# Dr. Mohd. Sayeed Akhtar [Post-Doc (Swiss, Republic of Korea), FRUPM, Malaysia]

## 1. Personal details

| Position                     | : Assistant Professor   |  |  |
|------------------------------|---|--|--|
| Marital status               | : Married   |  |  |
| Sex                          | : Male  |  |  |
| Nationality                  | : Indian  |  |  |
| <b>Corresponding Address</b> | : Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur |  |  |
|                              | 242001, Uttar Pradesh, India                                    |  |  |
| E-mail                       | : sayeedbot@gmail.com   |  |  |

#### 2. Teaching and Research Experiences

- Research : 17 years
- Teaching : 10 years

#### 3. Educational Qualifications

| Ph.D. (2008) | Major: Botany   |  |  |  |  |
|--------------|---|--|--|--|--|
|              | Specialization: Plant Pathology and Microbiology  |  |  |  |  |
|              | Institute: Aligarh Muslim University, Aligarh, India  |  |  |  |  |
|              | Thesis Title: Evaluation of AM fungi and other phosphate solubilizing                                       |  |  |  |  |
|              | microorganisms for the management of root-rot disease complex of chickpea                                   |  |  |  |  |
| M.Sc. (2001) | Major: Botany<br>Specialization: Plant Pathology<br>Institute: V.B.S. Purvanchal University, Jaunpur, India |  |  |  |  |
|              |   |  |  |  |  |
|              |   |  |  |  |  |
| B.Sc. (1999) | Major: Biology  |  |  |  |  |
|              | Institute: D.D.U. Gorakhpur University, Gorakhpur, India  |  |  |  |  |
|              |   |  |  |  |  |

#### 4. Professional Experiences/Appointments

- Assistant Professor, Level 11, Gandhi Faiz-e-Aam College, Shahjahanpur, Uttar Pradesh, India (From 08.10.2019-till date)
- Assistant Professor, Level 10, Gandhi Faiz-e-Aam College, Shahjahanpur, Uttar Pradesh, India (From 08.10.2015-07.10.2019) Promotion Due
- Fellow Researcher UDQ9, Institute of Tropical Agriculture, University Putra Malaysia, Selangor, Malaysia (From 04.09.2014-03.09.2015)
- Assistant Professor, Department of Biology, College of Natural Sciences, Jimma University, Jimma, Ethiopia (From 10.10.2011-17.03.2014)
- Post Doctoral Fellow, Environmental Biotechnology National Research Laboratory, CBNU, Republic of Korea (From 15.03.2011-15.09.2011)
- Post Doctoral Fellow, Botanical Institute, University of Basel, Switzerland (From 23.07.2008-31.05.2010)
- Senior Research Fellow (Ext.), AMU, Aligarh, India (From 01.04.2008-21.07.2008)
- Junior Research Fellow, AMU, Aligarh, India (From 23.08.2003-30.06.2006 & 01.01.2007-31.03.2008)

## 5. Administrative Positions

- In-charge of Post-graduate Seminar from 2015-till date
- In-charge of Post-graduate Excursion Trip from 2015-till date
- \* *Member of Admission Committee* from 2016-till date
- ✤ Member of AISHE Committee from 2018-till date
- President of College Basketball Team from 2016-2018
- Member of Editorial Board of College Magazine for Session 2017-2018
- \* Member of M.J.P.R.U. Flying Squad Team for Session 2017-2018
- Member of Proctor Team of College for Session 2018-2019
- Member of Science Exhibition Committee from 2017-2020
- Member of Extra-curricular Committee from 2018-2020
- ✤ Member of IQAC Committee from Session 2017-2018 & 2020-till date
- \* Assistant Superintendent of M.J.P.R.U. Main Examination-2020 for Session 2020-2021

## 6. Academic Distinctions

- Listed in World Top 2% Scientist of the World (2020) by Stanford University, California, USA
- Awarded Teacher Innovation Award (2019) by ZIIEI, Sri Arvindo Society, Puducherry, India
- Awarded Global Teachers Award (2018) by AKS Education Foundation, New Delhi, India
- Awarded Albert Nelson Marquis Award (2018) by Marquis Who's Who Society, USA
- Awarded Outstanding Scientist in Plant Pathology (2017) by VIRA, Chennai, India
- Awarded Albert Nelson Marquis Award (2017) by Marquis Who's Who Society, USA
- Awarded Best Researcher of the Year Award (2016), APSF, DST, India
- Awarded Fellow Researcher, UPM (2015), UPM, Malaysia
- Awarded Fellow Researcher, UPM (2014), UPM, Malaysia
- Biography published in books by Marquis Who's Who in the World (2014), USA
- Awarded Research Fellow Position (2012), UPM, Malaysia
- Awarded as Postdoctoral Fellow (2011), Chonbuk National University, Republic of Korea
- Selected for CAS-TWAS Fellowship (2010), Institute of Microbiology, CAS, China
- Awarded Postdoctoral Fellow Position (2010), USM, Pinang, Malaysia
- Awarded as Postdoctoral Fellow (2008), Botanical Institute, University of Basel, Switzerland
- Awarded as Senior Research Fellow (Ext.) (2008), CSIR, New Delhi, India
- Awarded as Junior Research Fellow (2003), UGC, New Delhi, India

## 7. Memberships of Learned Societies

- ✓ Mycorrhiza News (TERI PRESS), New Delhi
- ✓ The American Phytopathological Society, USA
- ✓ Centre for Study on Monoaxenic culture of AM fungi (CSEAMM), Belgium
- ✓ Alternative Nematode Control (ATTRA) Newsletter, USDA
- ✓ Bio-Organic Newsletter, USA
- ✓ International Scientific Academy of Engineering and Technology
- ✓ International service for the Acquisition of Agri-Biotech Application (ISAAA), Manila, Republic of the Philippines
- ✓ Advances in Life Sciences Journal (Life membership)

## 8. Editorial Services

- Associate Editor, Plant Pathology Journal (<u>http://www.ansinet.com/eboard.php? issn=1812-5387</u>) (From 27<sup>th</sup> July 2019- To date)
- Associate Editor, Asian Journal of Plant Sciences (<u>https://scialert.net/eboard.php ?issn=1682-3974</u>) (From 27<sup>th</sup> July, 2019-To date)
- Associate Editor, Research Journal of Nanoscience and Nanotechnology (<u>https://scialert.net/eboard.php?issn=1996-5044</u>) (From 27<sup>th</sup> July, 2019-To date)
- Associate Editor, Research Journal of Environmental Toxicology (<u>https://scialert.net/eboard.php?issn=1819-3420</u>) (From 27<sup>th</sup> July, 2019-To date)
- Associate Editor, International Journal of Agricultural Research (<u>https://scialert.net/eboard.php?issn=1816-4897</u>) (From 27<sup>th</sup> July, 2019-To date)
- Associate Editor, Current Green Chemistry (<u>https://benthamscience.com/journals/ current-green-chemistry/editorial-board/#top</u>) (From 27<sup>th</sup> June, 2017-To date)
- Advisory Board Member of the Journal of the Entomological Research Society (JERS) (<u>http://www.entomol.org/advboard.php</u>) (From 10<sup>th</sup> May, 2017-To date)
- Associate Editor, Journal of Advanced Science, Environment and Medicine (<u>http://www.ksp-jasem.com/editorial-board.html</u>) (From 10<sup>th</sup> May, 2017-To date)
- Review Editor, Frontier in Plant Science: Plant Biotic Interaction (<u>http://journal.frontiersin.org/journal/plant-science/section/plant-biotic-interactions</u>) (From 14<sup>th</sup> January, 2016-To date)
- Member of International Scientific Academy of Engineering and Technology (<u>http://www.isaet.org/members.php?page=10</u>) (From 1<sup>st</sup> May, 2013-To date)
- Editorial Board Member, Nanoscience and Nanotechnology Research (<u>http://</u><u>www.sciepub.com/journal/nnr/EditorialBoard</u>) (From 1<sup>st</sup>January, 2013-To date)

## 9. Courses Taught at Graduate / Post Graduate Levels

| S.No. | Name of Courses                             | Level of Class |  |
|-------|---|----------------|--|
| 1.    | Diversity of Viruses, Bacteria and Fungi    | UG             |  |
| 2.    | Diversity of Algae, Lichens and Bryophytes  | UG             |  |
| 3.    | Diversity of Pteridophytes and Gymnosperms  | UG             |  |
| 4.    | Plant Physiology and Biochemistry           | UG             |  |
| 5.    | Environment Botany and Plant Pathology      | UG             |  |
| 6.    | Phycology and Microbiology                  | PG             |  |
| 7.    | Mycology and Plant Pathology                | PG             |  |
| 8.    | Plant Anatomy, Embryology and Morphogenesis | PG             |  |
| 9.    | Environmental Microbiology                  | PG             |  |
| 10.   | Applied Mycology                            | PG             |  |
| 11.   | Introduction to Biotechnology               | PG             |  |
| 12.   | Reports in Scientific Writing               | UG/PG          |  |

## 10. Research Interest

- Interactions of rhizospheric microorganisms, particularly AM fungi and PGPR
- Functional diversity of AM fungi and their field application
- Production of secondary metabolites by microbes and mode of action
- Signaling of molecules responsible for ISR in plants against pathogens
- Interaction of plant parasitic nematodes, and pathogenic fungi
- Biosynthesis of precious metals and their applications
- Biodiversity and distribution of medicinal and aromatic plants

