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EXPERTISE



PROFESSIONAL EXPERIENCE

17-02-2022 to Date	Assistant Professor Department of Entomology University of Agriculture, Faisalabad, Pakistan
20-09-2021 to 19-11-2021	IPFP Fellow/Contract Institute of Plant Protection MNS-University of Agriculture, Multan, Pakistan
18-09-2020 to 17-09-2021	IPFP Fellow/Postdoc Institute of Plant Protection MNS-University of Agriculture, Multan, Pakistan
01-01-2020 to 16-09-2020	Master Trainer (Pest Management & Integrated Pest Management) Punjab Skills Development Fund (PSDF) & National Vocational and Technical Training Commission (NAVTTTC) MNS-University of Agriculture, Multan, Pakistan



EDUCATION

2016-2019	PhD Pesticide Science Institute of Plant Protection, Chinese Academy of Agricultural Sciences (CAAS), Beijing, China.
2014-2016	Master (Honors) Agricultural Entomology Bahauddin Zakariya University (BZU), Multan, Pakistan.
2010-2014	Bachelor (Honors) Agricultural Entomology Bahauddin Zakariya University (BZU), Multan, Pakistan.

PUBLICATIONS

Peer-Reviewed Articles

1. Mao, L., Shi, H., **Sial, M.U.**, Guo, R., Zhang, L., Zhang, Y., Liu, X. (2025). Combined use of 1, 3-dichloropropene with dimethyl disulfide and chloropicrin for managing potato powdery scab and weed. **Scientific Reports**. IF: 3.9. <https://www.nature.com/articles/s41598-025-98425-x> **Q1**
2. Mao, L., Liu, X., **Sial, M.U.**, Zhang, L., Zhu, L., Wu, C., Cao, A. (2024). Soil application of dazomet combined with 1,3-dichloropropene against soilborne pests for tomato production. **Scientific Reports**. IF: 3.8. <https://www.nature.com/articles/s41598-024-83182-0> **Q1**
3. **Sial, M.U.**, Farooq, T., Khalaf, L.K., Rahman, S., Asad, M., Paray, B.A. (2023). Two-step method for rapid isolation of genomic DNA and validation of R81T insecticide resistance mutation in *Myzus persicae*. **Saudi Journal of Biological Sciences**. 30: 103791. IF: 4.4. <https://doi.org/10.1016/j.sjbs.2023.103791> **Q1**
4. Bilal, M., **Sial, M.U.**, Lidong, C., Qiliang, H. (2022). Effects of methoxyfenozide-loaded fluorescent mesoporous silica nanoparticles on *Plutella xylostella* (L.) (Lepidoptera: Plutellidae) mortality and detoxification enzyme levels activities. **International Journal of Molecular Sciences**. 23: 5790. IF: 6.208. <https://www.mdpi.com/1422-0067/23/10/5790/htm> **Q1**
5. Wang, X., **Sial, M.U.**, Bashir, M.A., Bilal, M., Raza, Q., Raza, H.M.A., Rehim, A., Geng, Y. (2022). Pesticides xenobiotics in soil ecosystem and their remediation approaches. **Sustainability**. IF: 3.889. <https://www.mdpi.com/2071-1050/14/6/3353> **Q1**
6. **Sial, M.U.**, Majeed, M.Z., Atiq, A., Farooq, T., Atif, H.M., Jaleel, W., Khan, S., Akbar, R., Zaman, M., Saeed, R., Ali, Y., Saleh, M., Ullah, F., Khan, K.A., & Ghirmah H.A. (2022). Differential Efficacy of Edaphic Traps for Monitoring Arthropods Diversity in Subtropical Regions. **Journal of King Saud University – Science**. 34: 101686. IF: 3.829 <https://doi.org/10.1016/j.jksus.2021.101686> **Q1**
7. Rahman, S., Zhao, Z., **Sial, M.U.**, Zhang, Y., & Jiang, H. (2021). A case study using recommended reference genes actin and 18S for reverse-transcription quantitative real-time PCR analysis in *Myzus persicae*. **PLoS One**. 16: e0258201. IF: 3.240 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0258201> **Q1**
8. Mao, L., Jia, W., Zhang, L., Zhang, Y., Zhu, L., **Sial, M. U.**, & Jiang, H. (2020). Embryonic development and oxidative stress effects in the larvae and adult fish livers of zebrafish (*Danio rerio*) exposed to the strobilurin fungicides, kresoxim-methyl and pyraclostrobin. **Science of the Total Environment**. 729:139031. IF: 7.963 <https://www.sciencedirect.com/science/article/abs/pii/S0048969720325481> **Q1**
9. **Sial, M. U.**, Zhao, Z., Zhang, L., Zhang, Y., Mao, L., & Jiang, H. (2020). Loop-mediated isothermal amplification for the detection of R81T mutation in nAChR with crude genomic DNA extracted from individual *Myzus persicae*. **Journal of Pest Science**. 93: 531-541. IF: 5.918 <https://link.springer.com/article/10.1007/s10340-019-01168-8> **Q1**
10. **Sial, M. U.**, Zhao, Z., Zhang, L., Zhang, Y., Mao, L., & Jiang, H. (2018). Evaluation of Insecticides induced hormesis on the demographic parameters of *Myzus persicae* and expression changes of metabolic resistance detoxification genes. **Scientific Reports**. 8(1):16601. IF: 4.122 <https://www.nature.com/articles/s41598-018-35076-1> **Q1**

