



Associate Professor

Dr. Shachi Shah

Qualifications:

Ph.D.(Environmental Science) 2002 from Govind Ballabh Pant University of &Agriculture Technology, Pantnagar on **Structural and functional characterization of pentachlorophenol degrading bacterial consortium for the treatment of tannery effluent**

M.Sc. (Environmental Science) 1998 from Govind Ballabh Pant University of &Agriculture Technology, Pantnagar on **Studies on factors affecting lignin biodegradation by actinomycetes (*streptomyces* sp.)**

Areas of Interest:

Biodiversity, Climate Change, Biodegradation ,Environmental Microbiology & Biotechnology

Experiences:

1. **S.R.F** in D.B.T. project “**Alkalophilic bacterial consortium for treatment of pulp and paper mill**” from 17-08- 2000 to 30-04- 2002
2. **Research Associate** in N.A.T.P. project “**Development of IPNS for the rice maize based cropping system in hill**” in VPKAS, Almora from 1-02-2003 to 1-05-2003
3. **Research associate** in DBT project “**Characterization of tea through biotechnological tool**” In G.B.Pant Institute of Himalayan Environment & Development, from 2-05-2003 to 6-02- 2004
4. **Assistant Professor (Environmental Science)**, College of Forestry & Hill Agriculture, **G.B.P Univ. of Agriculture & Technology, Hill Campus, Ranichauri, Tehri Garhwal, Uttarakhand** form 10-02-2004 to 15-11-2011

Programmes under development

1. Appreciation Programme on Sustainable Management of Biodiversity
2. Masters in Environmental Science

Project Handled

1. **Co-Principal Investigator** of D.B.T Project entitled “**Characterization of morphological diversity and standardization of propagation techniques of Sebuckthron**”

2. **Isolation and identification of indigenous agriculturally important microbes of central Himalaya**, In house Project.G.B.Pant University of Agriculture & Technology, Pantnager
3. **Effect of climate change on major hill crops**. In house project. G.B.Pant University of Agriculture & Technology, Pantnager

Courses Taught

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| 1. Environment Science and Agro-ecology | 2. Introduction to environmental Science |
| 3. Forest ecology and biodiversity | 4. Agricultural Microbiology |
| 5. Wood Anatomy | 5. Wasteland management |
| 6. Elementary Biology | 6. Elementary Plant Biochemistry |
| 7. Forest Mgt. Policy & Legislation | 7. Rural Awareness Work Experience Programme |

Membership of Professional Societies:

1. Life member of Indian Association of microbiologist
2. Life member of Biotechnology Society of India
3. Life member of Indian Society of Environmental Scientists
4. Member, Asian Agri-History Foundation, Secunderabad.
5. Member, Indian society of soil science
6. Founder Member of Indian society of Hill Agriculture
7. Editorial board member of International Journal of Hill Agriculture

Training Attended

1. Use of Nuclear Techniques In Increasing Agricultural Productivity” organized by BARC, Mumbai 30th July-10th Aug, 2001.Pantnager
2. “Exploring Biotechnological Database On the Internet”, sponsored by DBT, 23rd –25th March, 2001.Pantnager
3. “DNA Based Marker Technologies And Its Application, sponsored by DBT, 21st-31st July, 2003.teri, New Delhi
4. “Application of genomic and molecular markers and transformation tool for crop improvements” 1-21 Dec 2005, sponsored by ICAR, CCHAU, Hisar
5. “Sample Survey Techniques in Agricultural Research organized by the Division of sample survey, Indian Agricultural Statistics Research Institute (ICAR), New Delhi- 16th January - 5th February 2008, sponsored by ICAR.
6. Integrated plant nutrient supply and management system for enhancing soil quality, input use efficiency and crop productivity” organized by the Division of soil science and agriculture chemistry, IARI, New Delhi from 15 Dec 2008 to 05 Jan 2009.

Training Conducted

1. Conducted first hand training of the “**Plant Molecular Biology and Related Analytical Techniques, Microbiological procedures, Plant Tissue culture and Allied Aspects**” for a period of 30 days for student of B.Sc. Biotechnology (2nd year), H.N.B. Garhwal University, Srinagar

Seminar/ Symposium /Workshop/ Attended

1. Annual convention of the Indian society of soil science. 18-28 Oct. 2005, TNAU, Coimbatore.
2. National workshop on “Integrated management of natural resources in mountains”, 28-31 Dec., 2005, Pantnagar.

