



CURRICULUM VITAE

Muhammad Imran, PhD, Entomologist (Bee Biology, Bee Ecology, Conservation and Insecticide Toxicology)

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Present Address: Department of Entomology, Faculty of Agriculture, University of Poonch Rawalakot, Azad Jammu and Kashmir, Pakistan

Profile:

More than Three years of experience as a research associate in a project entitle “**ESTABLISHING YEAR-ROUND REARING FACILITIES OF BUMBLE BEES, IMPORTANT POLLINATOR OF COMMERCIAL FRUIT AND VEGETABLE CROPS**” funded by HEC. One year M.Sc (Hons) research work experience on insecticides toxicology against Diamondback Moth under laboratory condition and six month B.Sc (Hons) internship experience in Honeybee Research Center Rawalpindi, Punjab, Pakistan.

Education and Qualification

PhD (2016)	<i>PMAS-Arid Agriculture University Rawalpindi, Pakistan</i>	Effects of Food and Rearing Space of <i>Bombus terrestris</i> L. (Hymenoptera: Apidae) Colony Development for Greenhouse Crop Pollination
M.Sc (Hons) (2011)	<i>PMAS-Arid Agriculture University Rawalpindi Pakistan</i>	Age-Dependent Response in <i>Plutella xylostella</i> Larvae to Commonly Used Insecticides Under Laboratory Conditions
B.Sc (Hons) (2009)	<i>PMAS-Arid Agriculture University Rawalpindi Pakistan</i>	Biological control of insects pests of Honeybee
Intermediate (2005)	<i>FBISE, Islamabad Pakistan</i>	Science (Pre-engineering)
Matriculation (2002)	<i>BISE, Sargodha Pakistan</i>	Science group

Professional Experience:

Assistant Professor (IPFP) 09-02-2017 to 08-02-2018	Department of Entomology, University of Poonch Rawalakot Azad Jammu and Kashmir, Pakistan
Assistant Professor (Contract) 12-04-2018 to date	Department of Entomology, University of Poonch Rawalakot Azad Jammu and Kashmir, Pakistan
01-10-2014 to 30-03-2015	Short term visiting Research Scholar at Department of Entomology Michigan State University, USA
01.02.2012 to date 01.02.2015	Worked as a Research Associate in a project “Establishing year round rearing facilities of bumble bees, important pollinator of commercial fruit and vegetable (HEC FUNDED)

Training/Workshop

1. EHS Training on Chemical Hygiene and Laboratory Safety Hazardous Waste Initial at Michigan State University USA May 12, 2014.
2. Training on Apiculture Orientation Program Department of Entomology PMAS- Arid Agriculture University Rawalpindi, Feb, 27 to March 01, 2013.
3. Punjab Beekeeping Training Course, Held by Ayub Agricultural Research Institute, Faisalabad and Beekeeping and Hill Fruit Pest Research Station, Rawalpindi, March 10 to March 19, 2014.
4. Prospects of Modern Beekeeping in Pakistan at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi. 4th April to 6th April , 2017

Membership

1. Prevention of honey bee colony losses, honey bee research association (COLOSS), University of Bern Switzerland, Bern.

Awards/Scholarship/ Project

1. Merit Scholarship under 5000 Scholarship Scheme for PhD Studies, Ministry of Science and Technology, (Higher Education Commission) Government of Pakistan.

2. Six month fellowship at the Department of Entomology, Michigan State University, East Lansing, USA funded by International Research Support Initiative Program Higher Education Commission of Pakistan.
3. Comparison of Lethal and Sub-Lethal Toxicity of Neonicotinoids and its Effect on Olfactory Learning in *Apis mellifera* (HEC, SRGP-1383, Rs. 0.5M)
4. Comparative efficacy of individual and synergistic activity of plant based insecticides (PBI) against Indian meal moth and bumblebee (Submitted to IESCO, 1 Million).
5. Habitat conservation of leaf cutter bee (*Megachile arachosiana*) in Rawalakot Azad Jammu and Kashmir (Submitted to MBZ Project 180518684, 0.5 Million)

List of Publications:

