

## Muhammad Ajmal Shah, PhD

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**URLs:** <https://www.webofscience.com/wos/author/record/M-7872-2015>  
<https://orcid.org/0000-0003-3471-184X>  
<https://www.scopus.com/authid/detail.uri?authorId=57197764582>  
[https://www.researchgate.net/profile/Muhammad\\_Shah22](https://www.researchgate.net/profile/Muhammad_Shah22)  
[https://scholar.google.com/citations?user=6kGXd\\_4AAAAJ&hl=en](https://scholar.google.com/citations?user=6kGXd_4AAAAJ&hl=en)

### Academic Qualifications

- **PhD** in Pharmaceutical Sciences from Department of Pharmacognosy & Pharmaceutical Botany, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Hat-Yai **Thailand**, 2014-2017 (Grade “X” (Excellent) equivalent to CGPA 4.00/4.00).
- **MPhil** in Pharmacognosy from Department of Pharmacognosy, Faculty of Pharmacy, Federal Urdu University of Arts, Science & Technology, Karachi Pakistan, 2011-2013 (CGPA 3.5/4.00).
- **PharmD (Doctor of Pharmacy)**, from Faculty of Pharmacy, Federal Urdu University of Arts, Science & Technology, Karachi Pakistan, 2005-2010 (CGPA 3.60/4.00).

### Work Experiences

I have **total 14-year experience with post PhD 7 year** in the following capacities at different private and public sector organizations:

- A. Currently working as Assistant Professor at Department of Pharmacy, Hazara University, Mansehra, Pakistan since June 2022.

### Achievements

1. Establishment of Pharmacognosy Laboratory at Department of Pharmacy
2. MoU between UMI, Makassar, Indonesia, and Hazara University Mansehra Pakistan.
3. Organized 1<sup>st</sup> International Seminar on Herbal Drug Product Development.

4. Worked as Special Project Researcher 2022 – 2023 by winning PSU International Research Fellowship as remote postdoc, PSU Open Mobility, Reinventing University Project, 2022-2023, Prince of Songkla University, **Thailand**.
  5. **Adjunct Professor** at Department of Pharmacy, Faculty of Medicine, (UNDIP), Semarang, **Indonesia**, since 2024.
  6. MoA between Department of Pharmacy, UNDIP, Semarang, Indonesia, and Department of Pharmacy, Hazara University Mansehra Pakistan.
  7. **Guest Lecturer/Visiting Professor** at Faculty of Pharmacy, (UMS), Surakarta, **Indonesia**, since 2024.
  8. MoA between Faculty of Pharmacy, UMS, Surakarta, Indonesia, and Department of Pharmacy, Hazara University Mansehra Pakistan.
  9. **Visiting Professor** at Faculty of Pharmacy, Pancasila University, Jakarta, **Indonesia**, since 2024.
  10. MoA between Faculty of Pharmacy, Pancasila University, Jakarta, Indonesia, and Department of Pharmacy, Hazara University Mansehra Pakistan.
  11. **Visiting Professor** at Department of Pharmacy, University Ngudi Waluyo, Semarang, **Indonesia** since 2024.
  12. MoA between Department of Pharmacy, University Ngudi Waluyo, Semarang, Indonesia, and Department of Pharmacy, Hazara University Mansehra Pakistan
  13. **Visiting Professor** at Tashkent Institute of Pharmaceutical Sciences, Tashkent, **Uzbekistan** since 2025.
  14. **Guest Speaker** in Pharmacy International Webinar at Department of Pharmacy, St. Dominic College of Asia, **Philippines**.
  15. **Visiting Professor** at Faculty of Pharmacy, Samarkand State Medical University, Samarkand, Uzbekistan since 2025.
- B. Worked as **Assistant Professor & HoD** at Department of Pharmacognosy, Faculty of Pharmaceutical Sciences, Government College University Faisalabad (GCUF), 2018-2022.

### **Achievements**

1. Approval of first Board of Studies (BOS) of Department of Pharmacognosy GCUF.
2. Supervision of teaching and research activities at Department of Pharmacognosy GCUF.
3. Handling of financial and purchasing matters of Department of Pharmacognosy GCUF.

