

CURRICULUM VITAE

Munir Ahmad, PhD Entomology (Insecticide Resistance Management)

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Date of birth: 02/04/1975 Gender: Male Marital status: Married, three children

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Permanent address: House No. 9, Street No. 16, Block 'S', New Multan Colony, Multan, Pakistan

Present Address: Department of Entomology, Faculty of Crop and Food Sciences, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi, Pakistan

Profile:

More than 15 years of experience in Applied Entomology and Insecticide Resistance Management at Central Cotton Research Institute, Old Shujabad Road, Multan, teaching undergraduate courses at University College of Agriculture, Bahauddin Zakariya University and Helb Pesticide Company, Multan for pesticide sales and development works. I consulted for Crop and Pest Management and Pollination Services at FMP, Hydroponics Farm for three years. Now, teaching as Associate Professor at PMAS, Arid Agriculture University Rawalpindi, Pakistan

Education and Qualification

PhD (2010)	<i>University College of Agri. Bahauddin Zakariya University, Multan</i>	Insecticide resistance, mechanisms, genetics and management of <i>Spodoptera litura</i> (Fab.) in the Punjab, Pakistan
M.Sc (Hons) (1999-2000) (3.55/4.00)	<i>University of Agriculture Faisalabad</i>	Insecticide mortality, foraging behaviour and pollination of honeybee, <i>Apis mellifera</i> L. on some solanaceous crops
B.Sc (Hons) (1994-98) (3.43/4.00)	<i>University College of Agri. Agriculture, Bahauddin Zakariya University, Multan</i>	Evaluation of different pest scouting methods for monitoring whitefly population in cotton fields at Multan (Pakistan)
F. Sc (761/1100)	<i>Government Degree College Bosan Road, Multan</i>	Science (Pre-medical: Physics, Chemistry & Biology)
Matriculation (700/850)	<i>Government Pilot Secondary School Multan</i>	Science (Physics, Chemistry, Biology, Mathematics)

Professional Experience:

08.09.2016 to date	Associate Professor, Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi
29.08.2016 – 07.09.2016	Joined back as Assistant Professor, Department of Entomology, PMAS-Arid Agriculture University Rawalpindi
29/08/2011 to 09.03.2016	Assistant Professor, Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi (on leave)
01.04.2010- 10/08/2014	Worked as a consultant for Insect Pest Management at Hydroponics Project of Farmers Marketing (Pvt) Ltd
18.09.2008-29/08/2011	Lecturer, Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi
May 2008 to 15.09.2008	Scientific Officer, Central Cotton Research Institute, Old Shujabad Road, Multan under Project “Biological control of cotton insect pests of cotton in Pakistan”
May 2004 – May 2008	(PhD Thesis) University College of Agriculture, Bahauddin Zakariya University, Multan.
Sep 2002 – April 2004	Scientific Officer, Central Cotton Research Institute, Old Shujabad Road, Multan under CFC Project “Sustainable control of cotton bollworm, <i>Helicoverpa armigera</i> under small scale cotton production systems”

Sep 2000 – Sep 2002	Technical Sales Officer, Helb Pesticide and Chemicals Co. Mall Plaza, Multan Cantonment, Multan
May 2000 - Jun 2000	Fieldwork for pesticides' sales and marketing Part time lecturer in Entomology, University College of Agriculture, Bahauddin Zakariya University, Multan, taught an undergraduate course of “Store grain pests and their management”

Teaching Responsibilities

Undergraduate courses

ENT 401	Introductory Entomology
ENT 402	Applied Entomology
ENT 502	Insect Physiology
ENT 505	Insect Ecology and Behavior
ENT 603	Plant Resistance to Insect Pests
ENT 604	Apiculture
ENT 605	Insecticides and their Application
ENT 609	Environmental Pollution and Agriculture

Postgraduate courses

ENT 709	Insecticide Resistance and Management
ENT 714	Insecticide Toxicology
ENT 716	Insecticides and Public Health
ENT 721	Insecticides Application Equipment

Administrative Experience

- Assistance to the Dean, Faculty of Crop and Food Sciences for administrative affairs of faculty matters from year 2010 to 2012
- Coordinator of Department Time Table and Date Sheet
- Prepared, maintained and evaluating the Self-Assessment Report for MSc (Hons) and PhD of the Department

Editor of the Scientific Journal

Asian Journal of Agriculture and Biology (Managing Editor)
Applied Sciences and Business Economics (Editorial Member)
Academic Research Journals of Agricultural Science (Editorial Member)