## 11. Worked on Project

- Evaluation of AM fungi and other phosphate solubilizing microorganisms for the management of root-rot disease complex of chickpea, UGC, New Delhi, India (From 23<sup>rd</sup> August 2003-30<sup>th</sup> June 2006 and January 1<sup>st</sup> 2007-30<sup>th</sup> March 2008)
- Bio-control of root rot disease complex by bacterial antagonist, CSIR, New Delhi, India (From April 1st 2008- July 21th 2008).
- Population dynamics of arbuscular mycorrhizal fungi under transgenic strawberry and their wild relatives, SNF, Switzerland (From 23<sup>rd</sup> July 2008 - 31<sup>th</sup> May 2010).
- Biosynthesis of precious metal nanoparticles using plant extracts and their applications, WCU, CBNU, Republic of Korea (From 15<sup>th</sup> March 2011-15<sup>th</sup> September 2011).

| I nesis e | supervised $= 02$  |   |                |               |
|-----------|--------------------|---|----------------|---------------|
| S. No.    | Name of Candidates | Title of Thesis   | Type of Thesis | Year of Award |
| 1.        | Guteta Birhanu     | Antimicrobial activity of <i>Piper</i><br><i>nigrum</i> and <i>Cassia didymobotyra</i> leaf<br>extract on some selected food<br>borne pathogens   | Master         | 2013          |
| 2.        | Zebenay Gezahegn   | Isolation and characterization of<br>food associated bacterial strains<br>and their sensitivity towards<br><i>Thevetia peruviana</i> leaves extract and<br><i>Callistemon citrinus</i> essential oil in<br>Jimma town | Master         | 2014          |
| Thesis I  | Evaluated = 05     |   | •              |               |
| S. No.    | Name of Candidates | Title of Thesis   | Type of Thesis | Year of Award |
| 1.        | Mulugeta Fantahun  | Isolation and phenotypic<br>characterization of haricot bean<br>nodulating Rhizobia in Jimma Zone,<br>Southwestern Ethiopia   | Master         | 2011          |
| 2.        | Sintayehu Birhanu  | Antifungal activities of some spice<br>extract against post-harvest fruits<br>spoilage moulds   | Master         | 2012          |
| 3.        | Tadesse Begashawu  | Antibacterial activity of some<br>medicinal plants growing in Sigimo<br>District, Jimma Zone, Southwestern<br>Ethiopia  | Master         | 2012          |
| 4.        | Shiferaw Demissie  | Isolation and characterization of some<br>selected legumes phosphate<br>solubilizing bacteria and their effect on<br>growth of faba bean ( <i>Vicia faba</i> L.),<br>Jimma Zone, South Western Ethiopia               | Master         | 2012          |
| 5.        | Genet Getachew     | Optimization of compost maturity of<br>coffee waste mixed with agricultural<br>wastes and evaluation of its maturity<br>effect on the growth of Lettuce<br>( <i>Lactuca sativa</i> L.)                                | Master         | 2013          |

# 12. Summary of Research Guidance/Thesis Evaluation

# 13. Reviewer of the Journals (>100)

# List of Some Selected Journals:

|  | <b>.</b>  |  |
|--|---|--|
| * American Journal of Plant Sciences                                     | International Journal of Pest Management  |  |
| * American Journal of Environmental Sciences                             | ★ Intercontinental Journal of Microbiology  |  |
| ★ Applied Soil Ecology   | <ul> <li>Journal of Biomimetics, Biomaterials and<br/>Tissue Engineering</li> </ul> |  |
| <ul> <li>Artificial Cells, Nanomedicine and<br/>Biotechnology</li> </ul> | ★ Journal of Environmental Management   |  |
| * Australian Journal of Crop Science                                     | ★ Journal of Microbiological Methods  |  |
| ★ ACS Sustainable Chemistry and Engineering                              | ★ Phyton  |  |
| ★ ACS Omega  | $\star$ Journal of Plant Nutrition  |  |
| ★ Biocontrol Science and Technology                                      | ★ Microbial Biotechnology   |  |
| ★ Bioresource Technology   | ★ Microbial Pathogenesis  |  |
| ★ Biotechnology Reports  | ★ Plant Pathology Journal   |  |
| ★ Biology and Fertility of Soils   | ✤ Plant Physiology and Biochemistry   |  |
| * Brazilian Journal of Microbiology                                      | <ul> <li>Plant Physiology and Molecular Biology of<br/>Plants</li> </ul>            |  |
| ★ Crop Protection  | ★ Physiologia Plantarum   |  |
| ★ Frontier in Plant Science  | ★ Scientia Horticulturae  |  |
| ★ HortScience  | * Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy               |  |
| ★ International Journal of Agricultural Sciences                         | ★ World Journal of Microbiology and<br>Biotechnology                                |  |

# **14. LIST OF PUBLICATIONS**

# A) Books / Monographs/Guest Editor/Proceedings

- 1. *Medicinal and Aromatic Plants: Ethnobotany, Pharmacognosy and Therapeutic Potentials* (2021) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd (Communicated)
- Challenges for Biotechnology in Agriculture and drug Development (2020) Edited by Yadav S, Akhtar MS, Moheman A, Diksha Prakashan, Delhi, p. 63 (ISSN: 978-93-90756-27-8)
- Salt Stress, Microbes and Plant Interactions: Mechanisms and Molecular Approaches-Volume2 (2019) Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, p. 300 (ISSN: 978-981-13-8804-0)
- Salt Stress, Microbes, and Plant Interactions: Causes and Solution- Volume 1 (2019) Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, p. 297 (ISSN: 978-981-13-8800-2)
- Natural Bio-active Compounds: Biotechnology, Bioengineering, and Molecular Approaches-Volume 3 (2019) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, p. 330 (ISBN: 978-981-13-7437-1)
- Natural Bio-active Compounds: Chemistry, Pharmacology and Health Care Practices- Volume 2 (2019) Edited by Swamy MK, Akhtar MS, Springer Nature, Singapore Pte, Ltd, p. 492 (ISBN: 978-981-13-7204-9)
- Natural Bio-active Compounds: Production and Applications- Volume 1 (2019) Edited by Akhtar MS, Swamy MK, Sinniah UR, Springer Nature, Singapore Pte, Ltd, p. 608 (ISBN: 978-981-13-7153-0)
- Anticancer Plants: Mechanisms and Molecular Interactions-Volume 4 (2018) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, p. 360 (ISBN: 978-981-10-8416-4)

- Anticancer Plants: Clinical Trials and Nanotechnology-Volume 3 (2018) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, p. 322 (ISBN: 978-981-10-8215-3)
- 10. Anticancer Plants: Natural Products and Biotechnological implements-Volume 2 (2018) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, p. 564 (ISBN: 978-981-10-8215-3)
- 11. *Anticancer Plants: Properties and Application*-Volume 1 (2018) Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, p. 582 (ISBN: 978-981-10-8547-5)
- Plant, Soil and Microbes: Mechanisms and Molecular Interactions- Volume 2 (2016) Edited by Hakeem KR, Akhtar MS, Springer, International Publishing Switzerland, p. 438 (ISBN: 978-3-319-29572-5)
- Plant, Soil and Microbes: Implications in Crop Science- Volume 1 (2016) Edited by Hakeem KR, Akhtar MS, Abdullah SNA, Springer, International Publishing Switzerland, p. 366 (ISBN: 978-3-319-27453-9)
- 14. A special issue on Biosynthesis of Nanomaterials and their Applications (2014) Edited by Akhtar MS, Ahmad U, Reviews in Advanced Sciences and Engineering 3(3):197-274 (ISSN: 2157-9121) (doi:10.1166/rase.2014.1063)
- 15. *Management of root-knot nematode (Meloidogyne incognita) on tomato: By Plant Health Promoting Bacteria* (2011), Edited by Akhtar MS, Singh P, Siddiqui ZA, LAMBERT Academic Publishing GmbH & Co. KG, Dudweiler Landstr., Germany, p. 84 (ISBN: 978-3-8443-9583-9)
- 16. Biocontrol of root-rot disease complex of chickpea: By Arbuscular mycorrhizal fungi and other phosphate solubilizing microorganisms (2011), Edited by Akhtar, MS, LAMBERT Academic Publishing GmbH & Co. KG, Dudweiler Landstr., Germany, p. 152 (ISBN: 978-3-8443-9004-9)
- 17. *Mycorrhizae: Sustainable Agriculture and Forestry* (2008), Edited by Siddiqui, ZA, Akhtar, MS, Futai, K, Springer, Dordrecht, The Netherlands, p. 362 (ISBN: 978-1-4020-8769-1)