4. Organized (as chief organizer) different workshops and an international symposium at Department of Pharmacognosy GCUF.

C. **Manager External Linkages** at Office of Research, Innovation & Commercialization (ORIC), Government College University Faisalabad, Pakistan since 2019.

#### **Achievements**

1. MoU between GCUF and Kilis 7 Aralık University Turkey under Pak-Turk Mevalana Exchange Program.
2. MoU between GCUF and Prince of Songkla University Thailand.
3. MoU between GCUF and Universiti Malaysia Pahang Malaysia.

D. **Assistant Professor** at Department of Pharmacy, Forman Christian College University, Lahore, Pakistan, 2017-2018.

#### **Achievements**

1. Teaching and research of natural products related courses on undergrad and postgrad level.
2. **Co-organizer**, One Day International Workshop on *Current Trends in the Use of Natural Products as Therapeutic Agents*, November 12, 2018 at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.
3. **Organizer**, *Pharmacy Day, 2018* at Department of Pharmacy, May 14, 2018 at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.
4. **Organizer**, One Day Workshop on *Current Good Manufacturing Practices (cGMP)*, May 04, 2018, at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.

E. **Researcher/PhD Scholar** at Phytomedicine & Pharmaceutical Biotechnology Excellence Center, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Hat-Yai Thailand, 2014-2017.

F. **Pharmacist/Research Officer** at Elko Pharmaceuticals (Pvt.) Ltd Karachi, 2010 to 2014.

G. **Trainee Pharmacist** at Abbot Laboratories (Pakistan) Ltd Karachi, 2010.

#### **Research Expertise & Interests**

- Bioactive constituent's enriched standardized herbal extract preparation using green approaches, isolation and purification of their marker compounds, *in vitro/in vivo*

bio-evaluation for their use in the treatment of aging associated and metabolic diseases such as diabetes, obesity, cancer, Alzheimer's and Parkinson's diseases.

- Green preparation, standardization, and commercialization of nutraceuticals and phyto cosmeceuticals.

### **Technical Skills & Competences**

- Microwave assisted green extraction of bioactive compounds
- Enrichment of bioactive phytoconstituents using green solvents, recyclable and biodegradable resins
- Isolation and purification of phytochemicals using column chromatography and HPLC
- *In vitro* enzymatic inhibition and cell-based antidiabetic and neuroprotective assays
- Experimental animals handling in antidiabetic, anti-obesity and neuroprotective/behavioral studies
- Formulation and standardization of nutraceuticals and herbal products

### **Journal Publications**

I have more than 100 publications in well reputed (Web of Science and Scopus indexed) international scientific journals with **cumulative impact factor ~500 (JCR), citations 3510, h-index 34 and i10 index 81**

<https://www.researchgate.net/profile/Muhammad-Ajmal-Shah/publications>

[https://scholar.google.com/citations?user=6kGXd\\_4AAAAJ&hl=en](https://scholar.google.com/citations?user=6kGXd_4AAAAJ&hl=en)

### **Patents**

1. Green preparation of berberine-rich extract and its bioequivalent studies to be used as a phytopharmaceutical alternative of commercial/synthetic berberine. Filed at Pakistan Patent Office- June 2021 - (Patent Application Number 626/2021)
2. A Novel Polyherbal formulation for diabetes treatment and thereof. Filed at Pakistan Patent Office – August 2023 – (Patent Application Number 506/2023)

### **Research Grants**

1. **PI** of Project, “Development of herbal formulations from fruits and vegetables wastes using green extraction approaches”, Rs. 11,500,000 (Eleven million five hundred thousand Pakistani Rupees) by CIBA Pharmaceutical Pvt. Ltd, Karachi, Pakistan. **Completed**