Reviewer of International and National Journals

Crop Protection, Pest Management Science, Journal of Pest Science, Pakistan Journal of Agricultural Research, Journal of Agricultural Science and Technology (Iran)

Membership of societies

Member to the Society of the Chemical Industry, Elsevier
Member of Pakistan Entomological Society, UAF, Pakistan
Member of Life Sciences Research of Pakistan
Member of Asian Council of Science Editors, UAE
Member Zoological Society of Pakistan

Research Grants

(Submitted)

1. Threats of insecticide use on commercial apiculture industry and their safety measures identification submitted to NARC under ALP scheme for Rs.2.5 million Pak. Rupees dated 03.01.2017 (rejected).
2. Identification and insecticide selection of predatory *Orius* bug species for effective management against sucking insect pests to NARC under ALP scheme for Rs.2.4 million Pak. Rupees dated 19.12.2016 (rejected).

(Completed)

1. Spatial and temporal behaviour of indigenous bumble bees, *Bombus* spp. of Margalla and Murree Hills funded by PMAS-Arid Agriculture University vide letter No. PMAS-AAUR/DR/630 dated 10-11-2010 for 0.175 million Pak rupees (as PI).
2. Effect of agricultural insecticides on neurological behavior of honeybee (*Apis mellifera*) in Pakistan funded by Higher Education Commission for Rs.0.5 million Pak rupees for one year duration (as Co. PI with Prof. Dr. Naeem).
3. Maintenance of scientific equipments for purchase of HPLC spare parts funded by Higher Education Commission for Rs.0.413 million Pak rupees (as PI). (Received in 2013)
4. Establishing year-round rearing facilities of bumble bees, important pollinator of commercial fruit and vegetable crops vide letter No.20-1697/R&D/10 5289 dated 26.07.2011 funded by Higher Education Commission for Rs.4.52 million for three year duration (December, 2011-14).
5. Identification of European Bumblebee (*Bombus terrestris* L.) pest problems affecting colony development. PMAS-AAUR/ORIC/3092 dated 01/10/2014 with grant of Pak. Rs.195000/. during 2014 (October, 2014-15).
6. Documenting mechanisms of insecticide resistance in brinjal shoot and fruit borer, *Leucinodes orbonalis* (Lepidoptera: Pyralidae) 1.31 million Pak rupees (PSF-NSLP) as Co. PI with Dr. Asim as P.I. received during 2014.

Awards/Scholarships

1. International Research Support Initiative Program for PhD studies, Higher Education Commission, Government of Pakistan (Jan, 31st – July 04th, 2007).
2. Merit Scholarship under 200 Scholarship Scheme for PhD Studies, Ministry of Science and Technology, (Higher Education Commission) Government of Pakistan (September, May, 2004– May 16, 2008)
3. Merit Scholarship for F. Sc studies by Board of Education, Multan, Pakistan (1991-1993)

Certificates/Trainings

1. ACSE Editor's Café, one day workshop at Pakistan Academy of Sciences, Islamabad, Pakistan on November, 21, 2016.
2. 2nd Biosafety training workshop for young scientists on Thursday 16th January, 2014 at Allama Iqbal Open University Islamabad.
3. Professional Competency Enhancement Program for Teachers (PCEPT) (27th July to 22nd August, 2009, extensive workshop at Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi) by Division of Continuing Education, Home Economics and Women Development in collaboration with National Academy of Higher Education (NAHE), Learning Innovation Division, Higher Education Commission, Islamabad.
4. Genetics of insecticide resistance, *Bacillus thuringiensis* (Bt) toxin purification, DNA and esterase gels, *Spodoptera litura*, *Plutella xylostella* and *Heliothis virescens* laboratory rearing and diet incorporation toxicology testing in laboratory of Dr. Neil Crickmore, Senior Lecturer in Molecular Genetics, Department of Biochemistry, School of Life Sciences, Brighton, United

- Kingdom. n.crickmore@sussex.ac.uk (31.01.2007 - 04.07.2007) funded by HEC under IRSIP, Pakistan
5. Insect Neurophysiology and electrophoresis training for resistance mechanisms at biochemical levels by Dr. Yidong Wu, Dean and Professor of Entomology, Department of Plant Protection, Nanjing Agricultural University, Nanjing, China wyd@njau.edu.cn (19.12.03-01.01.04) funded by CFC/ICAC-014 project
 6. Promoting Responsible Pesticide Use imparted by Asia Pacific Regional Training Centre (APRTC) www.aprtc.org Tamil Nadu Agricultural University, India (Through Internet) pipot@aprtc.org (15.09.03-24.10.03)
 7. Integrated Pest Management of Cotton imparted by Asia Pacific Regional Training Centre (APRTC) www.aprtc.org Tamil Nadu Agricultural University, India (Through Internet) pipot@aprtc.org (10.02.03-21.03.03)
 8. Digital Literacy for Agricultural Professionals imparted by Asia Pacific Regional Training Centre (APRTC) www.aprtc.org Tamil Nadu Agricultural University, India (Through Internet) pipot@aprtc.org (20.01.03-28.02.03)
 9. Online course from Coursera.org on Animal Behavior (eight week duration; September to October, 2013)

