

DR. MUHAMMAD ADIL



PROFESSIONAL SUMMARY

Dedicated Pharmacognosist with a deep passion for exploring the natural world's therapeutic potential. Extensive experience in the identification, extraction, isolation, and characterization of bioactive compounds from medicinal plants and natural sources. Proficient in utilizing advanced analytical techniques, including chromatography and spectroscopy, to investigate phytochemicals and their pharmacological properties. Adept at collaborating with interdisciplinary teams to develop novel herbal medicines and botanical formulations. Committed to advancing the field of pharmacognosy through rigorous research and innovation.

PERSONAL INFORMATION

Father Name: Zarwali Khan

Nationality: Pakistani

Date of Birth: 04. 05. 1990

Language: Pushto, Urdu and English

CONTACT INFORMATION

Centre for Plant Sciences and Biodiversity Phone: 03459062544,

University of Swat

Email: adilpadagogue@gmail.com

ACADEMIC QUALIFICATION

University of Peshawar, Pakistan

Ph.D, Botany, 2021

Thesis Topic: “Pharmacognostic, Phytochemical and Biological investigation of *Achillea millefolium* L. and *Chaerophyllum villosum* Wall. Ex Dc”

Islamia College University Peshawar, Pakistan

M.Sc, Botany, 2011

University of Peshawar, Pakistan

B.Sc, 2009

Warsak Model College, Peshawar, Pakistan

F.Sc, 2007

Frontier Star Model School, Peshawar, Pakistan

Matric, 2006

**PROFESSIONAL
QUALIFICATIONS**

University of Peshawar

Master in Education

University of Peshawar

Bachelor's in Education

University of Peshawar

Bachelor's in Law

**RESEARCH
INTERESTS**

- Isolation and characterization of bioactive compounds from medicinal plants
- Investigation of the genetic and molecular mechanisms underlying the biosynthesis of bioactive compounds in medicinal plants
- Genomic and transcriptomic analysis to identify key genes and pathways related to therapeutic properties
- Functional characterization of genes and enzymes involved in secondary metabolite production
- Investigation of the pharmacological and biological activities of herbal extracts
- Bioassay-guided screening to identify potential therapeutic agents from plant sources
- Assessment of the safety and toxicity profiles of medicinal plant based remedies
- Sustainable cultivation and conservation of valuable medicinal plant species
- Exploration of the potential of medicinal plants in the treatment of various health conditions, including cancer, infectious diseases, and chronic disorders

PUBLICATIONS

- Phytochemical Screening, HPLC analysis, antimicrobial and antioxidant effect of *Euphorbia perviflor* L. (Euphorbiaceae Jus.),
<https://pubmed.ncbi.nlm.nih.gov/38454096/>
- HPLC analysis, Genotoxic and Antioxidant potential of *Achillea millefolium* L. and *Chaerophyllum villosum* Wall ex. Dc,
<https://bmccomplementmedtherapies.biomedcentral.com/articles/10.1186/s12906-024-04344-1>
- A tree ring-based spring temperature reconstruction for the Hindu Kush region in Northern Pakistan,
<https://www.sciencedirect.com/science/article/pii/S2666719324000487>
- Chemical profiling and biological activities of *Ziziphus mauritiana* var. spontanea (Edgew.) R.R Stewart ex Qaisar & Nazim. And *Oenothera biennis* L.
<https://www.hindawi.com/journals/jfq/2024/7318407/tab4/>
- Phytochemistry, Laxative, Prokinetic and Spasmolytic Verification of *Withania somnifera* (L.) Dunal Using *In-vitro*, *In-vivo* and *In-Silico* Approaches
, <https://www.biolifesas.org/EN/10.23812/j.biol.regul.homeost.agents.20243804.239>
- Traditional foraging for ecological transitions? Wild food ethnobotany among three ethnic groups in the highlands of the eastern Hindukush, North Pakistan
<https://ethnobiomed.biomedcentral.com/articles/10.1186/s13002-023-00581-9>
- Adsorption of Pesticides Using Wood-Derived Biochar and Granular activated Carbon in a Fixed Bed Column System
<https://www.mdpi.com/2073-4441/14/19/2937>
- Cytotoxic, Phytotoxic and Insecticidal Activities of *Achillea millefolium* L. and *Chaerophyllum villosum* Wall ex. Dc
<https://pubmed.ncbi.nlm.nih.gov/36700584/>
- GC-MS analysis of Organic Fractions of *Chrozophora tinctoria* (L.) A.Juss. and their prokinetic propensity in animal model
<https://pubmed.ncbi.nlm.nih.gov/35613215/>
- The Siberian Pine growth dynamics in Altai Mountains China
<https://www.scielo.br/j/bjb/a/zg4Bmg96ys8qbxG9PnBn4qc/>
- Ethnoveterinary study of Plants resources of Takht Bha, Mardan, Khyber Pakhtunkhwa, Pakistan
<https://ethnobotanyjournal.org/index.php/era/article/view/5597>
- Biological applications of medicinally valued *Punica granatum*
https://www.researchgate.net/publication/377224474_Biological_Applications_of_medicinally_Valued_Punica_granatum
- Effect of Varied Soil Texture on Germination and Growth Parameters of *Luffa acutangula*
https://www.researchgate.net/publication/377381924_Effect_of_Varied_Soil_Textures_on_Germination_and_Growth_Parameters_of_Luffa_acutangula_L_Roxb
- A review of different medicinal plants with potential anti-inflammatory activities
https://www.researchgate.net/publication/378487951_A_Review_of_Different_Medicinal_Plants_with_Potential_Anti-inflammatory_Activities
- Dendroclimatic potential of Conifers from Karakoram-Himalayas of Pakistan and Borderlands: A comprehensive review
<https://www.xisd.xjxsu.asia/viewarticle.php?aid=2733>
- Phytochemical Investigation and Antimicrobial Potential of Medicinal Plant *Nepeta distans*