2. **Co-PI** of Project “Development of herbal supplements for diabetes and low-cost nanomaterial-based wound dresser using green technology for diabetic foot ulcers” Rs. 6,500,000 (Six million five hundred thousand Pakistani Rupees) under Punjab Innovation & Research Challenge Award 2020-21 (PIRCA) by Punjab Higher Education Commission, Pakistan. **Completed**
3. **Special Project Researcher**, PSU Open Mobility Grant, “Antiarthritic activity of curcuminoids-enriched extract and its cyclodextrin inclusion complexes in complete Freund’s adjuvant induced arthritic rodent model”. Reinventing University Project, 2022-2023 Prince of Songkla University, Hat-Yai, Thailand (300000 Thai Bhat). **Completed**
4. UNDIP, World Class University, **Adjunct Professor Grant 2024** by Diponegoro University, Semarang, Indonesia (100 million Indonesian Rupia). **Completed**

### Conference Publications

1. **Shah MA.** 8<sup>th</sup> International Scientific & Practical Conference, “*Abu Ali Ibn Sina and Innovations in Modern Pharmacy*” by Tashkent Institute of Pharmaceutical Sciences, Ministry of Health, Tashkent, **Uzbekistan.** 24-25 April 2025. (*Invited Speaker*)
2. **Shah MA.** 2<sup>nd</sup> International Conference on Natural Products and Chronic Diseases, “*Natural Products for Quality of Life towards Achieving Sustainable Development Goals*” by National University, Jakarta, **Indonesia.** 30-31 October 2024. (*Invited Speaker*)
3. **Shah MA.** 3<sup>rd</sup> International Conference in Pharmaceutical and Health Sciences, “*Current Challenges and Innovations in the Field of Diabetes Mellitus*” by Department of Pharmacy, Health Polytechnic of Gorontalo, **Indonesia.** 18-19 October 2023. (*Invited Speaker*)
4. **Shah MA.** 2<sup>nd</sup> Makassar International Conference in Pharmaceutical Sciences, “*Embracing Pharmaceutical Research Innovation toward Excellent Pharmacy*” by Faculty of Pharmacy, Universitas Muslim Indonesia. 19-20 September 2023 Claro Hotel, Makassar, **Indonesia.** (*Invited Speaker*)
5. **Shah MA,** Panichyupakaranant P. Rhinacanthins-rich extract: A potential natural remedy for the treatment of diabetic nephropathy. 20<sup>th</sup> International Pharmacy Conference & Exhibition, 27-30 October 2019, PC Hotel, **Lahore, Pakistan.** (*Invited speaker*)
6. **Shah MA,** Reanmongkol W, Panichyupakaranant P. *In vivo* antidiabetic activity of rhinacanthins enriched extract prepared by microwave assisted green extraction process. The 5<sup>th</sup> International Mediterranean Symposium on Medicinal and Aromatic Plants & The 5<sup>th</sup> International

Symposium on Pharmaceutical and Biomedical Sciences JOINT MEETING, April 24-28, 2019, Cappadocia, **Turkey**. (*Plenary lecture*)