Publications:

Project reports submitted:

1. (First and second annual report submitted and approved)
Establishing year-round rearing facilities of bumble bees, important pollinator of commercial fruit and vegetable crops vide letter No.20-1697/R&D/10 5289 dated 26.07.2011 funded by Higher Education Commission for Rs.4.52 million for three year duration (as PI)
2. (Final Report submitted and approved)
Effect of agricultural insecticides on neurological behavior of honeybee (*Apis mellifera*) in Pakistan funded by Higher Education Commission for Rs.0.5 million for one year duration (as Co. PI).
3. (Final report submitted and approved)
Spatial and temporal behaviour of indigenous bumble bees, *Bombus* spp. of Margalla and Murree Hills funded by PMAS-Arid Agriculture University vide letter No. PMAS-AAUR/DR/630 dated 10-11-2010 for 0.175 million rupees (as PI).
4. (Final report submitted and approved)
Maintenance of scientific equipment for purchase of HPLC spare parts funded by Higher Education Commission for Rs.0.413 million Pak rupees (as PI). (Received in 2013)
5. (Final report submitted and approved)
Identification of European Bumblebee (*Bombus terrestris* L.) pest problems affecting colony development, PMAS-AAUR/ORIC/3092 dated 01/10/2014 with grant of Pak. Rs. 195000/. (October, 2014-15).
6. (Final report submitted and approved)
Documenting mechanisms of insecticide resistance in brinjal shoot and fruit borer, *Leucinodes orbonalis* (Lepidoptera: Pyralidae) 1.31 million Pak rupees (PSF-NSLP) as Co. PI with Dr. Asim as P.I. received during 2014.

International Research papers (21 in number)

<http://scholar.google.com.pk/citations?hl=en&user=E0sUjLAAAAAJ>

21. Umer Ayyaz Aslam Sheikh, Munir Ahmad, Muhammad Asif Aziz, Muhammad Naeem, Khalid Mahmood, Muhammad Nasir, Muhammad Imran (2017) Food plants and bionomics of indigenous Bumblebee, *Bombus haemorrhoidalis* Smith in Rawalakot, Azad Jammu and Kashmir of Pakistan. Int. J. Biosci. 11(1): 89-96.