- Phytochemical Screening and Antimicrobial activities of *Achillea millefolium* L. and *Chaerophyllum villosum* Wall ex. DC
https://www.researchgate.net/publication/339862864_Phytochemical_screening_and_antimicrobial_activity_of_medicinally_important_Achillea_millefolium_L_and_Chaerophyllum_villosum_Wall_Exdc
- Phytotoxic, Cytotoxic and Insecticidal activities of *Ziziphus mauritiana* var. spontanea EDGEW. And *Oenothera biennis* L.
https://www.researchgate.net/publication/342418852_Phytotoxic_insecticidal_and_cytotoxic_activities_of_Ziziphus_mauritiana_var_Spontanea_Edgew_and_Oenothera_biennis_L
- Antimicrobial and Phytochemical Evaluation of *Ziziphus mauritiana* var. spontanea EDGEW. And *Oenothera biennis* L.
https://www.researchgate.net/publication/341450432_Antimicrobial_and_Phytochemical_Evaluation_of_Ziziphus_mauritiana_var_spontanea_Edgew_and_Oenothera_biennis_L
- Ethnomedicinal Survey of Indigenous plants used for the treatment of Diabetes by Traditional Healers from District Dir and its adjoining areas, Khyber Pakhtunkhwa, Pakistan
https://www.researchgate.net/publication/371235375_Ethnomedicinal_Survey_of_Indigenous_plants_used_for_the_treatment_of_Diabetes_by_Traditional_Healers_from_District_Dir_and_its_adjoining_areas_Khyber_Pakhtunkhwa_Pakistan
- Traditional knowledge on Livestock poisonous plants of District Bajaur, Khyber Pakhtunkhwa Pakistan
<https://www.isisn.org/BR-20-2-2023.htm>
- Assessment of Induced variability of yield contributing on vegetative characteristics and yield attributes of Sunflower (*Helianthus annuus* L.)
https://www.researchgate.net/publication/370844785_Assessment_of_Induced_variability_of_yield_contributing_on_vegetative_characteristics_and_yield_attributes_of_Sunflower_Helianthus_annuus_L
- The cytotoxic, phytotoxic and insecticidal potential of *Senecio glaucus* L.
<https://journals.qurtuba.edu.pk/ojs/index.php/tst/article/download/342/229>
- Dendrochronological studies of *Abies pindrow* (Rolye ex D. Don) Royle (Fir) as aspect of tree growth and climate change analysis in Hindu Kush, northern Pakistan
[https://dx.doi.org/20.30848/PJB2024-5\(6\)](https://dx.doi.org/20.30848/PJB2024-5(6))
- Tree ring based summer Temperature variability since 1790 CE in the Hindu Kush region of northern Pakistan
<https://doi.org/10.1007/s00484-024-02683-9>
- Reconstruction of July- September Standardized Precipitation-Evapotranspiration Index (SPEI) for the Hindu Kush Region of Northern Pakistan
<https://doi.org/10.1088/2515-7620/ad431f>
- Phytochemical profiling and evaluation of emetic potential of *Chrozophora tinctoria* whole plant extract
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9000247>
- Green synthesis, characterization and antimicrobial activities of Silver Nanoparticles Using Leaves of *Chrozophora tinctoria*
- Ethnomedicinal and Phytosociological investigation of Herosha and its adjoining areas in Dargai, Pakistan
- Proximate analysis, Elemental analysis and Bioassay of *Taverneira sparteae* (Burm.f.) DC
- Phytochemical Analysis, anti-inflammatory, analgesic and anti-spasmodic potential of *Isodon regus* and *Phytolacca latbenia*

- GC-MS Analysis, Antioxidant and Genotoxic Assessment of Medicinally Important *Plant Paeonia emodi* Wall Ex. Hook.

