Curriculum Vitae

Dr. SUJIT SHAH
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Nationality: Nepalese

Date of Birth: 1986-07-15

Career Objective: To create a well established career as researcher in biological sciences or related fields.

Current Position: Research Scientist in Daffodil Agro Biological Research Center, Nepal

Work Experience:

Job title	Institution	Years
Teaching Assistant	Center Department of Botany, Tribhuvan University	2015 to 2018
Research Assistant	Center Department of Botany, Tribhuvan University	2014

PhD Botany (2020) under the supervision of Prof. Dr. Bijaya Pant, Central Department of Botany, Tribhuvan University, Nepal. The title of my thesis "**Isolation and identification of plant growth promoting endophytic fungi from three *Dendrobium species* and their bioactivity**"

Academic Qualification

Qualification	University/ Board	Year of qualification

M.SC Life Sciences	Jawaharlal Nehru University, India	2011-2013
B.SC Biology	Osmania University, India	2007-2010
Intermediate (10+2)	Higher Secondary Education Board, Nepal	2006
High school	School leaving certificate, Nepal	2004

Research Experience

Ph.D. research summary:

Isolation and identification of plant growth promoting endophytic fungi as well as bacteria from *Dendrobium* sp. was the major objective. The key findings of my research were the identification of root colonizing endophytic fungi as well as non-mycorrhizal fungi from the *Dendrobium* species. In this regard, 45 fungi were isolated and identified from the different orchid species. *Coniocheta dendrobiicola* was a new root colonizing fungi isolated from the *D. longicornu*. The development of protocol or strategy to use the fungal extract of these fungal isolates as growth enhancer for *in-vitro* mass propagation of orchid species was successfully achieved. The root colonizing fungi were used as biological tool for the acclimatization of in-vitro grown orchid and field transfer. Amplification of iaaM gene involved in indole acetic acid biosynthesis was done for various species of fungi. UV- Spectroscopy as well as HPLC techniques were used to estimate phytohormone concentrations such as Auxin. We successfully undertook metabolic studies of fungal extract for the identification of bioactive compounds involved in plant growth and development.

Master of Science research summary

The project title was "Cloning and expression of phosphate responsive transcription factor PiPho4 of Endophytic fungus *Piriformospora indica"*. This project was completed under supervision of Dr. Atul Kumar Johri, School of Life Sciences, Jawaharlal Nehru University, New Delhi. The aim of the research was to understand the phosphate solublization ability of *P. indica*

and to explore the key transcription factor PiPho5 function in the process of phosphate mineralization.

Skills

Molecular Biology & Biochemistry: DNA and RNA isolation, identification of fungi and bacteria using molecular techniques, RAPD, RFLP, gene cloning, transformation.

Protein expression & purification, southern and northern blotting, western blotting, qualitative and quantitative estimation of bio-molecules, separation of bioactive compounds by chromatography.

Plant biotechnology: Plant tissue culture, plant-microbe interaction, plant secondary metabolites, bacterial transformation in plant.

Fungal biology and biotechnology: isolation and identification of endophytes, fungal metabolites extraction, separation and identification endophytes as a biological tool for plant growth and development.

Bioinformatics tool
Use of biological databases and software, construction of phylogeny tree using mega 6.06 software, sequencing data analysis by bioedit, chromaspro software NCBI, Swiss prot, primer designing.

Additional skills: Microsoft Office, Statistical software R-studio, SPSS 16.0

Language Proficiency
Fluent in English, French, Hindi and Nepali

Director : **Natinal Research Center for Biological Sciences**, **Nepal, Established 2019**; a non-profit organization that work on biological sciences in collaboration with international and national research institutions and organizations

Teaching experience
Worked as Teaching Assistant in Central Department of Botany Tribhuvan University, Nepal. During the tenure, I was given responsibity to teach Biochemistry theory and practical classes. I assisted Master's student research work.

Training/workshop

Indian Science of Research Fellowship (2017)
Six months of research work for identifaction of fungi and bacteria by molecular techniques. Identification of the IAA gene in fungi and bacteria in National Center for Cell Science- National Centre of Microbial Resource- Pune, India.

Certificate of Participation " Short course on Natural Products : Identification, Characterization and Utilization" Research Center for Applied Science and Technology, Tribhuvan University, Kirtipur, Kathmandu Nepal.

Certificate in Research and methodology course , R-Studio software application

Award

Best scientific research article publication from Nepal Biotechnological Association, 2019.

Publication

1. Pant, B., **Shah, S.,** Shrestha, R., Pandey, S., Joshi, P.R. (2017). An Overview on Orchid Endophytes. In: Varma A., Prasad R., Tuteja N. (eds) Mycorrhiza - Nutrient Uptake, Biocontrol, Ecorestoration. Springer, pp 503-524.