# **B)** Book Chapters

- Akhtar MS, Alaraidh IA, Hakeem KR (2019) Experimental approaches for genome sequencing. In: *Essentials of Bioinformatics-Volume III*, Edited by Hakeem KR, Shaik NA, Banaganapalli B, Elangi R, Springer International Publishing, Switzerland, pp. 159-165
- Akhtar MS, Alaraidh IA, Swamy MK (2019) Data measurement, data redundancy, and their biological relevance. In: *Essentials of Bioinformatics-Volume III*, Edited by Hakeem KR, Shaik NA, Banaganapalli B, Elangi R, Springer International Publishing, Switzerland, pp. 103-107
- Mustafa G, Akhtar MS (2019) Crops and methods to control soil salinity. In: Salt Stress, Microbes and Plant Interactions: Mechanisms and Molecular Approaches- Volume 2, Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 237-251
- Kumar M, Akhtar MS (2019) Application of microbial biotechnology in improving Salt stress and crop productivity. In: *Salt Stress, Microbes and Plant Interactions: Mechanisms and Molecular Approaches*-Volume 2, Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 133-159
- Ahmad I, Akhtar MS (2019) Use of nanoparticles in alleviating salt stress. In: Salt Stress, Microbes, and Plant Interactions: Causes and Solution- Volume 1, Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 199-215
- 23. Swamy MK, Nalina N, Nalina D, Akhtar MS, Purushotham B (2019) Heavy metal stress and tolerance in plants mediated by rhizospheric microbes. In: *Salt Stress, Microbes, and Plant Interactions: Causes and Solution-* Volume 1, Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 181-198
- Mustafa G, Akhtar MS, Abdullah R (2019) Global concern for salinity on various agro-ecosystems. In: *Salt Stress, Microbes, and Plant Interactions: Causes and Solution-* Volume 1, Edited by Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 1-19

- 25. Aasim M, Sameeullah M, Karataş M, Bakirci S, Allah Bakhsh, A, Akhtar MS (2019) An Insight into biotechnological approaches used for improvement and secondary metabolites for medicinal aquatic plant, Water hyssop (*Bacopa monnieri* L.). In: *Natural Bio-active Compounds: Biotechnology, Bioengineering, and Molecular Approaches-* Volume 3, Edited by Akhtar MS, Swamy MK, Springer Nature, Singapore Pte, Ltd, pp. 123-152
- 26. Kalam MA, Ahmad G, Shahzad A, Maqbul SAM, Akhtar MS (2019) Therapeutic potential of rhizomatous plants used in Unani medicare system. In: *Natural Bio-active Compounds: Chemistry, Pharmacology and Health Care Practices*-Volume 2, Edited by Swamy MK, Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 409-464
- 27. Ansari IA, Akhtar MS (2019) Current Insights on the role of terpenoids as anticancer agents: A perspective on cancer prevention and treatment. In: *Natural Bio-active Compounds: Chemistry, Pharmacology and Health Care Practices-*Volume 2, Edited by Swamy MK, Akhtar MS, Springer Nature, Singapore Pte, Ltd, pp. 53-80
- Saboon, Chaudhari SK, Arshad S, Amjad MS, Akhtar MS (2019) Natural compounds extracted from medicinal plants and their applications. In: *Natural Bio-active Compounds: Production and Applications-* Volume 1, Edited by Akhtar MS, Swamy MK, Sinniah UR, Springer Nature, Singapore Pte, Ltd, pp. 193-207
- Ansari IA, Akhtar MS (2019) Recent insights on the anticancer properties of Flavonoids: Prospective candidates for cancer chemoprevention and therapy. In: *Natural Bio-active Compounds: Production and Applications-* Volume 1, Edited by Akhtar MS, Swamy MK, Sinniah UR, Springer Nature, Singapore Pte, Ltd, pp. 425-448
- 30. Javid S, Chaudhari SK, Munir I, Amjad MS, Akbar KF, Yasmeen F, Akhtar MS (2019) Plant metabolites and pharmacological activities of *Leptadenia pyrotechnica* (Forssk.) Decne. In: *Natural Bioactive Compounds: Production and Applications-* Volume 1, Edited by Akhtar MS, Swamy MK, Sinniah UR, Springer Nature, Singapore Pte, Ltd, pp. 551-560
- Akhtar N, Chaudhari SK, Arshad S, Fatima H, Amjad MS, Saboon (2019) Biological activities and nutritional value of *Physalis peruviana* L. In: *Natural Bio-active Compounds: Production and Applications-* Volume 1, Edited by Akhtar MS, Swamy MK, Sinniah UR, Springer Nature, Singapore Pte, Ltd, pp. 587-598
- 32. Khan I, Yusuf MA, Ansari IA, Akhtar MS (2018) Anticancer potential of Andrographolide, a diterpenoid lactone from *Andrographis paniculata*: A nature's treasure for chemoprevention and therapeutics. In: *Anticancer Plants: Mechanisms and Molecular Interactions-Volume 4*, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 143-163
- 33. Parasar NR, Chikkaputtaiah C, Lal M, Akhtar MS (2018) Metabolomic study of chemo-preventive phytochemicals and their therapeutic prospects. In: Anticancer Plants: Mechanisms and Molecular Interactions-Volume 4, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 197-207
- 34. Ansari IA, Khan I, Khan MS, Akhtar MS (2018) Organosulfur compounds of garlic as potent chemotherapeutic agents against cancer. In: Anticancer Plants: Clinical trials and Nanotechnology-Volume 3, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 253-272
- Lal M, Parasar NR, Chikkaputtaiah C, Akhtar MS (2018) Potentiality of anticancer plant derived compounds of North-East India. In: *Anticancer Plants: Properties and Applications-Volume 1*, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 77-89
- Vijaya Kumar V, Swamy MK, Akhtar MS (2018) Anticancer plants and their conservation strategies. In: Anticancer Plants: Properties and Applications-Volume 1, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 455-483

- 37. Ahmed H, Jurimi AS, Swamy MK, Hamdani MSA, Omar D, Rafii MY, Sinniah UR, Akhtar MS (2018) Botany, chemistry and pharmaceutical significance of *Sida cordifolia* A Traditional medicinal plant. In: *Anticancer Plants: Properties and Applications-Volume 1*, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 517-538
- 38. Angelini P, Tirillini B, Akhtar MS, Dimitriu L, Bricchi E, Bertuzzi G, Venanzoni R (2018) Essential oil with anticancer activity: An overview. In: *Anticancer Plants: Natural Products and Biotechnological Implements-Volume 2,* Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 207-231
- 39. Gupta PK, Agrawal P, Hedge P, Akhtar MS (2018) Xylooligosaccharides and their anticancer potential: An update. In: *Anticancer Plants: Natural Products and Biotechnological Implements-Volume 2,* Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 255-271
- Swamy MK, Paramashivaiah S, Hiremath L, Akhtar MS, Sinniah UR (2018) Micropropagation and conservation of selected endangered anticancer medicinal plants from the Western Ghats of India. In: *Anticancer Plants: Natural Products and Biotechnological Implements-Volume 2,* Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 481-505
- Behera S, Rath S, Akhtar MS, Naik SK (2018) Biotechnological intervention through tissue culture in Hedychium coronarium: A potential anticancer plant. In: Anticancer Plants: Natural Products and Biotechnological Implements-Volume 2, Edited by Akhtar MS, Swamy MK. Springer Nature, Singapore Pte, Ltd, pp. 551-564
- Akhtar MS, Swamy MK, Alaraidh IA, Panwar J (2017) Genomic data resources and data mining. In: *Plant Bioinformatics*, Edited by Hakeem KR, Malik A, Sukan FV, Ozturk M, Springer International Publishing, Switzerland, pp. 267-278 doi: 10.1007/978-3-319-67156-7\_10
- 43. Swamy MK, Akthar MS, Sinniah UR (2016) Root exudates and their molecular interactions with rhizospheric microbes. In: *Plant, Soil and Microbes: Mechanisms and Molecular Interactions*, Edited by Hakeem KR, and Akhtar MS. Springer International Publishing Switzerland, pp. 59-77. doi: 10.1 007/978-3-319-29573-2\_4
- 44. Swamy MK, Akthar MS, Sinniah UR (2016) Response of PGPR and AM Fungi toward growth and secondary metabolite production in medicinal and aromatic plants. In: *Plant, Soil and Microbes: Mechanisms and Molecular Interactions*, Edited by Hakeem KR, and Akhtar MS. Springer International Publishing Switzerland, pp. 147-170. doi: 10.1007/978-3-319-29573-2\_7
- 45. Khan AA, Ahmad S, Akhtar MS (2016) Occurrence, distribution, and molecular identification of phytoplasma-associated diseases in ornamental plants. In: *Plant, Soil and Microbes: Mechanisms and Molecular Interactions*, Edited by Hakeem KR, and Akhtar MS. Springer International Publishing Switzerland, pp. 205-223. doi: 10.1007/978-3-319-29573-2\_10
- 46. Angelini P, Bricchi E, Akhtar MS, Properzi A, Fleming JLE, Tirillini B, Venanzoni R (2016) Isolation and identification of allelochemicals from ascocarp of Tuber species. In: *Plant, Soil and Microbes: Mechanisms and Molecular Interactions*, Edited by Hakeem KR, and Akhtar MS. Springer International Publishing Switzerland, pp. 227-254. doi: 10.1007/978-3-319-29573-2\_11
- 47. Khan MA, Paul B, Ahmad W, Paul S, Aggarwal C, Khan Z, Akhtar MS (2016) Potential of *Bacillus thuringiensis* in the management of pernicious Lepidopteran pests. In: *Plant, Soil and Microbes: Mechanisms and Molecular Interactions*, Edited by Hakeem KR, and Akhtar MS. Springer International Publishing Switzerland, pp. 279-303. doi: 10.1007/978-3-319-29573-2\_13
- Abdullah SNA, Akhtar MS (2016) Plant and necrotrophic fungal pathogen interaction: Mechanism and mode of action. In: *Plant, Soil and Microbes: Implications in Crop Science*, Edited by Hakeem KR, Akhtar MS, and Abdullah SNA. Springer International Publishing Switzerland, pp. 29-53. doi: 10.1007/978-3-319-27455-3\_3