1. Fatima Abdulla Alkhayat, Abu H Ahmad, Junaid Rahim, Hamady Dieng, Bashir Adam Ismail, **Muhammad Imran**, Umer Ayyaz Aslam Sheikh, Muhmmad Sohail Shahzad, Allah Ditta Abid, Kashif Munawar. (2020) Charaterization of mosquito larval habitats in Qatar. Saudi Journal of Biological Sciences. <https://doi.org/10.1016/j.sjbs.2020.07.006>
2. Muhammad Aamir Iqbal, Abdul Hamid, Imtiaz Hussain, Muhammad Rizwan, **Muhammad Imran**, Umer Ayyaz Aslam Sheikh and Saira Ishaq. (2020). Cactus Pear: a Weed of Dry-Lands for Supplementing Food Security Under Changing Climate. Planta Daninha. <https://doi.org/10.1590/s0100-83582020380100040>
3. Ma, Changsheng; Zhang, Yongkui; Sun, Jia; **Imran, Muhammad**; Yang, Huipeng; Wu, Jie; Zou, Yi; Li-Byarlay, Hongmei; Luo, Shudong. (2019). Impact of acute oral exposure to thiamethoxam on the homing, flight, learning acquisition and short-term retention of *Apis cerana*. Pest Management Science. <https://doi.org/10.1002/ps.5411>
4. **Muhammad Imran**, Umer Ayyaz Aslam Sheikh, Muhammad Nasir, Muhammad Abdul Ghaffar, Ansa Tamkeen, Muhammad Aamir Iqbal. (2019) Do neonicotinoid insecticides impaired olfactory learning behavior in *Apis mellifera*? International Journal of Industrial Entomology. 38(1): 1-5.
5. Muhammad Nasir, Atta ul Mohsin, Munir Ahmad, Shafqat Saeed, Muhammad Asif Aziz, **Muhammad Imran** and Umer Ayyaz Aslam Sheikh, (2019). Effect of Different Temperature on Colony Characteristics of *Bombus terrestris* (Hymenoptera: Apidae). Pakistan Journal of Zoology. 51(4): 1315-1322.
6. Umer Ayyaz Aslam Sheikh, Khalid Mahmood, Khawar Nazir, Sakhawat Ali, **Muhammad Imran**, Muhammad Abdul Ghaffar, Ansa Tamkeen. (2018). Faunistic work on bumblebees (Hymenoptera: Apidae) of district Kharmang, Sakardu, Pakistan. Journal of Biodiversity and Environmental Sciences. 13 (4): 141-146

7. **Muhammad Imran**, Tayyaba Naseem, Arshad Iqbal, Khalid Mahmood, Umer Ayyaz Aslam Sheikh. (2018). Assessment of sensitivity level of honeybee (*Apis mellifera*) to neonicotinoid insecticides. Asian Journal of Agriculture and Biology 6(3): 327-334
8. Mehmood ul Hassan Muhammad Ibrahim Tahir, Muhammad Azeem, Muhammad Sajid, Awais Ali, **Muhammad Imran**, Muhammad Irfan, Umer Ayyaz Aslam Sheikh. (2017). Effect of Mechanized Verses Conventional Tillage and Cropping Systems on Weeds Biomass. Transylvanian Review 1(6): 5099-5107
9. Umer Ayyaz Aslam Sheikh, Munir Ahmad, Muhammad Asif Aziz, Muhammad Naeem, Khalid Mahmood, Muhammad Nasir and **Muhammad Imran**. (2017) Food plants and bionomics of indigenous Bumblebee, *Bombus haemorrhoidalis* Smith in Rawalakot, Azad Jammu and Kashmir of Pakistan. International Journal of Biosciences 11 (1): 89-96.
10. **Muhammad Imran**, Munir Ahmad, Muhammad Naeem, Khalid Mahmood, Muhammad Nasir and Umer Ayyaz Aslam Sheikh. (2017) Are colony developmental stages of bumblebee, *Bombus terrestris* (Hymenoptera: Apidae) affected by different concentrations of sugar and honey solutions?. International Journal of Industrial Entomology 34(2): 1-9.
11. **Muhammad Imran**, Kanwal Hanif, Munir Ahmad, Muhammad Nasir, Umer Ayyaz Aslam Sheikh. (2017) Comparative Toxicity of Insecticides against Two Important Insect Pests of Cauliflower Crop. Asian Journal of Agriculture and Biology. 5(2):88-98.
12. **Muhammad Imran**, Munir Ahmad, Muhammad Naeem, Muhammad Farooq Nasir, Imran Bodlah, Muhammad Nasir and Umer Ayyaz Aslam Sheikh. (2017) Effect of Different Types of Boxes on Rearing of Bumble Bee, *Bombus terrestris*. Pakistan Journal of Zool. 49(1): 169-174.
13. Muhammad Nasir, Munir Ahmad, Ata Ul Mohsin, Shafqat Saeed, Muhammad Asif Aziz, Munir Ahmad, **Muhammad Imran**, Umer Ayyaz Aslam Sheikh. (2015) Light intensity improves the copulating behavior and colony initiation of bumblebee, *Bombus terrestris* (Hymenoptera: Apidae). International Journal of Biosciences 7 (2): 56-64
14. Umer Ayyaz Aslam Sheikh, Muhammad Asif Aziz, Munir Ahmad, Muhammad Naeem, Imran Bodlah , **Muhammad Imran** and Muhammad Nasir (2015) First record of Genus *Bombus* Latreille (Hymenoptera: Apidae) in Naran Kaghan valley of Pakistan and their floral host range. Journal of Biodiversity and Environmental Sciences 7 (1): 215-223
15. **Muhammad Imran**, Munir Ahmad, Muhammad Farooq Nasir, Shafqat Saeed (2015) Effect of Different Nest Box Materials on the Mating of European Bumblebee, *Bombus terrestris* (Hymenoptera: Apidae) under Controlled Environmental Conditions Pakistan. Journal of Zoology 47(1): 241-247.
16. **Muhammad Imran**, Munir Ahmad, Muhammad Naeem, Shafqat Saeed, Muhammad Farooq Nasir, Asif Ahmad, Muhammad Nasir and Umer Ayyaz Aslam Sheikh (2015)