3. 47th Annual Conference, Association of Microbiologists of India, December 6-8, 2006. Department of Biotechnology & Bioinformatics Centre, Bhopal, India.
4. NAIP sensitization satellite workshop on Sept. 26, 2006 Pantnagar.
5. Attended National workshop on plant variety protection. 16-17 Oct., 2006, Pantnagar.
6. 48th Annual Conference, Association of Microbiologists of India, December 18-21, 2007 held at Department of Biotechnology. IIT Madras, Chennai.
7. National workshop on "Climate Change & Extreme Weather Events", 8-20 April, 2007 organized by Indian Meteorological Society, New Delhi..
8. Seminar of Cleaner and greener Raiwala, 14th July, 2008, organized by GRTU, Raiwala
9. Workshop on "Net Working For Biodiversity Climate Change And Ecosystem Services In Mountains" 8-10 March, 2007, organized by Dept. of Environment Science, G.B.P.U.A.&T. Pantnagar.
10. Regional Seminar on Patenting in Biotechnology, 11th Feb, 2008. Organized by NRDC, New Delhi and UCOST, Dehradun
11. Participate in National Conference on "Advances in Microbial Diversity and Disease Management for Sustainable crop Production", during Oct. 13-15, 2008 at Hill Campus, Ranichauri (Tehri Garhwal), Uttarakhand.

Awards/ Recognitions:

1. Receipt of national fellowship high school & intermediate
2. Receptient of university fellowship
3. NET/ICAR 2002 qualified.

Adminstartive Services

1. Assistant Registrar of College of Forestry at G.B.P.U.A. &T., Pantnagar, Hill Campus , Ranichauri, Tehri Garhwal, Uttarakhand since 2007to till 8-11-2011.
2. Worked as, Girls Hostel warden from 2005-2007
3. Member college discipline committee from 2005-2007.
4. Member of Anti- Ragging Committee of College of Forestry & Hill Agriculture Hill Campus Ranichauri, Tehri Garhwal during 2007, 2008, 2009,2010.
5. Member of Organizing Committee in National Symposium on "Advances in microbial diversity and disease management for sustainable crop production w.e.f. 13- 15 October, 2008 held at GBPUA&T, Hill Campus, Ranichauri.
6. College co-staff counselor, 2010-2011

List of Publications

Publications

Research Papers Internationals -5, National -6
 Abstracts in International, National conferences/symposia/workshops/Training attended- 25
 Popular Articles-5 Book Chapters-3

i) List of Research Papers

A) International

1. **Shachi Shah** and Indushekhar Thakur (2002), Enrichment and characterization of microbial community of tannery effluent for degradation of pentachlorophenol. World Journal of microbiology and biotechnology18: 693-698
2. **Shachi Shah** and Indushekhar Thakur (2003), Enzymatic dehalogenation of pentachlorophenol by *Pseudomonas fluorescens* of the microbial community from tannery effluent. Current microbiology 47:65-70

3. **Shachi Shah** and Indushekhar Thakur (2002), Treatment of tannery effluent by pentachlorophenol degrading bacterial community from chemostate. Journal of scientific and industrial research 61:1051-1055
4. **M. Naseem, M.Dutta, Shachi Shah and Pankaj Kumar.** 2010. Assessment of agromorphological, physiological and genetic diversity among buckwheat cultivars. *Proceedings of the 11th international symposium on buckwheat*, Orel.2010.
5. Pawan,K. J., Kumar, V. A., **Shah S.** and Vandana A. (2010). Photoautotrophic micropropagation for cost effective and successful clonal multiplication of woody fruit crops Scientia Horticulture.

B) National

1. Yogita chupahl, **Shachi Shah** and Indushekhar Thakur (2007), Characterization of by a chloroslycyclic degrading bacterial community for Treatment of Pulp and Paper mill effluent. Pollution Research 25(3):473-476
2. Yogita chupahl, **Shachi Shah** and Indushekhar Thakur (2007), Optimization of Upflow Anaerobic Sludge Blanket Rector for Treatment of pulp and paper mill effluent. Pollution Research 26(1):49-53
3. Mrinalini Shah, Durgesh Pant and Shachi Shah(2007) Land slide management with fuzzy logic: A case study, in ACME. Vol. 5 (5): 35-42.
4. **Shachi Shah**, Venkatramanan, V. and Rathore, V.S. (2009).Characterization of ¹⁴C-(Lignin) – lignocellulose from rice (*oryza sativa* L. Var. Ratna) for Lignolytic Studies. Journal of Nuclear Agriculture and Biology. Vol 38& 39.
5. AV Singh, **S Shah** and B Prasad. 2010. Effect of phosphate solubilizing bacteria on plant growth promotion and nodulation in soybean (*Glycine max* (L.) Merr.). Journal of Hill Agriculture 1(1):39-44 January-June
6. Ajay veer Singh, Birendra Prasad and **Shachi Shah (2010)**. Screening plant growth promontory rhizobacteria for improving seed germination and seedling vigour of lentil (*lens culinaris* Medik).Environment Ecology. **28**:2055-2058.
7. Ajay veer Singh, Birendra Prasad and **Shachi Shah (2011)**. Influence of phosphate solubilizing bacteria for enhancement of plant growth and seed yield in lentil. Journal of crop and weed **7**(1):1-4