- Akhtar MS, Panwar J, Abdullah SNA, Swamy MK, Ashkani, S (2015) Biocontrol of plant parasitic nematodes by fungi: Efficacy and control strategies. In: *Organic Amendments and Soil Suppressiveness in Plant Disease Management*, Edited by Meghvanshi MK, Varma A, Springer International Publishing, Switzerland, pp. 219-247. doi: 10.1007/978-3-319-23075-7\_11
- Khan MA, Akhtar MS (2015) Agricultural adaptation and climate change policy for crop production in Africa. In: *Crop Production and Global Environmental Issues*, Edited by Hakeem KR, Springer International Publishing, Switzerland, pp. 437-441. doi: 10.1007/978-3-319-23162-4\_18
- 51. Khan MA, Khan Z, Ahmad W, Paul B, Paul S, Aggarwal C, Akhtar MS (2015) Insect pest resistance: An alternative approach for crop protection. In: *Crop Production and Global Environmental Issues*, Edited by Hakeem KR. Springer International Publishing, Switzerland, pp. 257-282. doi:10.1007/978-3-319-23162-4\_11
- Bhaduri D, Pal S, Purakayastha TJ, Chakraborty K, Yadav RS, Akhtar MS (2015) Soil quality and plant-microbe interactions in rhizosphere. In: *Sustainable Agriculture Reviews 17*, Edited by Lichtfouse E. Springer International Publishing, Switzerland, pp. 307-335. doi: 10.1007/978-3-319-16742-8\_9
- Yadav BK, Akhtar MS, Panwar J (2015) Rhizospheric plant microbe interactions: A key factor to soil fertility and plant nutrition. *Plant Microbe Symbiosis-Applied Facets*. Edited by Arora NK. Springer, India, pp. 127-145. doi:10.1007/978-81-322-2068-8\_6
- Rashid MH, Krehenbrink M, Akhtar MS (2015) Nitrogen-fixing plant-microbe symbioses. In: Sustainable Agriculture Reviews 15, Edited by Lichtfouse E. Springer International Publishing, Switzerland, pp. 193-234. doi: 10.1007/978-3-319-09132-7\_4
- 55. Bhargava A, Jain N, Barathi ML, Akhtar MS, Yun YS, Panwar J (2014) Synthesis, characterization and mechanistic insights of mycogenic iron oxide nanoparticles. In: *Nanotechnology for Sustainable Development*. Edited by Diallo MS, Fromer NA, Jhon MS. Springer, New York, pp. 337-348. doi: 10.1007/978-3-319-05041-6\_27
- Gupta G, Panwar J, Akhtar MS, Jha PN (2012) Endophytic Nitrogen-fixing bacteria as biofertilizer. In: Sustainable Agriculture Reviews 11, Edited by Lichtfouse E, Springer Dordrecht, The Netherlands pp. 183-221. doi:10.1007/978-94-007-5449-2\_8
- 57. Yadav RS, Meena SC, Patel SI, Patel KI, Akhtar MS, Yadav BK, Panwar J (2012) Bioavailability of soil P for plant nutrition. In: *Farming for Food and Water Security, Sustainable Agriculture Reviews 10*, Edited by Lichtfouse E. Springer, Dordrecht, The Netherlands, pp. 177-200. doi:10.1007/978-94-007-4 500-1\_8
- 58. Akhtar MS, Siddiqui ZA, Wiemken A (2011) Arbuscular Mycorrhizal fungi and Rhizobium to control plant fungal diseases. In: *Alternative Farming Systems, Biotechnology, Drought Stress* and Ecological Fertilisation. Edited by Lichtfouse E, Sustainable Agriculture Reviews 6, Springer, Dordrecht, The Netherlands. pp. 263-292. doi:10.1007/978-94-007-0186-1\_9
- Akhtar MS, Siddiqui ZA (2010) Role of Plant growth promoting rhizobacteria in biocontrol of plant diseases and sustainable agriculture. In: *Plant Growth and Health Promoting Bacteria*. Edited by Maheshwari DK. Microbiology Monographs 18, Springer-Verlag, Berlin, Heidelberg, pp. 157-196. doi:10.1007/978-3-642-13612-2\_7
- Akhtar MS, Siddiqui ZA (2008) Arbuscular mycorrhizal fungi as potential biprotectants against plant pathogens. In: *Mycorrhizae: Sustainable Agriculture and Forestry*, Edited by Siddiqui ZA, Akhtar MS and Futai K. Springer, Dordrecht, The Netherlands, pp. 61-98. doi:10.1007/978-1-4020-8770-7\_3

#### **C)** Research Articles

- Qing S, Tian QS, Yan GH, Ming Y, Mallappa Swamy MK, Sinniah UR, Akhtar MS, Umar A (2019) Biosynthesis, characterization and biological activities of AgNPs from *Pogostemon cablin* Benth. leaf extract. *Journal of Nanoscience and Nanotechnology* 19:4109–4115 (ISSN: 1533-4880) doi:10.1166/jnn.2019.16282 (IF = 1.354)
- 62. Chengzheng W, Jiazhi W, Shuangjiang C, Swamy MK, Sinniah UR, Akhtar MS, Umar A (2018) Biogenic synthesis, characterization and evaluation of silver nanoparticles from *Aspergillus niger* JX556221 against human colon cancer cell line HT-29. *Journal of Nanoscience and Nanotechnology* 18:3673–3681 (ISSN: 1533-4880) 10.1166/jnn.2018.15364 (IF = 1.354)
- 63. Jain N, Bhargava A, Pareek V, Akhtar MS, Panwar J (2017) Does seed size and surface anatomy play a role in combating phytotoxicity of nanoparticles. *Ecotoxicology* 26:238-249 (ISSN: 0963-9292) doi: 10.1007/s10646-017-1758-7 (IF = 2.460)
- 64. Hakeem KR, Sabir M, Akhtar MS, Ibrahim FH, Ozturk M, Ashraf M, Ahmad MSA (2016) Nitrate and nitrogen oxides: Sources, health effects and their remediation. *Reviews of Environmental Contamination and Toxicology* 242:183-217 (ISSN: 0179-5953) doi: 10.1007/398\_2016\_11 (IF = 7.000)
- 65. Swamy MK, **Akthar MS**, Sinniah UR (2016) Antimicrobial properties of plant essential oils against human pathogens and their mode of action: An updated review. *Evidence-Based Complementary and Alternative Medicine* 2016:3012462 doi: 10.1155/ 2016/3012462 (IF = 1.984)
- 66. Paiku AS, Kamaruzaman S, Khairulmazmi A, Akhtar MS (2016) Morphological and molecular characterization of *Pratylenchus coffeae* isolates from banana rhizosphere in Peninsular Malaysia. *Nigerian Journal of Nematology* 3:13-19 (ISSN: 2545-5362)
- Akhtar MS, Khan AA, Swamy MK, Khalid KR (2016) Impact of metal nanoparticles on the morphological and physiological changes in plants: A Review. *Frontiers in Nanoscience and Nanotechnology* 2(4):179-183 doi: 10.15761/FNN.1000132 (ISSN: 2397-6527)
- Biwi MSHR, Paiko AS, Khairulmazmi A, Akhtar MS, Idris AS (2016) Control of basal stem rot disease (bsr) in oil palm by supplementation of calcium, copper and salicylic acid. *The Plant Pathology Journal* 32(5):396-406 (ISSN: 1598-2254) doi: 10.5423/PPJ.OA.03.2016.0052 (IF = 2.125)
- Swamy MK, Akthar MS, Sinniah UR (2015) *In vitro* pharmacological activities and GC-MS analysis of different solvent extracts of *Lantana camara* leaves collected from tropical region of Malaysia. *Evidence-Based Complementary and Alternative Medicine* 2015:506413 doi: 10.1155/2015/506413 (IF = 1.984)
- 70. Ashkani S, MY Rafii, Shabanimofrad M, Miah G, Sahebi M, Azizi P, Tanweer FA, Akhtar MS, Nasehi A (2015) Molecular breeding strategy and challenges toward improvement of blast disease resistance in rice crops. *Frontier in Plant Science* 6:886 (ISSN: 1664-462X) doi: 10.3389/fpls.2015.00886 (IF = 4.106)
- 71. Ashkani S, MY Rafii, Shabanimofrad M, Foroughi M, Azizia P, Akhtar MS, Sahebi M, Harun AR (2015) Multiplex SSR-PCR approaches for semi-automated genotyping and characterization of loci linked to blast disease resistance genes in rice. *Comptes Rendus Biologies* 338:709-722 (ISSN: 1631-0691) doi: 10.1016/j.crvi.2015.07.007 (IF = 1.867)
- 72. Akhtar MS, Swamy MK, Umar A, Al-Sahli AA (2015) Biosynthesis and characterization of silver nanoparticles from methanol leaf extract of *Cassia didymobotyra* and assessment of their antioxidant and antibacterial activities. *Journal of Nanoscience and Nanotechnology* 15(12):9818-9823 (ISSN: 1533-4880) doi:10.1 166/jnn.2015.10966 (IF = 1.354)
- 73. Swamy MK, Akhtar MS, Mohanty SK, Sinniah UR (2015) Synthesis and characterization of silver nanoparticles using fruit extract of *Momordica cymbalaria* and assessment of their *in vitro* antimicrobial,

antioxidant and cytotoxicity activities. *Spectrochimica Acta Part A-Molecular and Biomolecular Spectroscopy* 151:939-944 (ISSN: 1386-1425) doi: 10.1016/j.saa.2015.07.009 (IF = 2.931)