2. Pant B, Pradhan S, Paudel MR, **Shah S**, Pandey S (2019) Various Culture Techniques for Mass Propagation of Medicinal Orchids of Nepal. Acta Hortic. 1262,109-124 DOI: 10.17660/ActaHortic.2019.1262.16

3. **Shah, S.,** Pant, B., Sharma, J., Sharma, R., Shouche, Y. (2019). *Coniochaeta dendrobiicola* Sujit Shah, sp. nov. Persoonia, 42 https//doi.org/10.3767/ **(Impact Factor 8.2)**

4. **Shah, S.,** Shrestha, R., Selosse, M-A. , Pant, B., (2019). Isolation and Characterization of Plant Growth-Promoting Endophytic Fungi from the Roots of *Dendrobium moniliforme*. Plants, 8, 5. doi:10.3390/plants8010005.**(Impact Factor 3.9)**

5. **Shah, S.,** Thapa, B.B., Pradhan, S., Singh, A., Verma, A., Pant, B. (2019). *Piriformospora indica* promotes the growth of the in-vitro raised *Cymbidium aloifolium* plantlet and their acclimatization. Pant signaling and Behaviour,. **(Impact Factor 2.23)**

6. Shrestha, R., **Shah, S.,** & Pant, B. (2018). Identification of endophytic fungi from roots of two *Dendrobium* species and evaluation of their antibacterial property. African Journal of Microbiology Research, 12(29), 697-704. **(Impact Factor 0.5)**

7. Pant, B., Joshi PR., Maharjan, S., Thakuri, LS., Pradhan, S., **Shah, S.,** Wagner, SH., Pant, B. (2021) Comparative cytotoxic activity of wild harvested stems and *in vitro*-raised protocorms of *Dendrobium chryseum* Rolfe in human cervical carcinoma and glioblastoma cell lines . Advances in Pharmacological and Pharmaceutical Sciences. Hindawi.**(Impact factor 0.9)**

8. **Shah, S.,** Pant, B., Sharma, J., Sharma, R., Shouche, Y. (2021). Isolation and identification of orchid endophytic fungi for IAA production and orchid growth promotion. BMC Microbiology, Accepted **(Impact factor : 4.1)**

9. Chand, K., **Shah, S.,** Sharma, J., Paudel, MR., Pant B. (2020): Isolation, characterization, and plant growth-promoting activities of endophytic fungi from a wild orchid *Vandacristata*, *Plant Signaling & Behavior, DOI: 10.1080/15592324.2020.1744294* **(Impact Factor 2.23)**

10. **Shah, S.,** Chand, K., Sharma, J., Shouche, Y., Pant, B. (2021). A prospectus of plant growth promoting endophytic bacterium from Orchid (*Vanda cristata*) BMC Biotechnology, **21,** 16 (2021). https://doi.org/10.1186/s12896-021-00676-9 **(Impact factor 3.2)**

Conferences

1. International Conference on Wild Harvest, Governace and Livelihood in Asia (December 2017). Title of Presentation "Isolation and identification of endophytic fungi from Medicinally important *Dendrobium moniliforme* to study their plant growth promoting activity and production of secondary metabolites"

2. Third International South Asian Biotechnology Conference (March 16-18, 2017) on "Regional Cooperation for Biotechnology" organized by the Central Department of Biotechnology, Tribhuvan University, Kirtipur, Nepal; Nepal Biotechnology Association (NBA), Kathmandu, Nepal and South Asian University, India "Title of Presentation Molecular identification of endophytic fungi from orchid species and investigate the plant growth activity."

3. International Conference (January 10-12, 2017) on "Biodiversity, Climate Change Assessment and Impacts on Livelihood" organized by the Central Department of Botany, Tribhuvan University, Nepal; Agriculture and Forestry University, Nepal; City University of New York, USA and Institute for Global Agriculture and TechNology Transfer, USA

4. International Conference (January 10-12, 2017) on "Biodiversity, Climate Change Assessment and Impacts on Livelihood" organized by the Central Department of Botany, Tribhuvan University, Nepal; Agriculture and Forestry University, Nepal; City University of New York, USA and Institute for Global Agriculture and TechNology Transfer, USA

5. International Conference (November, 2018) on "International Conference of Microbial Research" organized by the National Center for Cell Science- National Microbial Resource, Pune, India.

6. International Conference (Febuary, 2019) on "International Conference on Medicinal, Aromatic and Nutraceutical Plants from Mountainous Areas" Organized by The Departments of Life Sciences & Biotechnology Graphic Era (Deemed to be University), Dehradun, Uttarakhand, India and American Council For Medicinally Active Plants (ACMAP), USA.

References:

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I hereby confirm that all the information provided above is true to my knowledge.