20. 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? Int. J. Indust. Entomol. 34(2): 1-9, <http://dx.doi.org/10.7852/ijie.2017.34.2>.
19. Nighat Perveen and **Munir Ahmad** (2017) Toxicity of some insecticides to the haemocytes of giant honeybee, *Apis dorsata* F. under laboratory conditions, Saudi J Biological Sciences, 24: 1022-1029. (IF = 1.781)
18. Khadija Javed, **Munir Ahmad**, Muhammad Tariq and Humayun Javed (2016) Field evaluation of different insecticides against green peach aphid, *Myzus persicae* (Sulzer) J. Entomol. Zool. Studies, 4(6): 657-662. (Indexed in Thomson Reuters)
17. Umer Ayyaz Aslam Sheikh, **Munir Ahmad**, Muhammad Asif Aziz, Muhammad Naeem, Imran Bodlah, Muhammad Imran and Muhammad Nasir (2015) First record of Genus *Bombus* Latreille (Hymenoptera: Apidae, Bombini) in Naran Kaghan valley of Pakistan and their floral host range, J. Biodiv. Environ. Sci., 7(1): 215-223. (Indexed in Thomson Reuters)
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*), J. Biodiv. Environ. Sci., 6(5): 144-153. (Indexed in Thomson Reuters)
15. Junaid Ali Siddiqui, Imran Bodlah, James M. Carpenter, Muhammad Naeem, **Munir Ahmad** & Muhammad Adnan Bodlah (2015) Vespidae (Hymenoptera) of the Pothwar region of Punjab, Pakistan, Zootaxa, 3914 (5): 501–524. (IF = 0.994)
14. Laila Khalid, **Munir Ahmad**, Humayun Javed and Malik Ghulam Yasin (2015) Population estimation of thrips *Frankliniella tritici* (Fitch) on different rose varieties, Agric. Biol. Sci. J., 1(4): 157-161.
13. Samina Khalid, **Munir Ahmad**, Hassan Yasoob (2015) Life history of mealybug, *Phenacoccus solenopsis* Tinsley (Hemiptera: Pseudococcidae) on different host plants and its relative effect of antibiosis. International Journal of Biosciences, 6(1): 357-369. (Indexed in Thomson Reuters)
12. Bushra Siddique and **Munir Ahmad** (2014) Impact of organochlorines on endocrine system: a review. International Journal of Advances in Biology (IJAB), 1(1): 1-11.
11. Shehzad Hassan, **Munir Ahmad** & Muhammad Aslam (2014) Assessment of *Sitotroga cerealella* losses in different sorghum varieties under controlled conditions. Archives of Phytopathology and Plant Protection, 47(8): 993-999.
10. Bushra Siddique, Muhammad Aslam, Muhammad Asif Aziz and **Munir Ahmad** (2013) Grain damage, viability and weight loss in different barley cultivars due to *Sitotroga cerealella* (Oliv.) infestation. Archives of Phytopathology and Plant Protection 46(2): 205-214.
9. **Munir Ahmad**, Mushtaq A. Saleem and Ali H. Sayyed (2009) Efficacy of insecticide mixtures against pyrethroids and organophosphates resistant populations of *Spodoptera litura* (Lepidoptera: Noctuidae). Pest Management Science 65: 266-274. (IF = 2.94)
8. Ali H. Sayyed, **Munir Ahmad** and Neil Crickmore (2008) Fitness costs limit the development of resistance to indoxacarb and deltamethrin in *Heliothis virescens* (Lepidoptera: Noctuidae) Journal of Economic Entomology 101(6): 1927-1933. (IF = 1.346)
7. Mushtaq A Saleem, **Munir Ahmad**, Mushtaq Ahmad, Muhammad Aslam and A. H. Sayyed (2008) Resistance to selected organochlorine, organophosphate, carbamates and pyrethroid insecticides in *Spodoptera litura* (Lepidoptera: Noctuidae) from Pakistan Journal of Economic Entomology 101(5): 1667-1675. (IF = 1.346)
6. **Munir Ahmad**, Ali H Sayyed, Mushtaq A. Saleem, Mushtaq Ahmad (2008) Evidence for field evolved resistance to newer insecticides in *Spodoptera litura* (Lepidoptera: Noctuidae) from Pakistan Crop Protection 27: 1367-1372. (IF = 1.64)

5. Ali H. Sayyed, **Munir Ahmad** and Mushtaq A. Saleem (2008) Cross-resistance and genetics of resistance to indoxacarb in *Spodoptera litura* (Lepidoptera: Noctuidae). Journal of Economic Entomology 101(2):472-479. (IF = 1.346)
4. **Munir Ahmad**, Ali H. Sayyed, Neil Crickmore and Mushtaq A. Saleem (2007) Genetics of resistance to deltamethrin in a field population of *Spodoptera litura* (Lepidoptera: Noctuidae) Pest Management Science. 63: 1002-1010. (IF = 2.02)
3. Mushtaq Ahmad, M. Iqbal Arif and **Munir Ahmad** (2007) Occurrence of insecticide resistance in field populations of *Spodoptera litura* (Lepidoptera: Noctuidae) in Pakistan, Crop Protection 26(6): 809-817. (IF = 1.39)
2. Shafqat Saeed, **Munir Ahmad** and Mushtaq Ahmad (2007) Insecticidal control of mealybug *Phenacoccus gossypiphilous* (Homoptera: Pseudococcidae) – a new pest of cotton in Pakistan Entomological Research 37: 76-80. (IF = 0.17)
1. **Munir Ahmad** and Muhammad Aslam (2002) Evaluation of different pest scouting methods for monitoring whitefly populations in cotton fields at Multan (Pakistan) Arab Journal of Plant Protection 20: 52-54.