- 74. Gezahegn Z, Akhtar MS, Woyessa D, Tariku Y (2015) Antibacterial potential of *Thevetia peruviana* leaf extracts against food associated pathogens. *Journal of Coastal Life Medicine* 3(2):150-157 (ISSN: 2309-5288) doi:10.12980/JCLM.3.201514J86 (SCOPUS)
- 75. Akhtar MS, Birhanu, G, Demisse S (2014) Antimicrobial activity of *Piper nigrum* L. and *Cassia didymobotyra* L. leaf extract on selected food borne pathogens. *Asian Pacific Journal of Tropical Disease* 4(2):S911-S919 (ISSN: 2222-1808) doi: 10.1016/S2222-1808(14)60757-X (SCOPUS)
- Akhtar MS, Akmar SNA (2014) Mass production techniques of arbuscular mycorrhizal fungi: Major advantages and disadvantages. *Biosciences Biotechnology Research Asia* 11(3):1199-1204 (ISSN: 0973-1245) doi:10.13005/bbra/1506 (SCOPUS)
- 77. Birhanu S, Akhtar MS, Muleta D (2014) Management of post-harvest fruit spoilage fungi by some potential spice extracts. Archives of Phytopathology and Plant Protection 47(17):2124-2140 (ISSN: 0323-5408) doi: 10.1080/03235408.2013.8698 91 (SCOPUS)
- 78. Akhtar MS, Degaga B, Azam T (2014) Antimicrobial activity of essential oils extracted from medicinal plants against the pathogenic microorganisms: A Review. *Issues in Biological and Pharmaceutical Research* 2(1):1-7 (ISSN: 2350-1588)
- 79. Akhtar MS, Azam T (2014) Effect of PGPR and antagonistic fungi on the growth, enzyme activity and Fusarium root-rot of pea. *Archives of Phytopathology and Plant Protection* 47(2):138-148 (ISSN: 0323-5408) doi:10.1080/03235408.2013.805487 (SCOPUS)
- 80. Akhtar MS, Ahmad U (2014) Biosynthesis of Nanomaterials and their applications. *Reviews in Advanced Sciences and Engineering* 3(3):197-198 (ISSN: 2157-9121) doi:10.1166/rase.2014.1063
- 81. Akhtar MS, Panwar J (2013) Efficacy of root-associated fungi and the growth of *Pisum sativum* (Arkil) and reproduction of root-knot nematode *Meloidogyne incognita*. *Journal of Basic Microbiology* 53(4):318-326 (ISSN: 0233-111X) doi: 10.1002/jobm.201100610 (IF = 1.760)
- Bhargava A, Jain N, Barathi ML, Akhtar MS, Yun YS, Panwar J (2013) Synthesis, characterization and mechanistic insights of mycogenic iron oxide nanoparticles. *Journal of Nanoparticle Research* 15(11):2031 (ISSN: 1388-0764) doi:10.1007/s11051-013-2031-5 (IF = 2.009)
- Fentahun M, Akhtar MS, Muleta D, Limmese F (2013) Isolation and characterization of nitrogen deficit Rhizohium isolates and their effect on growth of haricot bean. African Journal of Agricultural Research 8(46):5942-5952 (ISSN: 1991-637X) doi: 10.5897/AJAR2012.6690 (SCOPUS)
- Akhtar MS, Chali B, Azam T (2013) Bioremediation of arsenic and lead by plants and microbes from contaminated soil. *Research in Plant Sciences* 1(3):68-73 (ISSN: 2333-8512) doi:10.12691/plant-1-3-4
- 85. Akhtar MS, Panwar J, Yun YS (2013) Biogenic synthesis of metallic nanoparticles by plant extracts. ACS Sustainable Chemistry and Engineering 1(6):591-602 (ISSN: 2168-0485) doi:10.1021/ sc300118u (IF = 6.970)
- Akhtar MS (2013) Potential tool to overlook the intervallic expansion of AM fungi. Journal of Biotechnology and Biomaterials 3(3):116 (ISSN: 2155-952X) doi:104 172/2155-952X.81.025
- Azam T, Akhtar MS, Hisamuddin (2013) Histological interactions of *Paecilomyces lilacinus* with rootknot nematode *Meloidogyne incognita* and their effect on the growth of tomato. *Advanced Science Engineering and Medicine* 5(4):335-341 (ISSN: 2164-6627) doi:10.1166/asem.2013.1257 (SCOPUS)
- Azam T, Hisamuddin, Akhtar MS (2013) Effect of *Cassia tora* leaf extract on the growth and yield characteristics of tomato and on the reproduction of root-knot nematode in fly ash amended soil. *Advanced Science Engineering and Medicine* 5(2):177-181 (ISSN: 2164-6627) doi:10.1166/asem.2013.1235 (SCOPUS)

- Akhtar MS, Azam T, Muleta D (2012) Molecular markers a tracking contrivance for mycorrhizal fungi. *Journal of Biotechnology and Biomaterials* 2(6):232 (ISSN: 2155-952X) doi:10.4172/2155-952X.S1.020 (Non SCI)
- 90. Panwar J, Jain N, Bhargaya A, Akhtar MS, Yun YS (2012) Postive effect of Zinc Oxide nanoparticels on tomato plants: A step Towards developing "Nano-fertilizers". In: *Proceeding of 3<sup>rd</sup> International Conference on Environmental Reserach and Technology, Universitiy of Sains, Penang, Malaysia*, pp. 248-352 (Non SCI)
- Akhtar MS, Babel S, Yadav BK, Yadav RS, Panwar J (2012) Potentiality of *Thiobacillus* in agricultural system. *Advanced Science, Engineering and Medicine* 4(1):77-80 (ISSN: 2164-6627) doi:10.1166/asem.2012.1123 (SCOPUS)
- 92. Akhtar MS, Azam T (2012) Effect of *Paecilomyces lilacinus* on the growth of tomato, population of root-knot nematode (*Meloidogyne incognita*) and their histological interactions. *Journal of Biotechnology and Biomaterials* 2(6):231 (ISSN: 2155-952X) doi:10.4172/2155-952X.S1.020
- 93. Akhtar MS, Panwar J (2011) Arbuscular mycorrhizal fungi and opportunistic fungi: Efficient root symbionts for the management of plant parasitic nematodes. *Advanced Science, Engineering and Medicine* 3(3):165-175 (ISSN: 2164-6627) doi:10.1166/ asem.2011.1109 (SCOPUS)
- 94. Akhtar MS, Shakeel U, Siddiqui ZA (2010) Biocontrol of Fusarium wilt by Bacillus pumilus, Pseudomonas alcaligenes and Rhizobium sp. on lentil. Turkish Journal of Biology 34(1):1-7 (ISSN: 1300-0152) doi:10.3906/biy-0809-12 (IF = 0.662)
- Akhtar MS, Siddiqui ZA (2010) Effect of AM fungi on the plant growth and root-rot disease of chickpea. *American-Eurasian Journal of Agricultural and Environmental Science* 8(5):544-549 (ISSN: 1818-6769) (SCOPUS)
- 96. Siddiqui ZA, Akhtar MS (2009) Effects of antagonistic fungi and plant growth-promoting rhizobacteria on growth of tomato and reproduction of the root-knot nematode, *Meloidogyne incognita*. *Australasian Plant Pathology* 38(1):22-28 (ISSN: 0815-3191) doi:10.1071/AP08072 (IF = 1.106)
- 97. Akhtar MS, Siddiqui, ZA (2009) Use of plant growth promoting rhizobacteria for the biocontrol of root-rot disease complex of chickpea. *Australasian Plant Pathology* 38(1):44-50 (ISSN: 0815-3191) doi:10.1071/AP08075 (IF = 1.106)
- 98. Siddiqui ZA, Akhtar MS (2009) Effects of antagonistic fungi and plant growth promoting rhizobacteria and arbuscular mycorrhizal fungi for the biocontrol of *Meloidogyne incognita* on tomato. *Journal of General Plant Pathology* 75(2):144-153 (ISSN: 1345-2630) doi:10.1007/s10327-009-0154-4 (IF = 0.887)
- 99. Siddiqui ZA, Akhtar MS (2009) Effect of plant growth promoting rhizobacteria, nematode parasitic fungi and root-nodule bacterium on root-knot nematodes *Meloidogyne javanica* and growth of chickpea. *Biocontrol Science and Technology* 19(5):511-521 (ISSN: 0958-3157) doi:10.1080/0958315090 2887792 (IF = 0.890)
- 100.Akhtar MS, Siddiqui ZA (2009) Effects of phosphate solubilizing microorganisms and *Rhizobium* sp. on the growth, nodulation, yield and root-rot disease complex of chickpea under field condition. *African Journal of Biotechnology* 8(15):3479-3488 (ISSN: 1684-5315) doi:10.5897/AJB09.369 (SCOPUS)
- 101.Siddiqui ZA, Qureshi A, Akhtar MS (2009) Biocontrol of root-knot nematode Meloidogyne incognita by Pseudomonas and Bacillus isolates on Pisum sativum. Archives of Phytopathology Plant Protection 42(12):1154-1164 (ISSN: 0323-5408) doi:10.1080/03235400701650890 (SCOPUS)
- 102.Akhtar MS, Siddiqui ZA (2008) Biocontrol of a root-rot disease complex of chickpea by Glomus intraradices, Rhizobium sp. and Pseudomonas straita. Crop Protection 27(3-5):410-417 (ISSN: 0261-2194) doi:10.1016/j.cropro.2007.07.009 (IF = 2.172)
- 103.Akhtar MS, Siddiqui ZA (2008) Glomus intraradices, Pseudomonas alcaligenes, Bacillus pumilus as effective biocontrol agents for the root-rot disease complex of chickpea (*Cicer arietinum* L.). Journal of General Plant Pathology 74(1):53-60 (ISSN: 1345-2630) doi:10.1007/s10327-007-0062-4 (IF = 0.887)