ii) Papers Presented in Seminars / Symposia / Abstracts

A) International Conference

1. Venkatramanan, V., **Shah Shachi** and Thakur, I.S. (2008). Structural and functional characterization of 4-chlorosalicyclic acid degrading microbial community in the chemostat for the treatment of pulp and paper mill effluent. International Conference on Biodiversity, Environment and Sustainability: Challenges for Future, New Delhi.
2. Pawan,K. J., Kumar, V. A., **Shah S.** and Vandana A. (2009). Photoautotrophic micropropagation for cost effective and successful clonal multiplication of of woody fruit crops .first international symposium on biotechnology of fruit crop held in Dersden, Germany organized by International society of Horticulture science. September 1-5.

B) National Conference

1. **Shachi Shah** & V.S.Rathore (2005).Studies on factors affecting lignin biodegradation by actinomycetes (streptomyces species). in Annual convention of the Indian society of soil science. 18-28 Oct. 2005 TNAU, Coimbatore.
2. **Shachi Shah**, Ajay Veer Singh & Atul Kumar (2006). Diversity and nitrogen fixation efficacy of *Rhizobium* sp. Nodulating lentil. 47th Annual conference, Association of Microbiologists of India, Department of Biotechnology. Bhopal.

3. Ajay Veer Singh, **Shachi Shah** & Reeta Goel (2006). Screening of phosphorus solubilizing bacteria and their efficacy in plant growth promotion. 47th Annual conference, Association of Microbiologists of India, Department of Biotechnology. Bhopal.
4. Ajay Veer Singh, **Shachi Shah** & Reeta Goel (2006). Comparative 'P' solubilization efficiency of chickpea bacterial isolates in indigenous and alternative soil system. 47th Annual conference, Association of Microbiologists of India, Department of Biotechnology. Bhopal.
5. **Shachi Shah** & Mrinalini Shah (2006). Disaster management: Incorporating fuzzy logic with probability approach to predict land slide hazard in National sciences on Era of Globalization: challenge in management & IT 25-26 Nov: Amrapali Institute Management.
6. **Shachi Shah** and Ajay Veer Singh (2007). Screening of cold tolerant high yielding cellulase producing microbes from Indian Central Himalaya. 48th Annual conference, Association of Microbiologists of India, Department of Biotechnology. IIT Madras, Chennai.
7. Murti, N.S., **Shachi Shah** and Singh, R.K. (2007). Climate change in the Hill regions in proceedings of Networking for biodiversity climate change and ecosystem services in mountains.
8. **Shachi Shah** (2008). Isolation and characterization of cellulase producing microorganism for forest litter degradation. National on Contemporary Environmental Problems and Biotechnological Application in their Management March 7-9, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.
9. Murti, N.S., **Shachi Shah** and Singh, R.K. (2008). Climate and its variability over Indian Central Himalaya. International Symposium on Agrometeorology and Food Security, Hyderabad
10. **Shachi Shah** and V.K. Shah (2008). Climate change and forest carbon sequestration strategies. Souvenir, Alumni Meet. Organized by COFHA, G.B. Pant University of Agriculture and Technology.
11. **Shachi Shah** and Ajay Veer Singh. (2008). Diversity of symbiotic rhizobia among six native cultivated legumes in Garhwal Himalaya. Presented in IPS- MEZ annual meeting and national symposium on advances in microbial diversity and disease management for sustainable crop production at GBPUAT, Hill Campus Ranichuari, October 13-15, 2008.
12. Ajay Veer Singh and **Shachi Shah**. (2008). Rhizobacterial diversity in Garhwal Himalaya and its influence on soil and plant health. Published in IPS- MEZ annual meeting and national symposium on advances in microbial diversity and disease management for sustainable crop production at GBPUAT, Hill Campus Ranichuari, on October 13-15, 2008. (P -43, pp 111)
13. **M. Dutta and Shachi Shah**. Physiological and molecular approaches for yield improvement In crop plants. Lead paper presented in Zonal Seminar on physiological and molecular interventions for yield and quality improvements in crop plants.7-19
14. Ajayveer Singh, **Shachi Shah** and Birendra Prasad. Effect of phosphate solubilizing bacteria on plant growth promotion and nodulation in soybean (*Glycine max(L.) Merr.*). Zonal Seminar on physiological and molecular interventions for yield and quality improvements in crop plants.
15. V.K.Yadav, S.K.Sharma, V.K.Sah, V.K.Rao, A.K.Pandey & **S.Shah**.2010. Studies on the diversity in morphology and biochemical characterization of Seabuckthorn (*Hippophae salicifolia* D Don.) population growing in Garhwal Himalaya. National conference on Seabuckthorn : emerging trends in production to consumption. Organized by CSKHPKV, Palampur, HP (Feb16-18,2010).pp36.

