomological Society of America (ESA) Conference (Oct 31-Nov 3, 2021) 'Salvage, preserve, improve in crisis as an entomologist' in 'adapting to overcome: strategies for students navigating a diverse, changing world. Virtual meeting.
21. Spoke at a webinar organized to disseminate information on IPM package for maize crop in Nepal to Nepal agriculture experts and extension agents under the program Feed the Future 'Nepal Associate Award' (November 5, 2020).
22. Spoke at a webinar organized to disseminate information on the IPM package for lentil crop in Nepal to Nepal agriculture experts and extension agents under the program Feed the Future 'Nepal Associate Award' (September 30, 2020).
23. Presented in 2019 at the Annual Meeting of the Entomological Society of America (ESA) Conference (17-20 November 2019), Presented 'Entomopathogenic fungus for managing wireworms on spring wheat in Montana' on November 17, 2019.
24. Presented in 2019 at Annual Meeting of the Entomological Society of America (ESA) Conference (17-20 November 2019), Presented 'Management strategies for pulse insect pest complex in Montana', on November 17, 2019.
25. Moderated the member symposium organized by S1070 Regional Research group, at Annual Meeting of the Entomological Society of America (ESA) Conference (17-20 November 2019), on 'Advocating entomopathogens for sustainable agriculture' on November 19, 2019.

26. Spoke about flea beetles on canola and mustard at Annual Crop Tour of Chester Field Day, Liberty County, Montana on 2 July 2019.
27. Co-presented on Pheromones: theory, types and applications at workshop on 'Pheromones as tools for monitoring the insect pests in the Northern Plains Instructive Tools for Agricultural Professional' on 8 March 2019.
28. Invited presentation, at AMTOPP (Association of ya Turf Ornamental & Pest Professionals) on Ecology and Management of Tree Insects; January 27 - 29, 2019, Fairmont).
29. Co-presented at Crop and Pest Management School, January 14-16, 2019 "Small Grain Crops" *Biological control of wheat midge and wireworms*, on 16 January 2019.
30. Presented at Chouteau County Extension Ag Advisory Council (November 5, 2018) about research updates on IPM of cropping insects at WTARC including Pea weevil, cowpea weevil, the role of biopesticides and biological control of pea weevil and wheat stem sawfly.
31. Presented in 2018 at 2018 ESA, ESC, and ESBC Joint Annual Meeting, 11-14 November 2018, Vancouver, Canada: Trap Crops and Entomopathogens as Biological Control Weapons for the Management of Wireworms in Montana on Monday, November 12, 2018.
32. Presented in 2018 at Biological Control W-4185 Annual Meeting, 10-12 October 2018 Whitefish, Montana: Biological Control of Wireworms and Canola Insects on October 11, 2018.
33. Presented about economic important insect pests of Montana, at field day of Glacier County, July 28, 2018.
34. Presented in 2018 at 9th International IPM Symposium, 19-22 March 2018, Baltimore, Maryland, USA: Application of Trap and Cover Crops in Integrated Pest Management — "Trap crops for wireworm management" on 20th March 2018.
35. Spoke about wireworms and canola pests at field day of Western Triangle Agricultural Research Center, Conrad, Montana on 26 June 2018.
36. Spoke about canola pests at Annual Crop Tour of Glacier County, Montana on 11 July 2018.
37. Gadi, R., Jaronski, S., Antwi, F.B., Shrestha, G., Sharma, A., and Miller, J.H. 2018. Poster presentation at ESA, 2018, Entomopathogens in conjunction with imidacloprid could be used to manage wireworms (Coleoptera: Elateridae) on spring wheat.
38. Presented paper in 2017 at 68th Annual Meeting of the Entomological Society of America (ESA) Conference, Denver, Colorado from November 05-08, 2017: Pulse Crop Insect Pests and Their Management — "The pea leaf weevil case study" on November 07, 2017.
39. Presented paper in 2013 at Australian Entomological Society (AES) Conference: Invertebrates in Extreme Environments—"Nymphal development and lerp construction of *Glycaspis* sp. (Hemiptera: Psylloidea) on *Eucalyptus sideroxylon* (Myrtaceae) in central-west New South Wales".
40. Presented paper in 2010 at 'National Seminar on Impact of Climate change on Biodiversity and Challenges in Thar Desert' at Zoological Survey of India, Jodhpur, Rajasthan, India—"Insect pest and disease infestation in *Lawsonia inermis* and *Plantago ovata* and assessment of loss of yield in arid and semi arid region".
41. Ahmed SI, Singh S, Srivastava KK, Verma N, **Sharma A** & Bhadru PC. Insect pest and disease infestation in *lawsonia inermis* and *Plantago ovata* and assessment of loss of yield in arid and semi arid region, in Abstract book on national seminar held at ZSI, DRC, Jodhpur on 9—July—2010.
42. Singh S, Ahmed SI, Srivastava KK, Verma N, Gorain M, **Sharma A** & Sharma N. *Ravenelia macowaniana* Pazschke - a new host of *Acacia jacquemontii* from Gujarat. National Forestry Conference, 2009, 9—11 Nov 2009.