- 104.Siddiqui ZA, **Akhtar MS** (2008) Synergistic effects of antagonistic fungi and a plant growth promoting rhizobacterium, an arbuscular mycorrhizal fungus, or composted cow manure on the populations of *Meloidogyne incognita* and growth of tomato. *Biocontrol Science and Technology* 18(3):279-290 (ISSN: 0958-3157) doi:10.1080/09583150801896043 (IF = 0.890)
- 105.Siddiqui ZA, Akhtar MS (2008) Effects of organic wastes, Glomus intraradices and Pseudomonas putida on the growth of tomato and on the reproduction of root-knot nematode Meloidogyne incognita. Phytoparasitica 36(5):460-471 (ISSN: 0334-2123) doi:10.1007/BF03020292 (IF = 1.022)
- 106.Siddiqui ZA, Akhtar MS (2008) Effects of fertilizers, AM fungus and plant growth promoting rhizobacterium on the growth of tomato and on the reproduction of root-knot nematode *Meloidogyne incognita*. *Journal of Plant Interactions* 3(4):263-271 (ISSN: 1742-9145) doi:10.1080/1742914080 2272717 (IF = 1.839)
- 107.Akhtar MS, Siddiqui ZA (2007) Effects of *Glomus fasciculatum* and *Rhizobium* sp. on the growth and root-rot disease complex of chickpea. *Archives of Phytopathology and Plant Protection* 40(1):37-43 (ISSN: 0323-5408) doi:10.1080/03235400500320133 (SCOPUS)
- 108.Akhtar MS, Siddiqui ZA (2007) Biocontrol of a chickpea root-rot disease complex with Glomus intraradices, Pseudomonas putida and Paenibacillus polymyxa. Australasian Plant Pathology 36(2):175-180 (ISSN: 0815-3191) doi:10.1071/AP07006 (IF = 1.106)
- 109.Siddiqui ZA, Akhtar MS (2007) Biocontrol of a chickpea root-rot disease complex with phosphate solubilizing microorganisms. *Journal of Plant Pathology* 89(1):66-77 (ISSN: 1125-4653) doi:10.4454/jpp.v89i1.725 (IF = 0.818)
- 110.Siddiqui ZA, Akhtar MS (2007) Effects of AM fungi and organic fertilizer on the reproduction of the nematode *Meloidogyne incognita* and on the growth and water loss of tomato. *Biology and Fertility of Soils* 43(5):603-609 (ISSN: 0178-2762) doi:10.1007/s00374-006-0131-4 (IF = 4.829)
- 111.Siddiqui ZA, Baghel G, Akhtar MS (2007) Biocontrol of *Meloidogyne javanica* by *Rhizobium* and plant growth-promoting rhizobacteria on lentil. *World Journal of Microbiology and Biotechnology* 23(3):435-441 (ISSN: 0959-3993) doi:10.1007/s11274-006-9244-z (IF = 2.652)
- 112.Siddiqui ZA, Akhtar MS (2006) Biological control of root-rot disease complex of chickpea by AM fungi. Archives of Phytopathology and Plant Protection 39(5):389-395 (ISSN: 0323-5408) doi:10.1080/03235400500320117 (SCOPUS)
- 113.Akhtar MS, Siddiqui ZA (2006) Effects of phosphate solubilizing microorganisms on the growth and root-rot disease complex of chickpea. *Mikologiya I Fitopatologiya* 40(3):246-254 (ISSN: 0026-3648) (SCOPUS)

## D) Abstract in National and International Conférences

- 114.Swamy MK, Purushotham B, Akhtar MS (2020) In-vitro effect of valpronic acid against human ovarian cancer cells. In: International E-Conference on Challenges for Biotechnology in Agriculture and Drug Development (CBADD-2020), Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 20th June, 2020, p. 34.
- 115.Akhtar MS (2020) Microsatellite markers as tracking tool for mycorrhizal fungi. In: International E-Conference on Challenges for Biotechnology in Agriculture and Drug Development (CBADD-2020), Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 20th June, 2020, p. 8.
- 116.Paiko AS, Bello LY, Salaudeen MT, Wada AC, Akhtar MS (2020) Antioxidant activities of phenolic compounds of different pepper accession inoculated with *M. incognita* nematode population. *In: International E-Conference on Challenges for Biotechnology in Agriculture and Drug Development* (CBADD-2020), Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 20th June, 2020, p. 3.
  - 117.Akhtar MS (2020) Persuade of metallic nanoparticles on the morpho-physiological changes in plants. In: National Conference on Recent Developments in Nanoscience and Green

*Chemistry* (RDNGC-2020), Department of Chemistry, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 1<sup>st</sup>-2<sup>nd</sup> February, 2020, p. 18.

- 118.Akhtar MS (2019) Impact of single and combined inoculation of root symbionts and antagonistic fungi on the growth, enzyme activities and Fusarium wilt of chickpea. In: 6<sup>th</sup> International Conference on Translational Approaches in Clinical, Environmental and Biotechnological Research (GenoPro-2019), Department of Biotechnology, Invertis University, Bareilly, U.P., India, 11-12<sup>th</sup> October, 2019, p 181.
- 119.Akhtar MS, Hannan (2018) Role of chemotherapeutic agents in cancer treatments. In: 6th National Conference on Scientific Rationality and Socio-cultural Changes, Govt. (P.G.) College, Bisalpur, Philibhit, U.P., India, 20-21st January, 2018, p. 45.
- 120.Akhtar MS, Sajjad A (2017) Efficacy of recent techniques for the multiplication of arbuscular mycorrhizal fungi. In: National Conference of Bio-degradation of Wildlife, Environment and Biodiversity (B-WEB), Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20th March, pp. 31-32.
- 121.Swamy, MK, Sinniah UR, Akhtar MS (2017) An improved micro-propagation protocol for Solanum nigrum: A medicinal plant of economic importance. In: National Conference of Bio-degradation of Wildlife, Environment and Biodiversity (B-WEB), Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20th March, pp. 77-78.
- 122.Ahmad S, Khan AA, Sajjad A, Akhtar MS (2017) Climate change and sustainability committee. In: National Conference of Bio-degradation of Wildlife, Environment and Biodiversity (B-WEB), Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20<sup>th</sup> March, p. 121.
- 123.Akhtar MS, Alaraidh IA, Naqvi SA (2017) Utility of computational genome tools for genomic data resources. In: National Conference of Bio-degradation of Wildlife, Environment and Biodiversity (B-WEB), Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20th March, p. 124.
- 124.Akhtar MS, Khan AA, Hannan (2017) Gemniviruses: A grave menace for yellow vein disease of Ageratum. In: National Conference of Bio-degradation of wildlife, Environment and Biodiversity (B-WEB), Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20<sup>th</sup> March, pp. 124-125.
- 125.Akhtar MS, Sharma K, Sheeva, Hanna (2016) Efficacy of root-associated fungi and PGPR on Fusarium wilt and the growth of chickpea. In: National Seminar on Frontier in Plant Science: Development and Environment (APSF 2016), Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 26-27th November, p. 18.
- 126.Azam T, Akhtar MS, Hisamuddin (2016) Effect of *Paecilomyces lilacinus* against the root-knot nematodes on tomato plant in fly ash amended soil. *In: National Seminar on Frontier in Plant Science: Development and Environment (APSF 2016)*, Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 26-27th November, p. 19.
- 127.Swamy MK, Uma Rani Sinniah UR, Akhtar MS (2016) Callus induction from Solanum nigrum leaf explants and evaluation of antimicrobial properties and phytoconstituents. In: National Seminar on Frontier in Plant Science: Development and Environment (APSF 2016), Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 26-27th November, p. 66.
- 128.Akhtar MS, Khan AA (2016) Consequences of plant growth promoting fungi and plant health promoting bacteria on the growth, enzyme activities and root-rot of chickpea. In: 2<sup>nd</sup> International Conference on Innovations in Chemical, Biological and Environmental Sciences (ICBCES), S.S. College, Shahjahanpur, U.P., India, 12<sup>th</sup> February, p. 27.
- 129.Akhtar MS, Khan AA (2016) Research methodology and ethical issues in scientific communications. *In: National Seminar on Promotion of Ethics and Human Values*, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 1<sup>st</sup> February, p. 36.