7. **Shah MA**, Haji M, Khalil R, Haq ZU, Panichyupakaranant P. Rhinacanthins-rich extract: A potent superoxide scavenger and advanced glycation end-product formation inhibitor. 65<sup>th</sup> GA Annual Meeting, September 3-7, 2017, Basel, **Switzerland**. (*Proceedings published in Planta Medica*) (*Poster*)
8. **Shah MA**, Decha S, Khalil R, Haq ZU, Panichayupakaranant P. Rhinacanthins-rich extract: A potent synergistic  $\alpha$ -glucosidase inhibitor and glucose uptake enhancer in muscles cells. 2<sup>nd</sup> International Symposium on Phytochemicals in Food and Medicine, April 7-10, 2017, **Fuzhou, China**. (*Proceedings published in Chinese Medicine*) (*Poster*)
9. **Shah MA**, Panichyupakaranant P.  $\alpha$ -Glucosidase inhibitory effect of rhinacanthins-rich extract and rhinacanthin-C. 4<sup>th</sup> Current Drug Development Conference, June 1-3, 2016, **Phuket, Thailand**. (*Oral*)
10. **Shah MA**, SK Sherwani, Sualeh M, Urooj S, Ali H, Kazmi SU. *In ovo* antiviral evaluation of *Berberis lycium* root bark's aqueous extracts. 50<sup>th</sup> Annual Medical Symposium of Jinnah Postgraduate Medical Center, March 23-29, 2014, **Karachi, Pakistan**. (*Oral*)
11. **Shah MA**, SK Sherwani, Sualeh M, Kanwal S, Shah MA. *Berberis lycium*: Solution to fight against urolithiasis and worms infestation in humans. 1<sup>st</sup> FUUAST Science Symposium, January 18-20, 2014 **Karachi, Pakistan**. (*Poster*)
12. **Shah MA**, Sualeh M, Ziaullah, Khan HQ, Ikramullah. Dexamethasone adulteration in Herbal tonics-A potential public health risk. 14<sup>th</sup> Asian Symposium on Medicinal Plants, Spices and Other Natural Products, ICCBS **Karachi, Pakistan**, December 9-12, 2013. (*Poster*)
13. **Shah MA**, Sualeh M, Khan Z, Zada B, Ahmed H, Mahmood ZA. Ethnomedicinal and phytoeconomic elaboration of Lilownai valley, District Shangla, Pakistan. 1<sup>st</sup> International Conference on Endorsing Health Sciences Research, SZRC **Karachi, Pakistan**, February 2-3, 2013. (*Oral*)

### **Book Chapters**

I have contributed 60 book chapters in various books published by Elsevier, Springer, CRC.

<https://www.researchgate.net/profile/Muhammad-Ajmal-Shah/publications>

### **Book Editor**

1. Egbuna C, Patrick-Iwuanyanwu K, **Muhammad Ajmal Shah**, Ifemeje JC, Rasul A. Analytical Techniques in Biosciences: From basics to Applications. 1st Edition **Elsevier**, (<https://www.elsevier.com/books/analytical-techniques-in-biosciences/egbuna/978-0-12-822654-4>)
2. Shah MA, Khan H, B Tarun. Phytonutrients in the Treatment of Breast Cancer: Molecular Aspects and Therapeutic Potential. **CRC – Tylor & Francis** (In production)
3. Haroon Khan, **Muhammad Ajmal Shah**. Phytomedicines in the treatment of diabetes. **Springer Nature** (In process)
4. Maria Silvana Alves, **Muhammad Ajmal Shah**, Haroon Khan. Phytochemicals, phytomedicines and antimicrobial resistance: An overview. **Elsevier** (In process)

### **Awards & Achievements**

1. Thailand Education Hub for ASEAN Countries (TEH-AC) PhD Scholarship 2014-17, granted by Graduate School, Prince of Songkla University Hat-Yai, Songkhla, **Thailand**.
2. PSU Thesis Support Grant 2016, awarded by Graduate School, Prince of Songkla University Hat-Yai, Songkhla, **Thailand**.
3. HEC-Pakistan Travel Grant awarded by Higher Education Commission Pakistan to present in the 5<sup>th</sup> International Mediterranean Symposium on Medicinal and Aromatic Plants & The 5<sup>th</sup> International Symposium on Pharmaceutical and Biomedical Sciences JOINT MEETING, April 24-28, 2019, Cappadocia, **Turkey**.
4. GA Travel Grant 2017 awarded by GA Society for Medicinal Plant and Natural Product Research Germany to present poster in their 65<sup>th</sup> GA Annual Meeting 3-7 September 2017, Basel, **Switzerland**.
5. Faculty Conference Support Grant-2017, awarded by Faculty of Pharmaceutical Sciences, Prince of Songkla University Hat-Yai, Songkhla, Thailand for poster presentation in 2<sup>nd</sup> International Symposium on Phytochemical in Food and Medicine 7-10 April 2017, Fuzhou, **China**.
6. Faculty Conference Support Grant-2016, awarded by Faculty of Pharmaceutical Sciences, Prince of Songkla University Hat-Yai, Songkhla, Thailand for oral presentation in 4th Current Drug Development Conference, June 1-3, 2016, Phuket, **Thailand**.
7. 2<sup>nd</sup> Best Poster Award in 1<sup>st</sup> FUUAST Science Symposium 18-20 February 2014, organized by Department of Biochemistry, Federal Urdu University of Arts, Science & Technology Karachi, **Pakistan**.