Conferences/Meetings/Extension/Workshops attended

1. Hosted 3 CURS (Cultivating Undergraduate Research Scholarship) students, CAFS (August- November 2023).
2. Hosted one student for 2 months (May-July 2023) from TFLA (Tallahassee Future Leaders Academy) Youth.
3. Hosted one undergraduate student as an undergraduate research student (May-July 2023).
4. Participated in an Entomology field day for school kids, on June 27, 2023.
5. Participated in Ag-Discovery, CAFS, FAMU June 22, 2023.
6. Participated in the fundraising committee, 1887 Strikes Committee (April 20, 2023).
7. Hosted CURS student (March-May 2023).
8. Attended the 2022 Florida Pest Management Association (FPMA) summer conference (June 13-June 15, 2022).
9. Hosted one student for 2 months (June-July 2022) from TFLA (Tallahassee Future Leaders Academy) Youth.
10. Spoke to students in FAMU-Entomology summer camp on June 8 and June 9, 2022.
11. Participated in FAMU-Entomology summer camp for school students on July 6.
12. Participated in FAMU-Entomology summer camp to mentor 6 students on small projects on Entomology.
13. Spoke to young kids about insects STEAM (science, technology, engineering, art, and math) Challenge program at Great Falls Public Library, Great Falls, Montana on 21 June 2019.
14. Attended Cropping Seminar on Herbicides Resistance in Montana, on 19 February 2019, Conrad, Montana.
15. Attended Grain Growers by Montana Grain Grower Association, October 2017, and November 2018.
16. Northern Pulse Growers of America, October 2017.
17. Next Generation and Cropping Seminars by Montana State University, October 2017.
18. Attended Regional Research meeting S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) on Saturday, November 4, 2017.
19. Field Days at various counties of Montana including Glacier, Liberty, and Knees.
20. Association of MT Aerial Applicators: "AMAA Convention". January 23, 2018.
21. MSU Extension: "Golden Triangle Barley Update". February 15, 2018.
22. Spoke with seventh-grade kids about insects on STEM (science, technology, engineering, and math) day at Northern Agricultural Research Center, Havre, Montana on 1 June 2018.
23. Spoke to young kids about insects STEAM (science, technology, engineering, art and math) Challenge program at Great Falls Public Library, Great Falls, Montana on 14 June 2018.
24. Attended Regional Research meeting S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) on Saturday, November 10, 2018.
25. Attended Regional Research meeting S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) on Saturday, November 10, 2018 and November 4, 2017.

Grants Activity

- Awarded USDA-NIFA capacity-building grant for 'Building Capacity in Urban Entomology at Florida A&M University' as PI for 2024-2026; total amount is \$150,000.
- Co-PI for the Surveying Termite Diversity in the Southern US Working Group, funded by the Southern Integrated Pest Management Centers.