National research papers (34 in number)

34. Asim Gulzar, Ather Maqsood, **Munir Ahmad**, Muhammad Tariq, Muhammad Ali and Rahmatullah Qureshi (2017) Toxicity, antifeedant and sub-lethal effects of *Citrullus colocynthis* extracts on cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae). Pakistan J. Zool. 49(6): 2019-2026.
33. Saboor Ahmad, Muhammad Asif Aziz, **Munir Ahmad**, Imran Bodlah (2017) Effect of queen age on hygienic and grooming behavior of *Apis mellifera Ligustica* against *Varroa destructor* (Anderson and Trueman). Asian J Agri & Biol. 5(3):113-118.
32. 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 J. Agri. Biol. 5(2): 88-98.
31. 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*. Pak. J Zool., 49(1): 169-174. (IF = 0.487)
30. Huma Nazir Kayani and **Munir Ahmad** (2016) Cross resistance pattern for emamectin benzoate and synthetic pyrethroids in diamondback moth, *Plutella xylostella* (L.) (Lepidoptera: Plutellidae). Asian J Agri. Biol., 4(3): 65-72.
29. Imran Bodlah, Muhammad Amjad, **Munir Ahmad**, Asim Gulzar, M. Asif Aziz, M. Adnan Bodlah and M. Naeem (2015) Two Genera of Xylocopinae (Hymenoptera) with floral host plants from Pothwar, (Punjab), Pakistan Entomol., 37(1):33-37.
28. Kiran Shehzadi, **Munir Ahmad**, Imran Bodlah and Asim Gulzar (2015) Susceptibility of diamondback moth, *Plutella xylostella* (Lepidoptera: Plutellidae) to some Euphorbiaceae plant extracts under laboratory conditions. Asian J Agri. Biol., 3(4): 145-149.
27. **Munir Ahmad**, Imran Bodlah, Kashif Mehmood, Umer Ayyaz Aslam Sheikh and Muhammad Asif Aziz (2015) Pollination and foraging potential of European bumblebee, *Bombus terrestris* (Hymenoptera: Apidae) on tomato crop under greenhouse system, Pakistan J. Zool., 47(5): 1279-1285. (IF = 0.487)
26. Muhammad Imran, **Munir Ahmad**, Muhammad Farooq Nasir and Shafqat Saeed (2015) Effect of different nest box materials on the mating of European bumblebee, *Bombus terrestris* (Hymenoptera: Apidae) under controlled environmental conditions. Pakistan J. Zool., 47(1): 241-247. (IF = 0.487)
25. Kashif Mehmood, Shahid Hussain, Naveed Mustafa, Imran Bodlah and **Munir Ahmad** (2015) Insect pollinators visiting citrus (*Citrus limon*) and avocardo (*Persea americana*) fruit trees, Asian J. Agri. Biol., 3(1): 23-27.