16. **Shachi Shah**, Ajayveer Singh and V. Venkat Ramanan (2010). Effect of water stress on nodulation and growth of common bean (*phaseolus vulgaris*). International conference on cooling the earth tactics for restoring climate order and saving the living planet. Organized by GBPUAT, Pantnagar from 15 to 17 November 2010.
17. Amerendra Kumar, Birendra Prasad, Ajayveer Singh and **Shachi Shah** (2011). Effect of plant growth promoting rhizobacteria on growth and yield of soybean (*Glycine max*.L.Merill) in mid Himalayan region of Uttarakhand. National symposium on technological interventions for sustainable agriculture. Organized by GBPUAT, Hill Campus, Ranichauri.
18. Ajay Veer Singh, **Shachi Shah** and Birendra Prasad (2010). Effect of phosphate solubilizing bacteria on plant growth promotion and nodulation in soybean (*Glycine max* (L.) Merr). Zonal seminar on physiological and molecular interventions for yield and quality improvement in crop plants. Organized by center of excellence in Ag biotechnology, SVPUAT, Meerut & ISPP, IARI New Delhi.17-18 September 2010.

Lead paper

19. M. Dutta and **Shachi Shah** (2010) .Lead paper on Physiological and molecular approaches for yield improvement in crop plants. Zonal seminar on physiological and molecular interventions for yield and quality improvement in crop plants. Organized by center of excellence in Ag biotechnology, SVPUAT, Meerut, &ISPP,IARI New Delhi.17-18 September 2010 pp.7-13.

iii) Review Papers

1. **Shah, S** and Venkatramanan, V. (2009). Agricultural management practices in relation to carbon sequestration. *Agricultural Review*, Karnal.
2. **Shah, S.**, Venkatramanan, V. and Shah, V.K. (2009). Role of forestry in carbon sequestration. *Indian Journal of forestry*. Vol.32, (4)
3. **Shachi Shah**, VK Yadav , AV Singh, , VA Kumar, 2010. Molecular farming in plants: synthesis of novel biomaterials, *Journal of Hill Agriculture* .2010 .(1):7-14 January-June

iv) Book Chapters

1. **Shah, S.** and Venkatramanan, V. & Sharma,S. K.(2011). Impact of food industrial waste on environment. In: **Food processing waste management technology**. (ed. **Joshi, V.K.** and **Sharma, S.K.**). New India Publishing Agency, New Delhi. Pp. 31-52
2. **Shah, S.** and Venkatramanan, V. & Sharma,S. K.(2011). Emerging waste management technology- Nanotechnology. In: **Food processing waste management technology**. (ed. **Joshi, V.K.** and **Sharma, S.K.**). New India Publishing Agency, New Delhi. Pp.427-438
3. Venkatramanan, V., **Shachi Shah** and **Thakur, I.S.** (2008). Structural and functional characterization of 4-chlorosalicylic acid degrading microbial community in the chemostat for the treatment of pulp and paper mill effluent. In: Biodiversity, Environment and Sustainability (ed. Jagbir Singh). M.D. Publications Private Ltd., New Delhi. Pp: 217-221.

v) Popular Articles

1. Ajay Veer Singh, **Shachi Shah** and Birendra Prasad (2008). Suksham jeev nivesan: jaivik krishi ka aadhar stambh. Pahari Kheti Bari.Published from Hill Campus, Ranichauri. Vol. 14(1):87-90
2. **Shachi Shah** and V.K. Shah (2008). Climate change and forest carbon sequestration strategies. Souvenir, Alumni Meet. Organized by COFHA, G.B. Pant University of Agriculture and Technology.