- Awarded NextGen (USDA-NIFA, Investing in America) as Co-PI, Total amount, \$10 million. Title “Developing the Next Generations of Minority Leaders in Pest Management for Food and Agriculture in a Changing Climate” in June 2023.
- Participating in the grant funded by the Department of Health and Human Services, Centers for Disease Control and Prevention, awarded to the City of New Orleans (Award No. 1NU50CK000638-01-00) Total 8.1 million grant, FAMU, \$192,814.72. Title: ‘Coordinated training and evaluation of professionals and pre-service students to achieve an integrated workforce to mitigate community vector-borne disease risks in the Gulf Coast region.’, in June 2023.
- Awarded USDA-APHIS grant “Evaluation of spread, establishment, and impact of natural enemies to manage imported fire ants [*Solenopsis invicta* (Hymenoptera: Formicidae)] in Northwest Florida” (\$80,450; 2022-2024).
- Participated in a grant proposal for USAID Feed the Future Innovation Lab for Current and Emerging Threats to Crops (January 2021 to October 2021) (30%).
- Participated in USAID, Feed the Future Bangladesh Associate Award, October 2020 (contribution 30%).
- Participated (Co-PI) Western Region SARE-USDA-NIFA, Professional Development Program (PDP). Dr. G.V.P. Reddy (PI), Pheromones as tools for monitoring the insect pests in the Northern Plains Instructive Tools for Agricultural Professional, 2018-2020; Award#2017-38640-26913; \$73,510. This was the highest-rated excellent proposal received by the SARE administrative council for the year and funded at the full amount requested.
- Assisted in reviewing and updating the research proposals to USDA-Western SARE, Belmont Foundation (international collaboration on 'Scenarios of biodiversity-based ecosystem services in agricultural landscapes: developing and testing a comprehensive modeling approach') (contributed in compilation and submission).
- Four grants from the Montana Wheat and Barley Committee from May 2017-February 2018 (contributed 50%).
- Two grants for Western-SARE on pulse insects and wheat midge (contributed 40%).
- Worked as Co-PI (since September 2019) for two Wheat and Barley Committee grants, one Western SARE grant, and one USDA-NIFA/Montana Department of Agriculture: Montana crops specialty block grant.

Organized/co-organized meetings

- Organized Symposium (Tuesday, November 12, 2024, 9:00 AM - 12:00 PM), Title Advancement and Future of Microbials as Part of Integrated Pest Management Organizers: Anamika Sharma, Shaohui Wu, Pasco Avery, Eric Clifton, and Lorenzo Rossi at ESA (Nov 2024).
- Organized the annual Entomology Field Day event at FAMU. The 48th Annual Field Day was held Nov 6-7, 2028, with 100 registered pest control specialists, another 10 invited guest speakers, and other assistants and students. The course provides recertification credits to professional pest control operators in Florida, Alabama, Georgia, Mississippi, Louisiana, Tennessee, and North and South Carolina.
- Organized Symposium (Tuesday, November 7, 2023, 9:00 AM - 12:00 PM), Title Current and Future Impact of Microbial Control Agents at ESA (Nov 5-8, 2023).
- Co-organized S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) meetings on Nov 4, 2023 (ESA Nov 5-8, 2023).
- Organized the annual Entomology Field Day event at FAMU (with Ms. Janice Peters and Ms. Sabrina Hayes). The 47th Annual Field Day was held Nov 1-2, 2023, with 80 registered pest control specialists, another 10 invited guest speakers, and other assistants and students. The course provides recertification credits to professional

pest control operators in Florida, Alabama, Georgia, Mississippi, Louisiana, Tennessee, and North and South Carolina.

- Organized the annual Entomology field day event at FAMU (with Ms. Janice Peters and Ms. Sabrina Hayes). The 46th Annual Field Day was held Nov 2-3, 2022, with 70 registered pest control specialists, another 10 invited guest speakers, and other assistants and students. The course provides recertification credits to professional pest control operators in Florida, Alabama, Georgia, Mississippi, Louisiana, Tennessee, and North and South Carolina.
- Co-organized Member Symposium: Advocating Entomopathogens for Sustainable Agriculture, Organizers: Robert W. Behle (USDA – ARS); Moderators: Jimmy Klick (Driscoll's) and Anamika Sharma (Montana State University), November 16, 2019.
- Organized, Co-organized S1070 (The Working Group on Improving Microbial Control of Arthropod Pests) meetings in 2019.
- Organized S1070 2020, 2021, and 2022 annual meetings virtually. It is a Multistate Research project that is supported by the State Agricultural Experiment Station (SAES) from the Hatch Multistate Research Fund (MRF) provided by the National Institute for Food and Agriculture (NIFA). The name of the group is S1070: The Working Group on Improving Microbial Control of Arthropod Pests.
- Assisted in organizing webinars to disseminate IPM packages for lentil and maize crops in Nepal.
- Assisted in organizing symposium 'Management of Fall Army Worm in Asia and Africa' at Entomological Society of America meeting 2020.
- Assisted in organizing field-day at Western Triangle Agricultural Research Center, Conrad, Montana, on 26 June 2018.
- Assisted in organizing 'Biological Control W-4185 Annual Meeting', in October 2018 at Whitefish, Montana.
- Co-organized workshop on March 2019, Great Falls, Montana on 'Pheromones as tools for monitoring the insect pests in the Northern Plains Instructive Tools for Agricultural Professional'.
- Co-organized brainstorming session on 'Khejri mortality and its evaluation in North-Western Rajasthan', November 2010 to disseminate the information to the farmers.