- 130.Akhtar MS, Swamy MK, Hakeem KR, Siraj K (2015) Antibacterial potentials of leaf and seed extracts of basil against the food borne pathogens. *In: International Conference on Medicinal Plants: Resource for Affordable New Generation Healthcare*, CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow, India, 22-22<sup>nd</sup> March, p. 83.
- 131.Akhtar MS, Hakeem KR, Swamy MK, Abdullah SNA, Moheman A, Panwar J (2015) Biosynthesis of silver nanoparticles using *Cassia didymobotyra* leaf extracts and their antibacterial activity against the multidrug resistant human pathogenic bacterial strains. *In: 4<sup>th</sup> National Symposium on Recent Advances in Analytical Sciences and Applications,* Department of Chemistry, Jamia Hamdard, New Delhi, India, 9-10<sup>th</sup> February, pp. 15-16.
- 132.Hakeem KR, Akhtar MS (2014) Genotypic variability in embryogenic callus induction and regeneration potential of rice (*Oryza sativa* L.) cultivars. *In: International Conference on Advances in Plant Biochemistry and Biotechnology, Improving Urban Development,* Department of Biochemistry and Biotechnology, Serdang, Selangor, Malaysia, 9-10<sup>th</sup> December, p. 78.
- 133.Akhtar MS, Azam T (2014) Effect of PGPR and antagonistic fungi on the growth, enzyme activity and *Fusarium* root-rot of pea. *In: Leveraging Sustainable Development through Building a Green Economy in Ethiopia: Challenge and Opportunities,* College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 6-7th February, p. 31.
- 134.Akhtar MS, Panwar J, Yun YS (2013) Biosynthesis of silver nanoparticles using *Chryssanthemum* cinerariaefolium leaf extracts. In: PACN Congress on Sustainability in Africa Energy, Water and Waste, African Hall, Addis Ababa, Ethiopia, 3-5th December, p. 12.
- 135.Azam T, Akhtar MS, Hisamuddin (2013) Management of root-knot nematode Meloidogyne incognita by Senna spp., Paecilomyces lilacinus and composted cow dung on tomato. In: International Conference on Integrated Agriculture for Food security and Adaptability to Climate Change, College of Agriculture and Veterinary Sciences, Ambo University, Ethiopia, 4-6th June, pp. 72-73.
- 136.Akhtar MS, Azam T, Simma EA, Robab MI (2013) Upshot of nematophagous fungi on the growth of tomato and on the reproduction of *Meloidogyne javanica*. In: National Seminar on Plant Sciences: New Technologies, Conservation and Environment, Aligarh Muslim University, Aligarh, India, 23-24<sup>th</sup> February, p. 12.
- 137.Azam T, Akhtar MS, Hisamuddin, Robab MI (2013) Pre-inoculation sway of bio-agents on the growth and yield of groundnut and on the population of *Meloidogyne incognita*. In: National Seminar on Plant Sciences: New Technologies, Conservation and Environment, Aligarh Muslim University, Aligarh, India, 23-24<sup>th</sup> February, p. 13.
- 138.Birhanu S, Akhtar MS, Muleta D (2013) Management of post-harvest fruit spoilage fungi by some spice extracts. In: Meeting National Development Challenges through Science, Technology and Innovations, College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 7-8th February, p. 27.
- 139.Panwar J, Jain N, Bhargaya A, Akhtar MS, Yun YS (2012) Postive effect of Zinc Oxide nanoparticels on tomato plants: A step towards developing "Nano-fertilizers". In: Proceeding of 3<sup>rd</sup> International Conference on Environmental Reserach and Technology, University of Sains, Penang, Malaysia, 30-1<sup>st</sup> June, pp. 248-352.
- 140.Akhtar MS, Muleta D, Panwar J (2012) Biotechnological approach of arbuscular mycorrhizal fungi towards medicinal plants: ptentaility and applications. *In: National Seminar on plant tissue and* organ culture: Emerging trends, Aligarh Muslim University, Aligarh, India, 10-11<sup>th</sup> March, p. 27.
- 141.Akhtar MS, Azam T (2012) Effects of root symbionts and PGPR on the reproduction of root-knot Meloidogye incognita and on the growth and enzyme activity of pea. In: The role of Research and Education in the Implementation of Growth and Transformation plan of Ethiopia, College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 26-27th January, p. 114.
- 142. Azam T, Akhtar MS (2012) Biocontrol potential of *Paecilomyces lilacinus* against the root-knot nematode (*Meloidogyne incognita*) on tomato plant (*Lycopersicon esculentum*). In: The role of Research and

*Education in the Implementation of Growth and Transformation plan of Ethiopia,* College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 26-27th January, p. 115.

- 143.Akhtar MS, Yun YS (2011) Biosynthesis of precious metal nanoparticles using plant extract, and their applications. In: International Symposium on Green Manufacturing and Applications, Seoul National University, Seoul, Republic of Korea, 6-7th October.
- 144.Akhtar MS, Moheman A, Yun YS, Jais HM (2011) Effect of mycorrhizal fungus Glomus mosseae on the growth and metal accumulation changes in Brassica juncea. In: National Seminar on Sustainable Agriculture and Environmental Health: Problem and Solution, Department of Botany, RS Government College, Shivrajpur, Kanpur, India, 19th February, p. 5.
- 145.Moheman A, Husain A, Akhtar MS, Siddiqui KS (2011) Assessment of efficacy of biosurfactant for separation and mobility of heavy metals in soil by thin layer chromatography : A New Approach. *In: National Seminar on Sustainable Agriculture and Environmental Health: Problem and solution,* Department of Botany, RS Government College, Shivrajpur, Kanpur, India, 19th February, p. 6.
- 146.Akhtar MS, Moheman A, Siddiqui ZA, Yun YS (2011) Plant Growth promoting bacteria: A paradigm for removal of heavy metal from soil. *In: National Seminar on Sustainable Agriculture and Environmental Health : Problem and solution.* Department of Botany, RS Government College, Shivrajpur, Kanpur, India, 19th February, p.19.
- 147.**Akhtar MS**, Siddiqui ZA (2011) Mycorrhizal fungi a dynamic approach for the sustainable agricultural system. *In: National Symposium on Current Trends in Biochemical, Biomedical and Environmental Sciences,* Department of Biochemistry, Aligarh Muslim University, Aligarh, India, 22<sup>nd</sup> February, pp. 52-53.
- 148.Akhtar MS, Mathimaran N, Boller T, Wiemken A (2009) Strawberry ecotypes respond differentally to three arbuscular mycorrhizal fungal strains when inoculated singly or in combination of two or three. *In: Plant-Microbe Interaction, Symposium of Zurich Basel Plant Science Center,* University of Basel, Switzerland, 13th November p. 23.
- 149.Mathimaran N, Koegel S, Akhtar MS, Boller T, Wiemken A (2009) Microsatellites as molecular tool for tracing specific strains of *Glomus irregulare*, a widespread arbuscular mycorrhizal fungus, in an environmental sample. *In: Plant-Microbe Interaction, Symposium of Zurich Basel Plant Science Center,* University of Basel, Switzerland, 13<sup>th</sup> November p. 28.
- 150.Akhtar MS, Shakeel U, Siddiqui ZA (2008) Biocontrol of Fusarium wilt by Bacillus pumilus, Pseudomonas alcaligenes and Rhizobium sp. on lentil. In: XXXI All Indian Botanical conference and International Symposium on Plant Biology and Environment: Changing Scenario", Department of Botany, Allahabad, India, 17-19th December, p. 58.
- 151.Akhtar MS, Siddiqui ZA, Shakeel U, Singh P (2008) Effect of AM fungi on the growth, nutrient uptake and root-rot disease of chickpea. *In: Integrated Pest and Disease Management (IPDM) in Arid and Semi Arid Areas,* Arid Forest Research Institute, Jodhpur, India, 12-13th March, p. 63.
- 152.Akhtar MS, Siddiqui ZA (2008) Biocontrol of a chickpea root-rot disease complex with phosphate solubilizing microorganisms. *In: Integrated Pest and Disease Management (IPDM) in Arid and Semi Arid Areas,* Arid Forest Research Institute, Jodhpur, India, 12-13th March, p. 67.
- 153.Akhtar MS, Siddiqui ZA (2007) Glomus intraradices, Pseudomonas alcaligenes, Bacillus pumilus as effective biocontrol agents for the root-rot disease complex of chickpea (*Cicer arietinum* L.). In: Research in Fungal Biology: Emerging Trends, Department of Botany, Punjabi University Patiala, India, 30-31th January, p. 100.
- 154.Akhtar MS, Siddiqui ZA (2007) Effects of phosphate solubilizing microorganisms on the growth and root-rot disease complex of chickpea. *In: Emerging trends in Plant Sciences: Biodiversity, Biotechnology and Environmental Conservation,* School of studies in Botany, Jiwaji University, Gwalior, India, 28-30th November, p. 180.

155.Akhtar MS, Siddiqui ZA (2007) Biocontrol of a chickpea root-rot disease complex by AM fungi. In: Recent advances in Microbial Biofertilizers Production and Utilization Technology" Department of Botany, Iswar Saran Degree College, Allahabad, India, 13-14th December, p. 129.