Effect of fresh pollen pellets and pollen balls coated with and without beeswax on the life history parameter of bumblebee (*bombus terrestris*). Journal of Biodiversity and Environmental Sciences. 6(5): 144-153.

17. Umer Ayyaz Aslam Sheikh, Munir Ahmad, **Muhammad Imran**, Muhammad Nasir, Shafqat Saeed and Imran Bodlah (2014) Distribution of Bumblebee, *Bombus haemorrhoidalis* Smith, with Flora in Lower Northern Pakistan. Pakistan Journal of Zoology 46(4): 1045-1051.
18. Muhammad Nasir, **Muhammad Imran** and Munir Ahmad (2013) Pyrethroids Synergize New Chemical Insecticides in Field Populations of *Plutella xylostella* (Lepidoptera: Plutellidae). Pakistan Journal of Zool. 45(3): 629-633.
19. **Muhammad Imran**, Umer Ayyaz Aslam Sheikh, Muhammad Nasir, Muhammad Junaid Iqbal, Muhammad Adnan Asghar, Taimoor Fazil, Muhammad Abdual Ghaffar and Junaid Rahim (2020). Susceptibility Comparison of Bumblebee and Honeybee to Acetamiprid and Imidacloprid. International Journal of Industrial Entomology (Submitted).
20. **Muhammad Imran**, Muhammad Naeem, Munir Ahmad, Umer Ayyaz Aslam Sheikh, Muhammad Nasir and Shudong Lue. (2020). Bumblebee Colony Development was Affected by Different Diets. Journal of Apiculture Science (Submitted)

Book Chapter

1. **Muhammad Imran (2018)**. Economic Insect Pests of Brassica Chapter No. 8. Book title: Brassica Germplasm-Characterization, Breeding and Utilization. IntechOpen Publisher. UK. <http://dx.doi.org/10.5772/intechopen.74837>.
2. **Muhammad Imran (2020)**. Neonicotinoid insecticides: A threat to pollinators. Chapter No. 2. Book title; Entomology. ISBN 978-1-78984-485-6. IntechOpen Publisher. UK.

List of conferences

1. **Muhammad Imran**, Kanwal Hanif, Munir Ahmad, Muhammad Nasir and Umer Ayyaz Aslam (2013) Comparative toxicity of insecticide against two Lepidopteron important insect pests of cauliflower crop. Pakistan Congress of zoology (International), April 01-04, 2013, Natural History Museum, Islamabad, Pakistan
2. **Muhammad Imran**, Muhammad Nasir and Munir Ahmad (2012) Age-dependent toxicity of different insecticides against field populations of *Plutella xylostella* (Lepidoptera: Plutellidae) National Science Conference, Roadmap to cutting edge technologies, January 10-12, 2012. PMAS, Arid Agriculture University Rawalpindi, Pakistan