Book Chapters

1. **Sial, M.U.**, Khan, R.R., Ahmed, R., Abdin, Z. (2024). Revolutionizing Pest Management for Sustainable Agriculture: Machine Learning Algorithms for Predictive Pest Modeling. IGI Global. DOI: [10.4018/979-8-3693-3061-6.ch014](https://doi.org/10.4018/979-8-3693-3061-6.ch014)

2. **Sial, M.U.,** Ahmed, R., Khan, R.R., Ahmad, J.N. (2024). Revolutionizing Pest Management for Sustainable Agriculture: Remote Sensing Technologies in Pest Detection. IGI Global. DOI: [10.4018/979-8-3693-3061-6](https://doi.org/10.4018/979-8-3693-3061-6)
3. Khan, R.R., **Sial, M.U.,** Arshad, M. (2023). Sustainable Summer Fodder: Current Status of Fall Armyworm and Maize Fodder Decline Foreseen. CRC Press. <https://doi.org/10.1201/b23394>
4. Khan, R.R., **Sial, M.U.,** Arshad, M., Riaz, A., Ummara, U.E., Parveen, A., Liaqat, T. (2023). Sustainable Summer Fodder: Insect Pests of Fodder Grains of Summer Season. CRC Press. <https://doi.org/10.1201/b23394>
5. Qayyum, M.A., Saeed, S., Iqbal, N., Khan, M.A., Naeem-Ullah, U., Riaz, H., Ishtiaq, M., Fiaz, M., **Sial, M.U.,** Siddique, A. and Mehdi, A. (2023). Locust Outbreak: Management and World's Economy: Effect of Entomopathogenic Fungi on The Migratory Locust. Apple Academic Press. <https://doi.org/10.1201/9781003336716>
6. Bashir, M. A., Raza, Q., Rehman, A., **Sial, M. U.,** Raza, H. M. A., Ali, S., Ijaz, M., Faiz-Ul-Hassan, F., Geng, Y. (2022). Biostimulants Application: An Innovative Approach to Food Security under Drought Stress. In (Ed.), Climate Change - Recent Observations. IntechOpen. <https://doi.org/10.5772/intechopen.107055>
7. Bashir, M. A., Raza, Q., Raza, H. M. A., **Sial, M. U.,** Rehman, A., Khan, K. A., Ijaz, M., Wasif, M. (2022). Key Aspects of Plant Hormones in Agricultural Sustainability under Climate Change. In (Ed.), Plant Hormones - Recent Advances, New Perspectives and Applications. IntechOpen. <https://doi.org/10.5772/intechopen.102601>

Newspaper Articles

1. **Sial, M.U. (2025).** مصنوعی ذہانت: دنیا کی ترقی اور زراعت میں جدت (Artificial Intelligence: World Development and Innovation in Agriculture). Daily Barwaqt Khabar.
2. Sheraz, M. and **Sial, M.U. (2025).** جلّتی ہوئی فصلوں کی باقیات سے سموگ کے بڑھتے ہوئے مسائل اور ان کا حل (Growing Problems of Smog from Burning Crop Residues and their Solutions). Daily Quami Safer.
3. Asnan, A. and **Sial, M.U. (2024).** جگنو: ٹمٹماتی روشنی کا راز اور تحفظ کی جدوجہد (Firefly: The Secret of Flickering Light and the Struggle for Conservation) Daily Barwaqt Khabar.
4. Ali, Z. and **Sial, M.U. (2023).** حشرات کی فارمنگ: پروٹین کا ایک بہترین نعم البدل (Insect Farming: An Excellent Alternative to Protein). Daily Divisional Time.
5. Hassan, R. and **Sial, M.U. (2023).** کیلے کے چھلکے سے آلو کی فصل میں نماتود کا انسداد (Nematode control in potato crop by banana peel). Daily Parcham Pakistan.
6. **Sial, M.U.** and Ahmed, S. (2022). Fall Armyworm Invasion & IPM Strategy. BusinessNews Pakistan.
7. **Sial, M.U. (2021).** Dengue on the Rise: Steps Toward Integrated Management Model. BusinessNews Pakistan.

Research Project

1. Investigation of biotype and associated cytochrome P450 insecticide resistance detoxification encoding genes of cotton whitefly, *Bemisia tabaci*. Higher Education Commission (HEC), Pakistan.

Patents

1. A rapid DNA extraction reagent from trace insect materials and its application.
2. HelicoCIDE: A novel *Helicoverpa armigera* associated nucleopolyhedro viruses (NaNPV) based biopesticide for the management of *Helicoverpa armigera*.
3. Advanced method and composition for long-term insect conservation.