### **Professional Membership**

- Honorary Faculty Members of Novel Global Community Education Foundation (NGCEF), Australia
- Member of International Natural Product Science Taskforce (INPST), Austria
- Member of International Consortium of Enzyme Inhibitors Research (ICEIR), China
- Society for Medicinal Plant and Natural Product Research, GA (Germany)
- Phytochemical Society of Europe
- American Society of Pharmacognosy
- International Parkinson's and Movement Disorders Society, USA
- International Association for the Study of Pain, USA
- Asian Society of Pharmacognosy
- American Society of Microbiology
- Pakistan Society of Microbiology
- Pakistan Pharmacist Association
- Biological Safety Association of Pakistan
- Registered Pharmacist with Pharmacy Council of Pakistan

### **Scientific Events Organized**

1. **Chief organizer**, 1<sup>st</sup> International Seminar on "*Herbal Product Development*", December 8, 2023 at Department of Pharmacy, Hazara University Mansehra, Pakistan.
2. **Chief organizer**, 2<sup>nd</sup> International Symposium on Pharmaceutical Sciences, "*Innovation and Integration in Pharmaceutical & Biomedical Sciences, Way Forward for Collaboration*" January 30, 2019 at Faculty of Pharmaceutical Sciences, Government College University Faisalabad, Pakistan.
3. **Co-organizer**, One Day International Workshop on *Current Trends in the Use of Natural Products as Therapeutic Agents*, November 12, 2018 at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.
4. **Organizer**, *Pharmacy Day, 2018* at Department of Pharmacy, May 14, 2018 at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.
5. **Organizer**, One Day Workshop on *Current Good Manufacturing Practices (cGMP)*, May 04, 2018 at Department of Pharmacy, Forman Christian College (A Chartered University) Lahore, Pakistan.

### **Editorial Responsibilities**

- Leading Guest Editor at Nutrients -MDPI

([https://www.mdpi.com/journal/nutrients/special\\_issues/AC23ID3Q7F](https://www.mdpi.com/journal/nutrients/special_issues/AC23ID3Q7F))

- Guest Editor at Molecules  
([https://www.mdpi.com/journal/molecules/special\\_issues/analysis\\_drugs\\_bioactive\\_compounds](https://www.mdpi.com/journal/molecules/special_issues/analysis_drugs_bioactive_compounds))
- Guest Editor at JoVE Methods  
(<https://www.jove.com/methods-collections/595>)
- Pharmaceutical and Biomedical Research Journal  
(<http://pbr.mazums.ac.ir/page/13/Editorial-Board>)
- Turkish Research Journal of Academic Health and Medical Sciences  
(<http://www.turahes.com/index.php/TURAHES/about/editorialTeam>)
- Medical Technologies Journal  
(<http://medtech.ichsmt.org/index.php/MTJ/about/editorialTeam>)