3. Muhammad Nasir, **Muhammad Imran** and Munir Ahmad (2012). Pyrethroids synergize new chemistry insecticides in field populations of *Plutella xylostella*. National Science Conference, Roadmap to cutting edge technologies, January 10-12, 2012. PMAS, Arid Agriculture University Rawalpindi, Pakistan
4. **Muhammad Imran**, Munir Ahmad, Muhammad Farooq Nasir, Shafqat Saeed and Umer Ayyaz Aslam Sheikh (2014). Mating rate improves with the material of mating cage in *Bombus terrestris* (Hymenoptera: Apidae)” poster presentation at the 5th International Conference on Agriculture, Food Security and Climate Change. September 9-10, 2014 jointly organized by University of Poonch Rawalakot, PAS-Forum and HEC.
5. Umer Ayyaz Aslam Sheikh, Munir Ahmad, Muhammad Naeem, Imran Bodlah and **Muhammad Imran** (2014). First record of Genus *Bombus* Latreille (Hymenoptera: Apidae, Bombini) in Naran Kaghan valley of Pakistan and their floral host range. poster presentation at the 5th International Conference on Agriculture, Food Security and Climate Change. September 9-10, 2014 jointly organized by University of Poonch Rawalakot, PAS-Forum and HEC.
6. **Muhammad Imran**, Munir Ahmad, Muhammad Farooq Nasir, Shafqat Saeed and Umer Ayyaz Aslam Sheikh (2015). Effect of fresh pollen pellets and pollen patties coated with and without beeswax on the life history parameter of bumblebee *bombus terrestris* (hymenoptera: apidae) Oral Presentation at 4th International Molecular Biology and Biotechnology Congress & Conference on Life Science Research. September 04-06, 2015 organize by Life Science Society of Pakistan, Isra University, Islamabad Campus and Pakistan and Nobel Science and Research Center Turkey
7. Umer Ayyaz Aslam Sheikh, Muhammad Asif Aziz, Munir Ahmad, Muhammad Naeem, T.H. Roulston and **Muhammad Imran** (2015) Floral Host Range And Distribution of Indigenous Bumblebee, *Bombus Haemorrhoidalis* Smith In Rawalakot, Azad Kashmir of Pakistan. Oral Presentation at 4th International Molecular Biololgy and Biotechnology congress & Conference on Life Science Research. September 04-06, 2015 organize by Life Science Society of Pakistan, Isra University, Islamabad Campus and Pakistan and Nobel Science and Research Center Turkey
8. Muhammad Nasir, Munir Ahmad, Ata ul Mohsin, Muhammad Asif Aziz, **Muhammad Imran** and Umer Ayyaz Aslam Sheikh (2015) Light Intensity Improves The Copulating Behaviour and Colony Initiation of Bumblebee, *Bombus Terrestris* (Hymenoptera: Apidae). Oral Presentation at 4th International Molecular Biololgy and Biotechnology congress & Conference on Life Science Research. September 04-06, 2015 organize by Life Science Society of Pakistan, Isra University, Islamabad Campus and Pakistan and Nobel Science and Research Center Turkey
9. **Muhammad Imran**, Muhammad Naeem, Munir Ahmad, Khalid Mahmood, Umer Ayyaz Aslam Sheikh and Muhammad Nasir . (2018). Effect of fresh pollen petties and pollen patties with different concentration of sugar and honey solution on life history parameter of bumblebee *Bombus terrestris*. Oral Presentation at 38th Pakistan Congress

of Zoology (Internatinal) held on February 27 to March 1, 2018. Organized by Department of Zoology, University of Punjab, Lahore.

10. Umer Ayyaz Aslam Sheikh, Munir Ahmad, Muhammad Asif Aziz, Khalid Mahmood, **Muhammad Imran** and Muhammad Nasir. (2018) *Bombus haemorrhoidalis* abundance and pollinators diversity in Rawalpindi/Islamabad and Naran Kaghan Valley, Pakistan. Oral Presentation at 38th Pakistan Congress of Zoology (Internatinal) held on February 27 to March 1, 2018. Organized by Department of Zoology, University of Punjab, Lahore.
11. Umer Ayyaz Aslam Sheikh, Munir Ahmad, Asif Aziz, Khalid Mahmood and **Muhammad Imran**. (2018). *Bombus haemorrhoidalis* in comparison with other pollinators in Rawalpindi and Naran Khagan valley Pakistan. Second National Conference on Emerging Trends in Bioinformatics and Bioscience held on August 9-11, 2018, Organized by Hazara University Mansehra, KPK, Pakistan.
12. **Muhammad Imran**, Umer Ayyaz Aslam Sheikh and Muhammad Nasir. (2019). Effect of neonicotinoid insecticides on olfactory learning behavior of honeybee. 1st International Conference On “Agricultural and Biological Sciences” Haripur, Pakistan, 235 PP.
13. Muhammad Nasir, Ata ul Mohsin, Munir Ahmad, **Muhammad Imran** and Umer Ayyaz Aslam Sheikh. (2019). Effect of different diapause temperature and duration on *bombus terrestris* colony development. 1st International Conference On “Agricultural and Biological Sciences” Haripur, Pakistan, 236PP.
14. Umer Ayyaz Aslam Sheikh¹, **Muhammad Imran** and Muhammad Nasir. (2019). Temporal variation in bionomics of *bombus simillimus* from poonch, azad jammu and Kashmir. 1st International Conference On “Agricultural and Biological Sciences” Haripur, Pakistan, 242 PP.

References:

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