24. Laila Khalid, **Munir Ahmad**, Humayun Javed and Malik Ghulam Yasin (2014) Population dynamics of thrips, *Frankliniella tritici* (Fitch) on different rose varieties. Pak. Entomol., 36(2):155-159.
23. Umer Ayyaz Aslam Sheikh, **Munir Ahmad**, Muhammad Imran, Muhammad Nasir, Shafqat Saeed and Imran Bodlah (2014) Distribution of bumblebee, *Bombus haemorrhoidalis* Smith, and its association with flora in lower northern Pakistan. Pakistan J. Zool., 46(4): 1045-1051. (IF = 0.404)
22. Sufian Saif Bhatti, **Munir Ahmad**, Kamran Yousaf and Muhammad Naeem (2013) Pyrethroids and new chemistry insecticides mixtures against *Spodoptera litura* (Noctuidae: Lepidoptera) under laboratory conditions. Asian J. Agri. Biol. 1(2): 45-50.
21. Muhammad Nasir, Muhammad Imran and **Munir Ahmad** (2013) Pyrethroids synergize new chemical insecticides in field populations of *Plutella xylostella* (Lepidoptera: Plutellidae). Pakistan J. Zool. 45(3), 629-633. (IF = 0.4)
20. Muhammad Asif Aziz, **Munir Ahmad**, Muhammad Farooq Nasir and Muhammad Naeem (2013) Efficacy of different neem (*Azadirachta indica*) products in comparison with imidacloprid against english grain aphid (*Sitobion avenae*) on wheat. Int. J. Agric. Biol., 15: 279-284. (IF = 1.22)
19. Munir Ahmad, Abdul Ghaffar and Muhammad Rafiq (2013) Host plants of leaf worm, *Spodoptera litura* (Fabricius) (Lepidoptera: noctuidae) in Pakistan. Asian J Agri. Bio. 1(1):1-6.
18. Qamar Saeed, Mushtaq A. Saleem and **Munir Ahmad** (2012) Toxicity of some commonly used synthetic insecticides against *Spodoptera exigua* (Fab) (Lepidoptera: Noctuidae) Pakistan J. Zool. 44(5): 1197-1201. (IF = 0.309)
17. Yousaf, S., A. Mohsin, M. Aslam, **M. Ahmad** and A. Ghaffar, (2012) Impact of *Sitotroga cerealella* on the viability of oat seed. Pak. Entomol., 34(2): 75-78
16. Umer Aslam Sheikh, Muhammad Aslam and **Munir Ahmad** (2011) Co-evolution in *Pediculus humanus capitis* (De Geer) (Anoplura: Pediculidae) colour in response to human hair, J. Agric. Biol. Sci. 3(1): 50-53.
15. **Munir Ahmad**, Muhammad Rafiq, Muhammad Iqbal Arif and Ali H. Sayyed (2011) Toxicity of some commonly used insecticides against *Coccinella undecimpunctata* (Coleoptera: Coccinellidae). Pakistan J. Zool. 43(6): 1161-1165. (IF = 0.338)
14. Imran Bodlah, **Munir Ahmad**, M. Farooq Nasir and Muhammad Naeem (2010) Record of *Aenasius bambawalei* Hayat, 2009 (Hymenoptera: Encyrtidae), a Parasitoid of *Phenacoccus solenopsis* (Sternorrhyncha: Pseudococcidae) from Punjab, Pakistan. Pakistan J. Zool. 42(5): 533-536. (IF = 0.145)
13. **Munir Ahmad**, Mushtaq Ahmad Saleem, Mushtaq Ahmad and Ali H. Sayyed (2006) Time trend mortality for conventional and new insecticides against leaf worm, *Spodoptera litura* (Lepidoptera: Noctuidae) Pakistan Journal of Biological Sciences 9(3): 360 – 364.
12. **Munir Ahmad** and Muhammad Aslam (2005) Resistance of cabbage aphid, *Brevicoryne brassicae* (Linnaeus) to endosulfan, organophosphates and synthetic pyrethroids Pakistan Journal of Zoology 37(4): 293-295.
11. **Munir Ahmad**, Mushtaq Ahmad Saleem and Mushtaq Ahmad (2005) Time-oriented mortality in leaf worm, *Spodoptera litura* (Fab.) Lepidoptera: Noctuidae) by some new chemistry insecticides Pakistan Entomologist 27(1): 67-70.
10. **Munir Ahmad** and Mushtaq Ahmad Saleem (2004) Comparative efficacy of ten conventional and new chemistry insecticides against armyworm, *Spodoptera litura* (Fabricius) (Lepidoptera: Noctuidae) under laboratory conditions Pakistan Entomologist 26(2): 1-4.
9. Muhammad Aslam and **Munir Ahmad** (2002) Effectiveness of some insecticides against cabbage aphid, *Brevicoryne brassicae* (Linnaeus) (Aphididae: Homoptera) Journal of Research (Science) 13(2): 145-150.
8. **Munir Ahmad** and Muhammad Aslam (2002) Pollinators visiting carrot (*Daucus carota* L.) seed crop. Journal of Research (Science) 13(1): 31-35

7. Muhammad Aslam, **Munir Ahmad**, Zafar-ul-Islam and Shahzad Anjum (2002) Population of aphid, *Lipaphis erysimi* (Kalt.) on canola (*Brassica napus*) Science, Technology and Development 21(3): 41-42.
6. Muhammad Aslam and **Munir Ahmad** (2001) Effectiveness of some insecticides against mustard aphid, *Lipaphis erysimi* (Kalt.) (Aphididae: Homoptera) on three different crops Journal of Research (Science) 12(1): 19-25.
5. **Munir Ahmad**, Nighat Perveen, Muhammad Sultan, Muhammad Aslam and Muhammad Aulakh (2001) Effects of monocrotophos and methamidophos on jassid, *Amrasca devastans* (Distant) in different okra (*Abelmoschus esculentus* L.) cultivars. Online Journal of Biological Science 1(4): 218-219.
4. Anjum Suhail, Rehana Bibi, Nighat Perveen and **Munir Ahmad** (2001) Population dynamics of aphid (*Macrosiphum mesanthi* Tak.) on different wheat varieties. Pakistan Journal of Biological Sciences 4(2): 131-132.
3. Anjum Suhail, **Munir Ahmad**, Tariq Fareed, Javaid Iqbal and M. Iqbal (2001) Insecticidal mortality and pollination role of honeybee (*Apis mellifera* L.) on some solanaceous crops. Pakistan Journal of Biological Sciences 4(6): 565-566.
2. Nighat Perveen, Muhammad Al-Hariri, **Munir Ahmad** and Anjum Suhail (2000) Insecticidal mortality, foraging behaviour and pollination role of honeybee (*Apis mellifera* L.) on sarson (*Brassica campestris* L.) crop. International Journal of Agriculture and Biology 2(4): 332-333.
1. **Munir Ahmad**, Muhammad Aslam and Muhammad Aulakh (2000) Comparative efficacy of some insecticides against cotton whitefly (*Bemisia tabaci* Genn.). Pakistan Journal of Agricultural Sciences 37(3-4): 83-85.

