

**Residence Address:**

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**Dr. Muhammad Ayaz**

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**Carrier Objectives:**

I am innovative and dynamic person, strong believe on the best and wish to excel in an institution with challenging environment, where I can continue my research work in pharmaceutical sciences and then use it for the betterment of humanity.

**Personal Statement:**

I am a confident and enthusiastic person with the ability to learn and adapt quickly to new challenges and to handle difficult situations under pressure. I have an organized approach with good communication skills, which enables me to work effectively either on my own or as a part of the team.

**Academic & Professional Qualification:**

- 2013-16 PhD in Pharmaceutical Sciences (Pharmacology), Department of Pharmacy, Faculty of Biological Sciences, University of Malakand, Pakistan (**PCD HEC No. 17688**).
- 2008-2009M.Phil.in Pharmaceutical Sciences (Pharmacology), University of Peshawar, Pakistan (**PCD HEC No. 9522**).
- 2001-2005 Doctor of Pharmacy(Pharm-D) from University of Malakand with 1<sup>st</sup> Division (**Pharmacy Council of Pakistan Registration No: 1138-A/2007-PC**)
- 2000 “Intermediate in Science (Pre-Medical)” from BISE Swat with 1<sup>st</sup> Division.
- 1999 “Secondary School Certificate” from BISE Swat with 1<sup>st</sup> Division.

**Professional Links:**

**Citation, H-index and I10-index:**<https://scholar.google.nl/citations?user=5sfb9DkAAAAJ&hl=en>

**ORCID ID:** [orcid.org/0000-0002-4299-2445](https://orcid.org/0000-0002-4299-2445)

**Loop ID:** <http://loop.frontiersin.org/people/294513/overview>

**Scopus:** <https://www.scopus.com/authid/detail.uri?authorId=8773170600>

**Mendeley:** <https://www.mendeley.com/profiles/muhammad-ayaz21>

**Puebloans:**<https://publons.com/researcher/1366548/muhammad-ayaz/peer-review/>

**Current Impact Factor: 700<sup>Plus</sup>**

**Current Citations: 7568**

**H-index: 48**

**i10-index: 123**

### **Awards/Projects:**

- **Best researcher award** 2023 by University of Malakand (First throughout the University)
- **Pakistan Academy of Sciences (PAS) gold medal**, Salimuzaman Siddqui gold in Medical Science and Technology 2022 for Scientists under 40.
- **Gold Medal in Pharmacy**, by Pharmacy Department University of Malakand for the session 2001-2005
- **HEC Outstanding research Paper award** 2017.
- **Best researcher award** 2022 by University of Malakand
- **NRPU HEC research project** as Co-PI worth 8M PKR.
- International Research Project titled "**Natural Products based drugs Discovery in degenerative disorders**" awarded by Kingdom of Saudi Arabia Ministry of Education Najran University Deanship of Scientific Research worth 5000 USD 2022
- Member Asian Council of Science editors (ACSE)

### **Professional Experience:**

#### **Department of Pharmacy, University of Malakand, Pakistan.**

**Associate Professor (BPS 20)**; November 2024 to till date

**Lecturer (BPS 18)**, Pharmacy Department 29 July 2013 to July 2024

**Director**, students' societies' directorate 18-03-2020 to till date

#### **Department of Pharmacy, Kohat University of Science and Technology (KUST), Kohat, Pakistan.**

Position: Lecturer Pharmacy Department (Regular)

Duration: December 1st, 2010 to 28 July 2013

#### **Northwest General Hospital and Research Centre Peshawar.**

Position: In charge OPD Pharmacy

Duration: December, 2008 to June 2010

#### **Department of Pharmacy, University of Malakand, Pakistan.**

Position: Lecturer under NIP program

Duration: Aug 2007 to July 2008.