## E) Participation in Faculty Development Programmes/Workshops/Training courses

- AMU Sponsored Faculty Development Programmes on Digitalisation of Education Content Through Open Source Tools (Online) from Department of Commenrce, Aligarh Muslim University, Aligarh from 6th-10th August, 2020.
- MHRD Sponsored Faculty Development Programmes on Managing Online Classes and Co-creating MOOCs (Online) from Teaching and Learning Centre, Ramanujan College, University of Delhi from 25th-10th August, 2020 with Grade 'A'
- MHRD Sponsored Faculty Development Programmes on Advanced Concepts for Developing MOOCs (Online) from Teaching and Learning Centre, Ramanujan College, University of Delhi from 2<sup>nd</sup>-17<sup>th</sup> July, 2020 with Grade 'A'
- UGC Sponsored Refresher Course in Disaster Management, at UGC Human Resource Development Centre (HRDC), Aligarh Muslim University, Aligarh from 12<sup>th</sup> March 2019-2<sup>nd</sup> April 2019 with Grade 'A'.
- UGC Sponsored Orientation Program-CXLV, at UGC Human Resource Development Centre (HRDC), Aligarh Muslim University, Aligarh from 20<sup>th</sup> February, 2017-21<sup>st</sup> March 2017 with Grade 'A'.
- 6. *Basic Geographic Information Systems (GIS),* at Department of Biology, College of Natural Sciences, Jimma University, Jimma, Ethiopia on 10-12<sup>th</sup> January (2013).
- 7. In Silico Molecular Modeling and Drug Design, at Interdisciplinary Biotechnology Unit, Aligarh Muslim University, Aligarh, India, on 18-19th March (2008).
- 8. *Bioinformatics Applications in Agriculture Research,* at Unit of Stimulation and Informatics, Post Graduate Agriculture Research Institute, New Delhi, India, on 25-27<sup>th</sup> February (2008).
- New and Emerging Trends in Nematological Research in the 21<sup>th</sup> Century with Particular Emphasis on Plant Protection, at Department of Zoology, Aligarh Muslim University, Aligarh, India, on 26<sup>th</sup> Febuary-3<sup>th</sup> March (2007).
- 10. *Nematodes as a Models in Biological Studies,* at Department of Zoology, Aligarh Muslim University, Aligarh, India, on 7-15<sup>th</sup> March (2005).

## F) Organization of Seminar/Workshop/Webinars

- Organizing Secretary of an International Webinar on 'How to Publish in a High Impact Journal: A to Z' organized by 'Gulistan Botanica Society', Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 6<sup>th</sup> September (2020).
- Co-organizing Secretary of International E-Conference on 'Challenges for Biotechnology in Agriculture and Drug Development (CBADD-2020)', organized by Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 20<sup>th</sup> June (2020).
- Organizing Secretary of an International Webinar on 'Food Security, Safety and Sustainability' organized by 'Gulistan Botanica Society', Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 8th June (2020).
- Organizing Secretary of a Webinar on 'Managing COVID-19: All you need to know' organized by 'Gulistan Botanica Society', Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 29th May, (2020).

 Co-organizing Secretary of DST Sponsored National Seminar on 'Frontier in Plant Science: Development and Environment (APSF 2016)', organized by 'Gulistan Botanica Society', Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 26-27<sup>th</sup> November (2016).

## G) Participated in Conferences/Symposium/Webinars

- How to Publish in a High Impact Journal: A to Z' organized by 'Gulistan Botanica Society', Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 6th September (2020)
- 2. *Viruses vs Environment: Causes and Effects,* organized by International Society of Environmental Relationship and Sustainability (ISERS), 29th August (2020)
- 3. *Skill Development, Tie-up with Industry,* organized by Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 28th August (2020)
- The Challenges and Scientific Advances of SARS-COV 2, organized by Department of Microbiology, Assam University in Collaboration with Springer Nature and Society for Environmental Sustainability, 27th August (2020)
- International E-Conference on Challenges for Biotechnology in Agriculture and Drug Development (CBADD-2020), organized by Department of Biotechnology and Microbiology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 20th June (2020)
- 6. *Recent Trends in Applied Sciences: Challenges and Opportunities due to COVID-19,* organized by Department of Botany, Mohammad Ali Jauhar University, 17th-18th June (2020)
- 7. *Food Security, Safety and Sustainability* organized by *'Gulistan Botanica Society'*, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 8th June (2020)
- 8. *Managing COVID-19: All you need to know* organized by *'Gulistan Botanica Society'*, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India on 29th May, (2020).
- National Conference on Recent Developments in Nanoscience and Green Chemistry (RDNGC-2020), organized by Department of Chemistry, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 1<sup>st</sup>-2<sup>nd</sup> February (2020).
- 6<sup>th</sup> International Conference on Translational Approaches in Clinical, Environmental and Biotechnological Research (GenoPro-2019), organized by Department of Biotechnology, Invertis University, Bareilly, U.P., India, 11-12<sup>th</sup> October (2019).
- 11. 6th National Conference on Scientific Rationality and Socio-cultural Changes, organized by Government (P.G.) College, Bisalpur, Philibhit, U.P., India, 20-21st January (2018).
- National Conference of Bio-degradation of wildlife, Environment and Biodiversity (B-WEB), organized by Department of Zoology, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 19-20th March (2017).
- National Seminar on Frontier in Plant Science: Development and Environment (APSF 2016), organized by *'Gulistan Botanica Society'*, Department of Botany, Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 26-27<sup>th</sup> (2016).
- 14. 2<sup>nd</sup> International Conference on Innovations in Chemical, Biological and Environmental Sciences (ICBCES), organized by S.S. College, Shahjahanpur, U.P., India, 12<sup>th</sup> February (2016).
- 15. *National Seminar on Promotion of Ethics and Human Values*, organized by Gandhi Faiz-e-Aam College, Shahjahanpur, U.P., India, 1<sup>st</sup> February (2016).
- International Conference on Medicinal Plants: Resource for Affordable New Generation Healthcare, organized by CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow, India, 22-22<sup>nd</sup> March (2015).

- 17. 4<sup>th</sup> National Symposium on Recent Advances in Analytical Sciences and Applications, organized by Department of Chemistry, Jamia Hamdard, New Delhi, India, 9-10<sup>th</sup> February (2015).
- Seminar on Food and Feed Safety of Genetically Engineered Crops Containing Stacked Traits, organized by Cititel Hotel, Kuala Lumpur, Malaysia, 5th February (2015).
- 19. International Conference on Advances in Plant Biochemistry and Biotechnology, Improving Urban Development, organized by Department of Biochemistry and Biotechnology, Serdang, Selangor, Malaysia, 9-10<sup>th</sup> December (2014).
- Leveraging Sustainable Development through Building a Green Economy in Ethiopia: Challenge and Opportunities, organized by College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 6-7th February (2014).
- 21. PACN Congress on Sustainability in Africa Energy, Water and Waste, African Hall, Addis Ababa, Ethiopia, 3-5<sup>th</sup> December, p. 12 (2013).
- 22. The Biological Society of Ethiopia, 23<sup>rd</sup> Annual Conference on Research, Technology, Incubation, Enterpreneurship, and Self Employment in Biosciences, organized by Addis Ababa University, Ethiopia, 8-9<sup>th</sup> March (2013).
- Meeting National Development Challenges through Science, Technology and Innovations, organized by College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia, 7-8<sup>th</sup> February (2013).
- The Role of Research and Education in the Implementation of Growth and Transformation Plant of Ethiopia, organized by College of Agriculture and Veterinary Medicine, Jimma University, Jimma, Ethiopia on 26-27<sup>th</sup> January (2012).
- 25. The Korean Society for Biotechnology and Bioengineering Spring Meeting, at Jeju Phoenix Island, Republic of Korea on 14-16<sup>th</sup> February (2011).
- National Symposium on Current Trends in Biochemical, Biomedical and Environmental Sciences, organized by Department of Biochemistry, Aligarh Muslim University, Aligarh, India on 22<sup>nd</sup> February (2011).
- 27. National Seminar on Sustainable Agriculture and Environmental Health Problem and Solution, organized by Department of Botany, R.S. Government College, Shivrajpur, Kanpur, India on 19th February (2011).
- 28. Plant-Microbe Interaction Symposium of Zurich Basel Plant Science Centre, organized by University of Basel, Switzerland, 13<sup>th</sup> November (2009).
- 29. Benefits and Risks of the Deliberated release of Genetically Modified Plants, at Bern, Switzerland on 2-3<sup>rd</sup> March (2009).
- XXXI All India Botanical conference and International Symposium on Plant Biology and Environment: Changing Scenario, organized by Department of Botany, Allahabad, India, on 17-19th December (2008).
- 31. Integrated Pest and Disease Management (IPDM) in Arid and Semi-arid Areas, organized by Arid Forest Research Institute, Jodhpur, India, on 12-13th March (2008).
- 32. Recent advances in Microbial Biofertilizers Production and Utilization Technology, organized by Department of Botany, Iswar Saran Degree College, Allahabad, India, on 13-14<sup>th</sup> December (2007).
- 33. Emerging trends in Plant Sciences: Biodiversity, Biotechnology & Environmental Conservation, organized by School of studies in Botany, Jiwaji University, Gwalior, India on 28-30<sup>th</sup> November (2007).
- 34. **Research in Fungal Biology: Emerging Trends,** organized by Department of Botany, Punjabi University, Patiala, India, on 30-31<sup>th</sup> January (2007).

#### References

- Professor Andres Wiemken Botanical Institute, University of Basel, Hebelstrasse 1, Basel, Switzerland E-mail: andres.wiemken@unibas.ch Tel: +41-612672310
- Professor Yeoung-Sang Yun Environmental Biotechnology National Research Laboratory, Chonbuk National University, Jeonju, Republic of Korea E-mail: ysyun@jbnu.ac.kr Tel: +82-632702308
- Professor Jitendra Panwar Department of Biological Sciences, Birla Institute of Technology and Science, Pilani, Rajasthan, India E-mail: drjitendrapanwar@yahoo.co.in Tel: +91-9414411654
- Professor Ahmad Umar Centre for Advanced Materials & NanoEngineering, Najran University, Najran, Kingdom of Saudi Arabia Email: ahmadumar786@gmail.com Tel: +966- 534574597
- Dr. Khalid Siraj Department of Chemistry, College of Natural Sciences, Jimma University, Ethiopia Email: drsirajkhalid@gmail.com Tel: +251-917016348