<https://doi.org/10.69980/ajpr.v28i1.651>

- Elemental And Proximate Bioprofiling Of *Schweinfurthia Papilionacea* (L.) BOISS As A Potential Nutraceutical Biocandidate

<https://doi.org/10.69980/ajpr.v28i1.505>

- Gas Chromatography-Mass Spectrometry Analysis, Genoprotective, and Antioxidant Potential of *Curio radicans* (L. f.) P.V. Heath

<http://doi.org/10.1002/open.202500175>

- GC-MS Analysis and Biological Activities of *Trigonella hamosa* L. and *Alocasia odora* (Lodd.) Spach

<http://doi.org/10.1002/cbdv.202501530>

- Phytochemical Screening and Antimicrobial Activity of *Schweinfurthia papilionacea* (L.) BOIS

<https://ajprui.com/index.php/ajpr/article/view/636>

- Phytochemical Screening, in vitro Antimicrobial and Cytotoxic Potential of Medicinally Important *Plantago amplexicaulis*. L

[http://doi.org/10.30848/PJB2026-1\(2\)](http://doi.org/10.30848/PJB2026-1(2))

- Chemical Profiling and Biological Activities of *Echeveria Runyonii* rose Ex. E Walter

[http://doi.org/10.30848/PJB2026-1\(20\)](http://doi.org/10.30848/PJB2026-1(20))

ACADEMIC EXPERIENCE

- Assistant Professor, Centre for Plant Sciences and Biodiversity, University of Swat, KP, Pakistan (2025-Todate)

COURSES TAUGHT AT BS LEVEL

- Diversity of Plants (BS botany Ist semester)
- Ethnobotany (MSc 4th semester)
- Bacteriology and Virology (BS 4th semester)
- Diversity of Vascular Plants (BS botany 4th semester)
- Genetics-I (BS botany 7th semester)
- Ecology-I (BS botany 7th semester)
- Aromatic and high valued medicinal plants (BS botany 7th semester)

COURSES	➤ Research Methodology
TAUGHT AT	➤ Recombinant DNA Technology
M.PHIL/Ph.D	➤ Plant Systematics
LEVEL	➤ Advanced Plant Taxonomy
	➤ Plant Biotechnology
	➤ Advanced Environmental Biology
	➤ Advanced Plant Physiology

SUPERVISION:

BS STUDENTS SUPERVISED: 27

M.PHIL 30
STUDENTS
SUPERVISED

PH.D 3
STUDENTS
SUPERVISED

PROFESSIONAL ACTIVITIES

As Reviewer

- Ethnobotany Research and Applications
- Soil and Agriculture
- Journal of Inflammopharmacology
- Journal of Animal and Plant Sciences
- Scientifica
- Uttar Pradesh Journal of Zoology
- European Journal of Medicinal Plants
- B P International
- Microscopy Research and Technique
- Chemistry and Biodiversity

AWARDS AND

HONOR

- **Merit Certificate**
- **Certificate of Appreciation**

CONFERENCES

ATTENDED

- Interim Placement of Fresh Ph.D Fellowship under Higher Education Commission of Pakistan **(2021)**
- Recent Advances and New Horizons in Chemistry on April 6-7, 2015
- Second International Symposium on “Biodiversity of Pakistan Prospects and Associated Issues” at Baragali Summer Campus, University of Peshawar, from 21st to 25th May 2016.
- Third International Symposium on “Conservation Issue of Edible Wild Resources of Hindukash Himalayas” at Baragali Summer Campus, University of Peshawar, from 21st to 24th July 2017.
- 6th International conference and 15th National Conference on “Dynamic Trends in Plant Science-Fostering Environment and Food Security” May9-11,2017 Quetta, Pakistan.
- 7th International and 16 national conference on “Dynamic trends in plant science-fostering environment and food security”
- 2nd International Workshop on Digitization of Herbaria and Botanical Resources in Pakistan on March 26, 2018

COMPUTER LITERACY

- Microsoft Office (MS Word, MS Excel, MS Power Point)
- Operating Systems like Win 98, Win 2000, and Win XP, Win 7 Win 8 and Win 10.
- Statistical Softwares: SPSS, STATA and MINITAB, Mstat c, Biostate and Statistica.
- Statistical Programing: R-GUI, S-Plus and MATL