Referee activity

Guest Editor *Frontiers in Agronomy* (Integrated Pest Management of Tropical Crops) (Dec 2022–Dec 2023); Reviewer board (Forestry; MDPI), Book Proposals for CABI
Florida Entomologist (reviewed 6), *PLOS ONE* (reviewed 4), *Invertebrate Pathology* (reviewed 2), *Annals of Entomological Society of America* (reviewed 4), *Revista de Biología Tropical/ International Journal of Tropical Biology and Conservation* (reviewed 1), *Crop Science* (reviewed 1), *Revista Facultad Nacional de Agronomía* (reviewed 1), *Industrial Crops and Products* (reviewed 1), *Scientific Reports (Nature)* (reviewed 1), *Insects* (5), *Forests* (2), *Journal of Pest Science* (1), *Agronomy* (2), *Journal of Insect Science* (1), *Pesticide Biochemistry and Physiology* (1), *Crop Protection* (1), *Basic and Applied Ecology* (1), *Agriculture* (1), *Arthropod-Plant Interactions* (2), *European Journal of Entomology* (1), *Current Science* (1), *Entomologia Generalis* (1), *Frontiers* (1), *Indian Journal of Entomology* (2), *Journal of Pest Science* (1), *Pesticide Biochemistry and Physiology* (1), *Peer J* (1), *Biocontrol Science & Technology* (1), *Environmental Entomology* (1), *Journal of Insect Science* (1), *Protoplasma* (1), *Biological Control* (1), *Journal of Nematology* (1), *Ecology and Evolution* (1)

Professional affiliation

Entomological Society of America
Entomological Society of India
Ecological Society of America
Sigma Xi

Awards and Honors

- Received (as a team member with IPM Innovation Lab, Virginia Tech, Blacksburg, Virginia)-International Integrated Pest Management Award of Recognition (Team) 2021 at the 10th International IPM Symposium in Denver, Colorado, March 28, 2022.
- Received 'Higher Degree Scholarship' for executing Ph.D. from Charles Sturt University, Orange, Australia.
- Received travel grant to visit Department of Biochemistry, The University of Nebraska-Lincoln, Nebraska, USA from Charles Sturt University in June 2014.
- Received 'Certificate of outstanding contribution in reviewing' by Journal of Invertebrate Pathology in January 2018.
- Received 'Certificate of reviewing' by Industrial Crops & Products in October 2018.
- Received 'Certificate of expert reviewing' by Revista de Biología Tropical (International Journal of Tropical Biology and Conservation).

Other Professional activities

1. Interview: August 4, 2011. My Passion. Central Western Daily, Orange, NSW, Australia.
2. Interview: November 2013. Spying on Sap Suckers. Central Western Daily, Orange, NSW, Australia.
3. Interview: June 18, 2018. What treatments best control economically-damaging canola insect pests? The Prairie Star Jun 18, 2018. Prairie Star.
4. Interview: May 6, 2019. Solar, pitfall traps capture pests in field. The Prairie Star May 6, 2019. Prairie Star.
5. Interview: May 6, 2019. Tools for monitoring: Pheromones improve efficiency of pest traps. The Prairie Star May 6, 2019. Prairie Star.
6. Interviewed to express opinion on a publication on Pheromones by New Scientist Magazine, August 31, 2022.
7. Work showcased in the popular online magazine published by Entomological Society of America (Entomology Today) under 'Asian Pacific American Heritage Month: ESA Member Highlights' on May 2022.
8. Electronic field trip project for the USDA Work Ready Florida grant, April 11, 2024, in Quincy, FAMU farm house for the online 4-H students;
<https://www.youtube.com/watch?v=uQ2CLY9QRhc&t=588s>