

Dr. Sayed Afzal Shah

Assistant Professor; Herbarium Curator

afzal.shah@numspak.edu.pk

LinkedIn: <https://www.linkedin.com/in/sayed-afzal-shah-691b1b77/>

Google Scholar:

<https://scholar.google.com/citations?user=1A0BkvEAAAAJ&hl=en>



Profile

Dr. Sayed Afzal Shah is an Assistant Professor at the National University of Medical Sciences (NUMS), Pakistan, specializing in plant taxonomy, molecular systematics, ethnomedicine, biodiversity informatics, and phytochemistry. He earned his PhD in Plant Sciences from Quaid-i-Azam University, where his research focused on the systematics of the subtribe Tylophorinae (Apocynaceae). His research has contributed to the Flora of Pakistan, including the discovery and formal description of novel species within the genus *Vincetoxicum*. He is the founder and curator of the NUMS Herbarium, a growing national resource dedicated to plant identification, documentation, and biodiversity conservation. Dr. Shah has received international recognition through the prestigious IRSIP Fellowship at the National Herbarium, Smithsonian Institution, Washington, DC. He has also led several funded research projects centered on geo-taxonomic informatics and the scientific validation of medicinal plants. Passionate about both research and education, Dr. Shah actively mentors undergraduate and postgraduate students in plant systematics and medicinal botany. His work bridges traditional medicinal knowledge with modern scientific approaches, with a strong focus on biodiversity conservation and the translational potential of medicinal plants for community health.

Research Interest

Plant Taxonomy and Molecular Systematics; Biodiversity Informatics; Ethnomedicine and Phytochemistry

Selected Publications (I.F = ~ 185)

Shah, S.A., Shah, N.A., Ullah, S., Alam, M.M., Badshah, H., Ullah, S. and Mumtaz, A.S. (2016). Documenting the indigenous knowledge on medicinal flora from communities residing near Swat River (Suvastu) and in high mountainous areas in Swat-Pakistan. *Journal of Ethnopharmacology*, 182, pp.67–79.

Shah, S.A., Sultan, A., Wen, J., et al. (2021). Taxonomy of *Vincetoxicum* s. str. from southern Asia including three new species. *PhytoKeys*, 179: 35–73.

Iqbal, J., Abbasi, B.A., Yaseen, T., Zahra, S.A., Shahbaz, A., **Shah, S.A.**, ... & Ahmad, P. (2021). Green synthesis of zinc oxide nanoparticles using *Elaeagnus angustifolia* L. leaf extracts and their multiple in vitro biological applications. *Scientific Reports*, 11(1), 1–13.

Huang, Y., Li, H., Abdullah, **Shah, S. A.**, Naz, I., Yan, R., ... & Tian, X. (2025). Characterization and Phylogenetic Analysis of the Chloroplast Genome of *Carissa spinarum* L. (Rauvolfioideae, Apocynaceae). *Ecology and Evolution*, 15(8), e71988.

Nisa, S.U., Badshah, H., **Shah, S.A.**, Mumtaz, A.S. (2025). Genetic diversity of true morels (*Morchella*) in Pakistan. *Mycologia*.

Grants/Awards/Achievements

Principal Investigator/ Founder of NUMS herbarium– Medicinal plant resources of Pakistan: generation of geo-taxonomic informatics and establishment of herbarium, and identification facility at NUMS [SRGP HEC; PI; 1.0 million; 2021-22].

Monitoring the scientific authenticity in medicinal plants research: challenges and guidelines [IRF; PI; 0.5 million 2022-24].

A Pilot Study to Chemically Characterize and Assess the insecticide Activity of *Citrus colocythis* against Important Insects (Agriculture Pests and Insect Vectors) of Pakistan [IRF; Co-PI; 0.7 million; 2022-23].

Smithsonian Fellow (HEC IRSIP, 2016–17) – Conducted research at the National Herbarium of the USA, and Laboratory of Analytical Biology, Smithsonian Institution, Washington DC, strengthening international collaboration in plant systematics.

HEC Approved PhD Supervisor.

Vice-Chancellor Fellowship Program, QAU [2009-2018]

List of new species discoveries and nomenclatural authorities:

- *Vincetoxicum lenifolium* **S.A. Shah**

- *Vincetoxicum luridum* Stocks ex **S.A. Shah**
- *Vincetoxicum royleanum* sp. nov.
- *Vincetoxicum stewartianum* **S.A. Shah**
- *Vincetoxicum subcanescens* **S.A. Shah** & A. Sultan
- *Morchella pycnogrammata* S.U. Nisa, K. O'Donnell, **S. A. Shah**, H. Badshah & A.S. Mumtaz