

Dr. Fathia Mubeen

Senior Scientist

Telephone (off.): + 92-41-651475-80

Ext. 267, 268

Fax :+ 92-41-651472

Plant Microbiology Division,
National Institute for Biotechnology and
Genetic Engineering (NIBGE),
P.O. Box # 577, Jhang Road,
Faisalabad-Pakistan.

E-mail: mufathia@yahoo.com &
fathia@nibge.org



Research Experience:

Bacterial Isolation from root, rhizosphere, endosphere and nodules of cereal and legumes respectively, Purification and preservation of different bacterial isolates, Bacterial identification and Characterization using microbiological, biochemical and molecular methods. Bacterial DNA/RNA isolation and purification from pure culture and soil. Fungal DNA isolation and amplification of 18S rRNA for identification
Bacterial Plasmid isolation. Bacterial strain identification through 16S rRNA sequencing. Effect of pesticides on seed/seedling and application of biofertilizer. Effect of pesticides on rhizospheric bacterial population in wheat. Study of nodule occupancy of *Agrobacterium* strain in legume roots through Fluorescence Antibodies, Immunogold Labeling and Electron microscopy.
Field evaluation of biofertilizer developed for various crops. Ultra structural investigation of behavior of bacterial strains in the presence of fungicides using Electron Microscope. Bacterial Genotoxicity study through Comet assay. Amplification of *nod* and *nif* gene in bacteria. Study of Bacterial community in pesticide treated soils using Denaturing Gradient Gel Electrophoresis (DGGE).

Academic Record

Diploma/ Degree	Years of Passing	Place
B.Sc	1990	Punjab University, Lahore, Pakistan.
M.Sc (Biochemistry)	1993	Univ. of Agriculture, Faisalabad, Pakistan.
M.Phil. (Biochemistry)	1997	Univ. of Agriculture, Faisalabad, Pakistan.
B.Ed	1998	Punjab University, Lahore, Pakistan.
Ph.D. (Biochemistry)	2006	Univ. of Agriculture, Faisalabad, Pakistan.

Honors and Awards:

1. 2nd position in Painting competition in Annual exhibition Nov.1997. UAF
2. Merit certificates in Poetry, Painting, Essay writing competitions. During 1997-8 Education college Faisalabad.
3. 1st prize in poster competition in 7th conference of all Pakistan Plant scientists at Punjab University, Lahore. 14-16, Nov.2000.
4. 1st prize in poster competition in International Symposium on "Application of Plant Sciences in Emerging Scenario" March, 20-22, 2006, at GC University, Faisalabad.
5. Certificate of confirmation/ completion of IAEA training from the host institute.
6. Certificate of confirmation/ completion of IAEA training from IAEA, Vienna, Austria.

Publications

A: MSc. Thesis:

Mubeen, F. (1993). Bioconversion of wheat bran, gram bran and mung bran into protein through fermentation technology. Univ. of Agriculture, Faisalabad.

B: M. Phil. Thesis:

Mubeen, F. (1997). Production of cellulases and hemicellulase from wheat bran by using *Arachniotus* sp. and their bioassay.

C: Ph.D. Thesis:

Mubeen, F. (2006). Biochemical and Molecular Approaches to Study the Effect of Pesticides on Root Associated Bacteria in Wheat.

Papers:

1. Fathia Mubeen, M. Asghar, S.T.A.K. Sindhu, N, Yasmin and M. Shazia. 1999. Production of cellulases and hemicellulase from wheat bran by using *Arachniotus* sp. and their bioassay. Pakistan j. of Biological Sciences, 2(2): 553-554.
2. Fathia Mubeen, Muhammad yaqub, T. Talat and S.T.A.K. Sindhu. 1997. Bioconversion of wheat bran, gram bran and mung bran into protein through fermentation technology. Pakistan J. Livestock and Poultry 3(1): 16-19.
3. Talat, T. M. Yaqub, Fathia Mubeen, K. Rehman, M. Arshad and S.T.A.K. Sindhu. 1997. Studies on comparative evaluation of per oxidase extracted from turnip (*Brassica rapus*) and radish (*Raphanus sativus*). Pakistan J. Livestock and Poultry. 3(3): 60-64.
4. Sohail Hameed, Fathia Mubeen, Kauser A. Malik, Fauzia Y. Hafeez 2005. Nodule co-occupancy of *Agrobacterium* and *Bradyrhizobium* with potential benefit to legume host. In Proceedings of 14th international Nitrogen fixation congress. Wang Y.P., Lin M., Tian Z. X., Elmerich C., Newton W. E. (eds). Biological Nitrogen fixation, Sustainable Agriculture and Environment. Page 295-296. Springer, Netherlands.
5. Fathia Mubeen and Fauzia Y. Hafeez. 2006. Denaturing Gradient Gel Electrophoresis A novel technique to explore microbial diversity. Journal of Botany. 1(1): Page: 29-31.
6. Fathia Mubeen. Wheat Fungal Disease in Pakistan: their impact on economy and possible solution. Daily "THE SUN", International 18 July, 2006.
7. Fathia Mubeen, Asma Aslam, Munir A. Sheikh, Tahira Iqbal, Sohail Hameed, K. A Malik and Fauzia Y. Hafeez. 2006. Response of wheat yield under combine use of Fungicide and Biofertilizer. International Journal of Agriculture and Biology 8(5). P. 580-582.
8. Fathia Mubeen, M. A. Shiekh, T. Iqbal, Q. M. Khan, K. A. Malik and F. Y. Hafeez. *In vitro* investigations to explore the toxicity of fungicides for Plant Growth Promoting Rhizobacteria. Pakistan Journal of Botany. 38(4): 1261-1269.
9. Fathia Mubeen, Sohail Hameed, Asma Aslam, Munir A. Sheikh, Tahira Iqbal, K. A Malik and Fauzia Y. Hafeez. Yield effects of seed applied fungicide and microbial inoculants on wheat. (Submitted) in Pakistan journal of Agriculture research.
10. Fathia Mubeen, Sohail Hameed, Asma Aslam and Fauzia Y. Hafeez, Yield of wheat under PGP rhizobacteria and seed coated fungicide regimens. Agronomy for Sustainable Development. (Submitted)

Article:

1. Fathia Mubeen. Wheat Fungal Disease in Pakistan: their impact on economy and possible solution. Daily "THE SUN", International 18 July, 2006.

Abstracts:

1. Fathia Mubeen, Sohail Hameed, Mazhar Hussain, Yusuf Zafar, Kauser A. Malik and Fauzia Y. Hafeez. (2001). Confirmation of root nodulating isolates as *Bradyrhizobium* and *Agrobacterium* strains through 16S rRNA sequence analysis. In proceeding of 7th conference of all Pakistan Plant scientists at Punjab University, Lahore. 14-16, Nov. 2000. Abstract, Page. 66.
2. Fathia Mubeen, Abid Hussain, Sohail Hameed, Kauser A. Malik and Fauzia Y. Hafeez. 2002. Evaluation of Biofertilizer (*BioPower*) Effective microorganisms (EM) and chemical fertilizers on growth of maize. In proceeding of 9th International Congress of Soil Science 18-20 March 2002. NIAB, Faisalabad. Abstract, Page. 32.
3. Fathia Mubeen, Sohail Hameed, Kauser A. Malik and Fauzia Y. Hafeez. Development of fungicide resistant biofertilizers for wheat crop improvement. (abstract). In proceeding of Workshop on "Production technology for wheat and sugarcane crop improvement" at Agriculture Biotechnology research institute, AARI, Faisalabad. June 05, 2003. Page. 04
4. Hameed, S., F. Mubeen, K.A. Malik and F.Y. Hafeez. 2004. Nodule co-occupancy of *Agrobacterium* and *Bradyrhizobium* with potential benefit to legume host. In proceedings of 14th International Congress on Nitrogen Fixation. Oct. 27-Nov. 1, 2004 at Beijing, China. Abst. No. L44, p. 42.
5. Fathia Mubeen, Vivianae Radl, Michael Schloter, K. A. Malik F.Y. Hafeez. 2005. Analysis of shifts in microbial community under the influence of fungicides through denaturing gradient gel electrophoresis (DGGE). In proceedings of 18th International FAOBMB symposium on Genomics and Proteomics in Health and Agriculture. Nov. 20-23, 2005 at Lahore, Pakistan. Abst. No. PD2-37, p. 207.