#### **NovaMed Pharmaceuticals Lahore Pakistan.**

Position: Production pharmacist

Duration: April 2, 2006 to May 5, 2007

### **Task performed as faculty member.**

- Teaching and performing practicals of Pharmacology, Clinical Pharmacy and Biopharmaceutics to undergraduate Pharmacy students.
- Teaching to M. Phil./PhD scholars
- Supervising M.Phil./PhD Students at Department of Chemistry KUST Kohat and University of Malakand.
- Supervising final years Pharm. D students for their clinical pharmacy projects.
- Participation in curriculum development for Band research scholars

### **Tasks Performed as Hospital Pharmacist:**

- Dispensing and compounding of medicine according to prescription.
- Inventory control and keeping record of medicine in/out.
- To supervise the maintenance and requirements of medicine.
- Professional dealing with customer and advice for the Compliance of medicine dosage.

### **Tasks performed as Production Pharmacist:**

- Developmental and supervision of trial batches of Tablets, Capsule, Syrup and Suspension.
- Supervision of 1<sup>st</sup> three commercial batches of new products and process improvement batches.
- Documentation of trial batches of developmental products and process improvement batches.
- Preparation of BMR of new and all existing commercial products.
- Directly involved in the validation of new products.
- Monitor and control inventory of raw material for new products.
- Maintain peace and harmony through understanding, cooperation, and communication and conduct dialogues with relevant department's personals to achieve productivity & profitability.

### **Projects and Professional trainings:**

- Evaluation of antidepressants on bacterial resistance to antibiotics (M.Phil Project).
- Phytochemical studies, Evaluations of anti-Alzheimer and anti-cancer potentials of Polygonum hydropiper L. (PhD Project).
- Rational use of anti-asthmatic drugs in teaching hospitals of Swat (Pharm-D Project).
- Two months training at CCL Pharmaceuticals Lahore (B.Pharm Project)

### **Co-Curricular Contributions**

- **Director**, students' societies directorate 18-03-2020 to till date
- **Deputy Director**, students' societies directorate 01-09-2020-09-12-2020 and 11-12-2020-10-03-2021.
- Member/Secretary Departmental Admission Committee

- Program team member for Self-Assessment report of M. Phil and PhD Scholars at Department of Pharmacy University of Malakand.
- Member Graduate Study Committee for research Projects evaluation
- Member Scientific Committee, Department of Pharmacy, University of Malakand.

### **Research Interests**

- Alzheimer's Disease/Neuropharmacology
- Natural Products research, Activity guided isolation of bioactive compounds
- Phytotherapy for Alzheimer using in vitro and in vivo models.
- Anticancer evaluations of natural compounds against cell lines
- Preliminary Pharmacological Screening of non-antibiotics (i.e. Antidepressants, phenothiazines and natural compounds) for their intrinsic antibacterial activities.
- Screening of these drugs as potential efflux pump inhibitors.
- Green synthesis of metals nanoparticles and their theranostic applications
- Preliminary Pharmacological Screening of natural products or pure compounds using standard bioassays' techniques for their anti-diabetic, antibacterial, antifungal, cytotoxic, phytotoxic, insecticidal, anthelmintic, antispasmodic, antioxidant, enzyme inhibition and anti-lashmenial activities.

### **Symposium/Seminar/Workshops Attended:**

- Organizer and presenter international conference "Asian conferences on Science technology and Medicine ACSTM Duabi 2019
- As Organizer of first National Conference on "Emerging trends in Pharmaceutical Sciences" at University of Malakand, 2017.
- National conference on Phytomedicine: Present and future perspectives 9-11 Oct 2018 SBBU.
- Workshop on English for University teachers, Organized by ORIC-HEC at University of Malakand, 2017.
- Workshop o Biosafety and Biosecurity for scientists, Organized by Department of Biotechnology, University of Malakand. 15-11-2017
- Seminar on "Old Plants, New Remedies." University of Malakand (7/9/2008-7/10/2008).
- Seminar on "Role of Clinical and Hospital Pharmacist in Hospital" Kohat University of Science and Technology, Kohat KPK, Pakistan (10/7/2012).
- Seminar on "Raising awareness and encouraging students for research on Zoonotic & Environmentally transmitted diseases and response" March 28, 2013 at Kohat University of Science and Technology, Kohat KPK, Pakistan.
- Seminar on Role of community pharmacy in health profession at Pharmacy Department, University of Peshawar Oct 2015.
- Seminar on DNA at Department of biotechnology, University of Malakand April 2016.