### MPhil/PhD Supervision

S N	Name (Session)	Registration	Thesis Title	Role as	Status
1.	Ms Irum Naz (PhD, 2016-19)	2005-GCUF-2797-520	Preparation of berberine rich extract and its therapeutic evaluation	Supervisor-II	Completed
2.	Mr. Khurshed Ur Rahman (PhD, 2020-2023)	2020-HUM-2023	Pharmacognostic study and biological activities of selected ethnomedicinal plant species for their potential use in dental problems	Supervisor-II	Completed
3.	Nazia Kanwal (PhD, 2017-2020)	2017-GCUF-01680	<i>In vitro</i> and <i>in vivo</i> evaluation of mushroom-derived natural compounds against human liver cancer	Supervisor-II	Completed
4.	Sadia Mushtaq (PhD, 2017-2021)	2017-GCU-PhD-BOT-332	Ethnopharmacological potential of Three Aquatic Ferns viz. <i>Marsilea quadrifolia L.</i> , <i>Salvinia molesta L.</i> And <i>Azolla pinnata L.</i> Collected from Punjab, Pakistan	Supervisor-II	Completed
5.	AATIKA Khan (MPhil, 2021-23)	2021-HU-2023	Phytochemical, antimicrobial, and cytotoxic activities of <i>Salvia moorcroftiana</i> Wall. Ex Benth. from Tehsil Balakot, District Mansehra	Supervisor-II	Completed
6.	Zunaira Bakhtavar (MPhil, 2020-22)	2020-GCUF-08926	Anti-arthritis activity of curcuminoids-enriched extract and its cyclodextrin inclusion complexes in complete Freund's adjuvant induced arthritic rodent model	Supervisor-II	Completed
7.	Sundus Khalid (MPhil, 2020-22)	2020-GCUF-08028	Therapeutic potential of curcuminoids-enriched extract and its cyclodextrin inclusion complexes in parkinsonian rat model	Supervisor-II	Completed
8.	Rabeea Sadar (MPhil, 2020-22)	2020-GCUF-08489	Neuroprotective potential of <i>Rosa moschata</i> leaves against D-galactose induced neurotoxicity rat model through modulation of neuro-inflammatory biomarkers	Supervisor-II	Completed
9.	Andleeb Taiba (MPhil, 2020-22)	2013-GCUF-01484	Anti-Parkinson's activity of <i>Citrus japonica</i> peel essential oil in paraquat induced rat model	Supervisor-II	Completed
10.	Anam Shabbir (MPhil, 2019-21)	2019-GCUF-000961	Anti-Alzheimer's activity of curcuminoids enriched extracts from <i>Curcuma longa</i>	Supervisor-II	Completed
11.	Sahrish Yaqoob (MPhil, 2019-21)	2019-GCUF-01063	Antidiabetic activity of berberine rich extract in comparison to berberine	Supervisor-II	Completed
12.	Moazzama Akbar (MPhil, 2019-21)	2019-GCUF-01064	Anti-Alzheimer's activity of berberine rich extract in comparison to berberine	Supervisor-II	Completed
13.	Aqsa Itzaz (MPhil, 2018-20)	2013-GCUF-01510	Anti-Parkinson's activity of oxygenated benzo-chalcone derivative in mice	Supervisor-II	Completed

14	Amna Manzar (MPhil, 2018-20)	2013-GCUF-0 1743	Investigation of oxygenated dehydro benzo-chalcone derivative to treat haloperidol-induced Parkinson's disease in mice	Supervisor-II	<b>Completed</b>
15	Nazir Ahmad (MPhil, 2017-19)	2017-GCUF-0 1584	Pharmacological evaluation of <i>Salvia hispanica</i> seeds for anti-urolithiatic activity	Supervisor-II	<b>Completed</b>
16	Iqra Mubeen (MPhil, 2017-19)	2013-GCUF-0 8820	Phytochemical screening of <i>Solanum surattanese</i> collected from Cholistan desert of Bahawalpur, Pakistan	Supervisor-II	<b>Completed</b>
17	Robina Akhtar (MPhil, 2017-19)	2017-GCUF-0 2427	Effect of methanol extract of <i>Malva neglecta</i> on memory impairment in Alzheimer's disease	Supervisor-II	<b>Completed</b>
18	Nimra Javed (MPhil, 2017-19)	2017-GCUF-0 2782	Anti-Parkinson activity of ethanol extract of <i>Brassica juncea</i> leaves	Supervisor-II	<b>Completed</b>
19	Somia Irshad (MPhil, 2018-20)	2018-GCUF-1 1239	Evaluation of Cytotoxic Potential of Rhinacanthin Rich Extract and its Marker Compounds Against Human Breast Cancer (MCF-7) Cells	Supervisor-II	<b>Completed</b>
20	Zunaira Hamid (MPhil, 2017-19)	2013-GCUF-0 1853	SNP Analysis of CETP and its Impact on Response to Fibrate Therapy in Hypertriglyceridemic patients	Supervisor-II	<b>Completed</b>