6. Hameed, S., F. Mubeen, Sumera Yasmin, K.A. Malik and F.Y. Hafeez. 2005. Molecular and Ultrastructure characterization of Phosphate solubilizing *Agrobacterium* isolated from legume root nodule. In proceedings of 18th International FAOBMB symposium on Genomics and Proteomics in Health and Agriculture. Nov. 20-23, 2005 at Lahore, Pakistan. Abst. No. S-XV-D, p. 117.
7. Sohail Hameed, Fathia Mubeen, Sumera Yasmin, Kauser A. Malik and Fauzia Y. Hafeez Molecular and ultrastructure characterization of phosphate solubilizing *Agrobacterium* isolated from legume root nodule. Paper presented in 9th National Conference of plant scientist 13-15 Feb 2006. The institute of Botany, University of Sindh, Jamshoro. Abstract page 69.
8. Fathia Mubeen, Vivianae Radl, Michael Scholter, Kauser A. Malik and Fauzia Y. Hafeez, Complex Microbial community analysis through Denaturing gradient gel electrophoresis (DGGE). Poster presented in 9th National Conference of plant scientist 13-15 Feb 2006. The institute of Botany, University of Sindh, Jamshoro. Abstract page 117.
9. Fathia Mubeen, S. Hameed, A. Aslam, M.A. Sheikh, Tahira Iqbal, Kausar A. Malik and Fauzia Y. Hafeez. 2006. Yield effect of seed applied fungicides and microbial inoculant on wheat. In proceedings of International Wheat Seminar. February 20-21, 2006.at Ayub Agriculture Research Institute (AARI), Faisalabad. Abst. No.104. p.79.
10. Fathia Mubeen, Asma Aslam, Kausar A. Malik and Fauzia Y. Hafeez. 2006. Effects of different fungicides on beneficial activities of bacterial inoculants. In proceedings of International Symposium on "Application of Plant Sciences in Emerging Scenario" March, 20-22, 2006, at GC University, Faisalabad. Abst. P. 42.
11. Fathia Mubeen, Kausar A. Malik and Fauzia Y. Hafeez. 2006. Denaturing Gradient Gel Electrophoresis (DGGE) a technique to explore complex microbial community. In proceedings of International Symposium on "Application of Plant Sciences in Emerging Scenario" March, 20-22, 2006, at GC University, Faisalabad. Abst. P. 72.
12. Fathia Mubeen, S. Hameed, A. Aslam, M.A. Sheikh, Tahira Iqbal, Kausar A. Malik and Fauzia Y. Hafeez. 2006. Effect of crop protectants on nature's fertility partners. In proceedings of International Symposium on "Application of Plant Sciences in Emerging Scenario" March, 20-22, 2006, at GC University, Faisalabad. Abst. P. 82.
13. Fathia Mubeen, Sohail Hameed, Kausar A. Malik and Fauzia Y. Hafeez. 2006. The *in vitro* and ultrastructural investigations to study the effect fungicide treatment on PGPR. In proceeding of 1st International Conference on Biotechnology and Informatics, April, 10-12, 2006. Balochistan University of Information Technology & Management Sciences, Quetta. Abst. P.87.
14. Fathia Mubeen, Asma Aslam, Vivanae Radl, Michael Schloter, K. A. Malik and Fauzia Y. Hafeez. 2007. Role of nature's fertility partners and soil protectants for sustainable agriculture. Poster presented In 15th International Congress of Nitrogen Fixation and 12th International Conference of the African Association for Biological Nitrogen Fixation "BNF Application for Poverty Alleviation." 21-26 January, 2007. The Cape Peninsula University of Technology and Sister Institutes in Cape Town, South Africa. Abstract Page: 135.
15. Kauser A. Malik, Fauzia Y. Hafeez, S Hameed, M. S. Mirza, F. Mubeen, S. Yasmin, A. Aslam and M. Gull. 2007. Diverse role of diazotrophs in the Rhizosphere. In 15th International Congress of Nitrogen Fixation and 12th International Conference of the African Association for Biological Nitrogen Fixation "BNF Application for Poverty Alleviation." 21-26 January, 2007. The Cape Town Peninsula University of Technology and Sister Institutes in Cape Town, South Africa. Abstract Page: 135.
16. Fathia Mubeen, Vivanae Radl, Michael Schloter, K. A. Malik and Fauzia Y. Hafeez. 2007. DGGE fingerprinting: Microbial Community genetics in pesticide treated soils. Paper Presented in International Symposium on "Microbial Technologies for Sustainable Agriculture: Exploring the hidden potentials of Microbes." 12-16 March, 2007 at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan . Abstract page: 77.
17. Kiran Munir, A Hameed, R Faryal, Fathia Mubeen, Hassan Z. and Fauzia Y. Hafeez. 2007. Molecular Identification of a novel *Aspergillus* strain capable of degrading nickel and chromium. Poster in International Symposium on "Microbial Technologies for Sustainable Agriculture: Exploring the hidden potentials of Microbes." 12-16 March, 2007 at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan . Abstract page: 92.
18. Fathia Mubeen, Sohail Hameed, K. A. Malik and Fauzia Y. Hafeez. 2007. Fungicide treatment on Plant Growth Promoting rhizobacteria: The *in vitro* and ultrastructural investigations. Poster Presented in International Symposium on "Microbial Technologies for Sustainable Agriculture: Exploring the hidden