### Conference Oral Presentations/Invited speaker

- **Muhammad Ayaz**, Neuro-cognitive benefits of Phytochemicals in Alzheimer's disease " in the 6th International Symposium on Phytochemicals in Medicine and Food (6-ISPMF) at Hangzhou China.
- **Muhammad Ayaz**, et al; Alzheimer's Disease Modulating Potentials of *Polygonum hydropiper* L using transgenic animal Models. Distinguished speaker at Asian Conference on Science, Technology and Medicine (ACSTM-2019) Dubai 12-14 February 2019 Page 58.
- **Muhammad Ayaz**, Asian Council of Science Editors (ACSE) Annual meeting focused on the “Current trends, issues and challenges of Asian scholarly publishing ecosystem” on 21st August, 2022.
- **Muhammad Ayaz**, Farhat Ullah, Abdul Sadiq, Ashfaq ahmad  $\beta$ -sitosterol markedly improves cortex and hippocampal-dependent cognitive functions in transgenic animals’ model of Alzheimer’s disease: In-vitro, in-vivo and molecular docking correlates! international conference on chemical and pharmaceutical sciences: recent approaches in research and applications. **17-19 Jan 2018**, FCCULahore
- **Muhammad Ayaz**, Abdul Sadiq, Farhat Ullah, Ashfaq ahmad Alzheimer's disease modulating potentials of  $\beta$ -sitosterol in transgenic animals’ model of Alzheimer’s disease. International
- Pharmaceutics conference (IPC) on Exploring new avenues for pharmacy profession **2018 BZU** Multan (Invited speaker) page no 39.
- **Muhammad Ayaz et al.**, Anti-Alzheimer's studies on phytosterols using in-vitro and in-vivo models. National conference on Phytomedicine: Present and future perspectives **9-11 Oct 2018** SBBU.

### Conference Proceedings/Abstracts

- **Muhammad Ayaz<sup>1\*</sup>**, Muhammad Junaid<sup>1</sup> Abdul Sadiq<sup>1</sup>, Farhat Ullah<sup>1</sup> Ashfaq Ahmad<sup>1</sup>. Phytosterol from *Polygonum hydropiper* L markedly improves cortex and hippocampal-dependent cognitive functions in transgenic animals’ model of Alzheimer’s disease (**First Position**).
- Ashfaq Ahmad, Abdul Sadiq, Farhat Ullah, **Muhammad Ayaz**, Neuropharmacological and anti-cancer potentials of newly synthesized aldehyde derivatives of succinimides.
- **Muhammad Ayaz**, Muhammad Junaid, Farhat Ullah, Fazal Subhan and Abdul Sadiq. Beta-sitosterol from *Polygonum hydropiper* L. Markedly improves Cortex and Hippocampus Dependent Cognitive functions in animals Models of Alzheimer's Disease: In-Vitro, In-Vivo and Molecular docking Correlates! First National Conference on Emerging trends in Pharmaceutical Sciences at University of Malakand NCEPT-109, Oct 9-11 2017.
- Abdul Sadiq, Farhat Ullah, **Muhammad Ayaz**. Exploration of biologically active molecules: Synthetic and Natural Products Chemistry. NCEPT-50, UOM, Oct 9-11 2017.
- Anwar Ul Haq, Hamid Afridi, Akhtar Aman, Haya Hussain, Farhat Ullah, **Muhammad Ayaz**, Abdul Sadiq. Insecticidal and Pesticidal Activities of selected Medicinal plants from Dir (U) Khyber Pakhtunkhwa. NCEPT-51, UOM, Oct 9-11 2017.