Presentations in conferences

International presentation

6. Erum-un-Nisa, **Munir Ahmad** and Nighat Perveen (2016) Lethal and sublethal effects of spirotetramet and flubendamide against leaf worm, *Spodoptera litura* under laboratory conditions. The 8th international conference on biological sciences in collaboration with 21st International Conference of Egyptian German society of Zoology, University of Tanta, Egypt (12 -13, November 2016), 39-40pp.
5. Nighat Perveen, **Munir Ahmad** and Muhammad Aslam (2016) Effect of various nitrogen doses on aphid (*Macrosiphum mesanthi* tak.) population on wheat (*Triticum aestivum*) The 8th international conference on biological sciences in collaboration with 21st International Conference of Egyptian German society of Zoology, University of Tanta, Egypt (12 -13, November 2016), 38-39pp.
4. **Munir Ahmad**, Kashif Mehmood, Muhammad Naeem and Shahid Javed Butt (2016) Diversity of sunflower insect pollinators and their foraging behavior under field conditions. 13th Asian Apicultural Association Conference, April 24-26, 2016, Jeddah, Kingdom of Saudi Arabia, p. 36.
3. Muhammad Waqar, **Munir Ahmad**, Muhammad Asif Aziz and Muhammad Naeem (2016) Lethal and sublethal effects of new chemistry insecticides against honeybees, *Apis mellifera*. 13th Asian Apicultural Association Conference, April 24-26, 2016, Jeddah, Kingdom of Saudi Arabia, p. 44.
2. Shafqat Saeed, Ali H Sayyed, **Munir Ahmad** (2008) Influence of plants originated diet on physiology of cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae). 23rd International Congress of Entomology, 6-12th July, 2008 Durban, South Africa, No. ICE 2008_0857.
1. Mushtaq Ahmad, Muhammad Iqbal Arif, **Munir Ahmad**, Abid Khan and Derek Russell (2004) Current status of pyrethroid resistance, its mechanisms and management strategies of *Helicoverpa armigera* Proceedings of the 15th International Plant Protection Congress, Beijing, China, May 11-16, 2004.

National presentation

16. **Munir Ahmad**, Hafiz Kamran Yousaf and Muhammad Tahir Nauman (2017) Demographic toxicity of selected conventional and avermectin insecticides against leaf worm, *Spodoptera litura* under laboratory conditions, presented in National Conference ‘Challenges and opportunities to boost agriculture in changing climate’ during March 29-30, 2017, page 94 at College of Agriculture Sub campus, Bahadur Pur BZU, Layyah.
15. 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) 5th International Conference on Agriculture, food Security and climate change, September 09-11, 2014, University of Poonch, Rawalakot and PAS forum, Azad Jammu and Kashmir, Pakistan, p. 186.
14. 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. 5th International Conference on Agriculture, food Security and climate change, September 09-11, 2014, University of Poonch, Rawalakot and PAS forum, Azad Jammu and Kashmir, Pakistan, p. 175.
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8. **Munir Ahmad**, Samina Khalid and Muhammad Naeem (2011) Effect of host change on antibiotic factors of mealybug, *Phenacoccus solenopsis* Tinsley under laboratory conditions. International conference on Prospects and challenges to sustainable agriculture, 14-16 July, 2011. Fac. Agriculture, Rawalakot, AJK University, Pakistan
7. Mazhar Hussain, **Munir Ahmad**, Mushtaq A. Saleem and Mushtaq Ahmad (2011) Comparative toxicity of insecticides against mealybug, *Phenacoccus solenopsis* Tinsley under laboratory conditions. International conference on Prospects and challenges to sustainable agriculture, 14-16 July, 2011. Fac. Agriculture, Rawalakot, AJK University, Pakistan
6. **Munir Ahmad**, Muhammad Rafiq Khan, Mushtaq Ahmad Saleem and Mushtaq Ahmad (2009) Toxicity of some chitin synthesis inhibitors against some important insect pests. International Conference on Advances in agriculture: Prospects and Potentials of Natural Resources in Food Security, July 14–16, 2009, Rawalakot, Pakistan by University of Azad Jammu and Kashmir.
5. Muhammad Ishtiaq, Mushtaq A. Saleem and **Munir Ahmad** (2009) Baseline susceptibility data for four insecticides against beet armyworm, *Spodoptera exigua* (Hubner) (Lepidoptera:

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 2. Muhammad Rafiq, Abdul Ghaffar and **Munir Ahmad** (2006) Host plant survey of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae) from 2004-05. 26th Pakistan Congress of Zoology (International) April 4-6, 2006. University of the Punjab, Lahore, Pakistan
 1. **Munir Ahmad**, Mushtaq Ahmad Saleem and Mushtaq Ahmad (2005) Comparative efficacy of some conventional and new chemistry insecticides against armyworm, *Spodoptera litura* (F.) (Lepidoptera: Noctuidae) under laboratory conditions. 25th Pakistan Congress of Zoology (International) March 1-3, 2005. Sind Agricultural University, Tandojam, Pakistan

National Workshop participation

1. COMSTECH-Technology Times International Workshop on ‘Science Communication: Enhancing Public Understanding’ January 10-11, 2017 at COMSTECH Secretariat, 33-Constition Avenue, G-5/2, Islamabad (*local participant*).

Organization of National Workshop

1. Three days Workshop organized in the Department of Entomology, PMAS-Arid Agriculture University Rawalpindi with Dr. Muhammad Asif Aziz. It focused on “Apiculture Orientation Program” from 27th February to March 01, 2013.
2. Second Three day workshop organized in the Department of Entomology, PMAS-Arid Agriculture University Rawalpindi with Dr. Muhammad Asif Aziz. It focused on waxing, breeding and management of pest problems in Apiculture industry’ from April 04-06, 2017.

M. Sc (Hons) students supervised

S. No.	Student Name & Registration No.	Title of thesis	Passing year
1	Khalil Ahmad 04-arid-199	Life history of seven spotted ladybird beetle, <i>Coccinella septempunctata</i> on cabbage aphids	2010
2	Samina Khalid 04-arid-220	Life history of mealybug, <i>Phenacoccus solenopsis</i> on different host plants	2010
3	Mazhar Hussain 08-arid-720	Toxicity of different insecticides against mealybug, <i>Phenacoccus solenopsis</i> under laboratory conditions	2010
4	Muhammad Nasir 05-arid-89	Toxicity of insecticide mixtures against field populations of <i>Plutella xylostella</i>	2011
5	Muhammad Imran 05-arid-84	Age-dependent toxicity to commonly used insecticides against <i>Plutella xylostella</i>	2011
6	Kanwal Hanif 09-arid-338	Age-dependent toxicity to commonly used insecticides against <i>Spodoptera litura</i>	2011
7	Shahzad Hassan 08-arid-723	Impact of <i>Sitotroga cerealella</i> on the viability of sorghum seed	2012
8	Huma Nazir Kayani 06-arid-43	Cross-resistance studies of insecticides in a field population of <i>Plutella xylostella</i>	2012
9	Kiran Shahzadi	Toxicity of some Euphorbiaceae plants against field	2012

10	06-arid-53 Sufian Saif Bhatti	population of <i>Plutella xylostella</i> Role of insecticide mixtures in a field population of	2013
11	06-arid-207 M. Tahir Nauman	<i>Spodoptera litura</i> Demographic effects of abamectin and emamectin on	2013
12	07-arid-109 Hafiz Kamran Yousaf	<i>Spodoptera litura</i> Demographic effects of deltamethrin and chlorpyrifos	2013
13	07-arid-46 Erum-un-Nisa	on <i>Spodoptera litura</i> Lethal and sublethal effects of spirotetramet and	2014
14	08-arid-41 Waqar Ahmad	flubendiamide against leaf worm, <i>Spodoptera litura</i> under laboratory conditions	2014
15	08-arid-127 Kashif Nazeer	Lethal and sublethal effects of new chemistry insecticides against honeybee, <i>Apis mellifera</i>	2014
16	06-arid-271 Huzafa	Comparison of different insecticides as baits against urban termite management	2018
17	Dur-e-Najaf	Host Shuffling Effect on Biological Parameters of <i>Plutella xylostella</i> (L.) (Lepidoptera: Plutellidae) under Laboratory Conditions	2018
		Insecticidal Response Against <i>Plutella xylostella</i> (L.) (Lepidoptera: Plutellidae) under Host Shuffling Stress in Controlled Environment	2018

PhD students under supervision

S. No.	Student Name & Registration No.	Title of thesis	Passing year
1	Rehana Bibi	Citrus mealybug management	Research in process
2	Khadija Gulzar	Orius as potential predator of thrips management	Research in process

References

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3. Dr. Neil Crickmore, Senior Lecturer, Biochemistry, School of Biological Science University of Sussex, Brighton, United Kingdom
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