potentials of Microbes.” 12-16 March, 2007 at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan . Abstract page: 114.

19. Lubna Rajput, Fathia Mubeen and Fauzia Y. Hafeez. 2007. Biochemical and Molecular Characterization of salinity tolerant PGPR strains. Poster in International Symposium on “Microbial Technologies for Sustainable Agriculture: Exploring the hidden potentials of Microbes.” 12-16 March, 2007 at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan . Abstract page: 121.
20. F. Mubeen, V. Radl, M. Schloter and F. Y. Hafeez. Denaturing Gradient Gel Electrophoresis (DGGE) for analysis of complex microbial community. In proceeding of 11th International Culture Collection Congress, DSMZ, GERMANY Oct 7-11, 2007. Abstract No: P 102, P: 228.

Attended International and National Training Courses and Workshops:

1. Training course on “The application of Biotechnology in Agriculture 7-12 December 1998 at Centre of Agriculture and Biotechnology, University of Agriculture, Faisalabad Pakistan.
 2. 33rd All Pakistan Science Conference, U.A.F, Dec. 25-28, 2002.
 3. Workshop on Production Technology for Wheat and Sugarcane Crop Improvement, June 05, 2003 at Agricultural Biotechnology Research Institute (AARI), Faisalabad.
 4. IAEA training from the GSF-National Research Center for Environment and Health, Institute of Soil Ecology, Ingolstädter landstraße. 1, D-85764, Neuherberg/ Munich, Germany (from 1st June to 30th July, 2004).
 5. During IAEA training at Germany attended a summer school on molecular techniques, conducted at 8-14 June 2004 at Institute of Soil Ecology. Ingolstädter landstraße. 1, D-85764, Neuherberg/ Munich, Germany.
 6. National Seminar on Biofertilizers: Potentials and Prospects. Ayub Agriculture Research Institute, Faisalabad. 12-13 April, 2005.
 7. Fourth seminar on “An introduction to ISO 17025 Laboratory Management Standards” November 29, 2005, at NIBGE. Organized by Directorate of Quality Assurance (PAEC) and Pakistan National Accreditation council.
 8. One day workshop on “Use of HEC Digital Library” December 14, 2005 at NIBGE. Organized by Higher Education Commission.
 9. International Wheat Seminar. February 20-21, 2006.at Ayub Agriculture Research Institute, Faisalabad.
- International Symposium on “Application of Plant Sciences in Emerging Scenario” March, 20-22, 2006, at GC University, Faisalabad.