- Anwar Zeb, Farhat Ullah, Abdul Sadiq, **Muhammad Ayaz**. Analgesic potentials of *Isodon rugosus* Wall. ex Benth: Mechanism based study on isolated compounds. NCEPT-52, UOM, Oct 9-11 2017.
- Ashfaq Ahmad, Farhat Ullah, **Muhammad Ayaz**, Abdul Sadiq. Synthesis, Cholinesterase inhibitions and antioxidant evaluations of Aldehyde Derivatives of Succinimides. NCEPT-53, UOM UOM, Oct 9-11 2017.
- Fawad Mehmood, Muhammad Saeed Jan, Farhat Ullah, Sajjad Ahmad, **Muhammad Ayaz**, Abdul Sadiq. Synthesis, Anti-cholinesterase and antioxidant potentials of Ketoesters Derivatives of Succinimides. NCEPT-54, UOM, Oct 9-11 2017.
- Rehmat Ali, Farhat Ullah, **Muhammad Ayaz**, Abdul Sadiq. Pharmacological studies and isolation of pure compounds from *Notholirion thomsonianum*. NCEPT-57, UOM, Oct 9-11 2017.
- Anwar Hayat, Farhat Ullah, Muhammad Ayaz, Abdul Sadiq. Anti-cholinesterase and antioxidant potentials of *Jurinea himalaica* R.R.Stewart NCEPT-59, UOM, Oct 9-11 2017.
- Syed Majid Shah, Farhat Ullah, **Muhammad Ayaz**, Abdul Sadiq. Assessment of Phytochemical and antioxidant activity of extract and fractions of *Ifloga spicata*. NCEPT-64, UOM, Oct 9-11 2017.
- Nawazish-i-Hussain Syed, Nazia Nazir, Imran Tariq, Rukhsan Anwar, **Muhammad Ayaz**. Anti-inflammatory and analgesic activities of chitosan-based serratiopeptidase microcapsules. NCEPT-82, UOM, Oct 9-11 2017.

### Editorial Contributions.

- **Lead Guest editor Frontiers in Pharmacology**(Impact Factor 5.8, Q1) Special issue title:"**Natural Products-Based Drugs: Potential Therapeutics against Alzheimer's Disease and other Neurological Disorders**"  
**Link:** <http://loop.frontiersin.org/people/294513/editorial>
- **Lead Guest editor Environmental Science and Pollution Research** (Impact Factor 5.2, Q2) **Special Issue title:** Role of Natural products combating oxidative stress, neuro-inflammation and modulation of signaling pathways in neuro-cognitive disorders (**NPR-Neuro 2022**)
- **Lead Guest editor Frontiers in Pharmacology** (Impact Factor 5.8, Q1) Special issue title "**Current Trends in Medicinal Plant Research and Neurodegenerative Disorders**"  
**Link:** <https://www.frontiersin.org/research-topics/16403/current-trends-in-medicinal-plant-research-and-neurodegenerative-disorders>
- **Lead Guest editor Frontiers in Pharmacology** (Impact Factor 5.8, Q1) Special issue title: "**Natural Products-Based Drugs: Potential Therapeutics against Alzheimer's Disease and other Neurological Disorders Volume-2**"  
**Link:**<https://www.frontiersin.org/research-topics/32255/natural-products-based-drugs-potential-therapeutics-against-alzheimers-disease-and-other-neurologica>

- **Lead Guest editor Frontiers in Pharmacology** section infectious diseases (Impact Factor 5.8, Q1) Special issue title: **Novel Antimicrobials and Antibiotics Resistance Modulating Agents from Natural Products: Turning Promises into Triumphs**  
**Link:** <https://www.frontiersin.org/research-topics/32169/novel-antimicrobials-and-antibiotics-resistance-modulating-agents-from-natural-products-turning-prom>
- **Associate editor BMC complementary and Alternative Medicine**(Impact Factor 3.6, Q1)  
**Link:** <https://bmccomplementalternmed.biomedcentral.com/about/editorial-board>
- Associate editor Digital Chinese Medicine **Link:** <http://dcmhi.com/editorial-board>.
- Associate editor **International Journal of Pharmacology** (Impact Factor 0.765)  
**Link:** <https://scialert.net/eboardlivedna.php?issn=1811-7775&id=92.17933>
- Associate editor **Trends in Medical Research**  
**Link:** <https://scialert.net/eboardlivedna.php?issn=1819-3587&id=92.17933>
- Associate editor **Pharmacologia**
- Associate editor **Journal of Food Health and Bioenvironmental Science**
- Associate editor **Pharmaceutical and Biomedical Research (BPR)** Journal
- Member Asian Council of Science Editors

### Journals Reviewer/Referee.

- Reviewer, Molecular Neurobiology (Elsevier) Impact Factor 5.137
- Reviewer, Phytomedicine (Elsevier) Impact Factor 3.126.
- Reviewer, Pharmacological Research (Elsevier) Impact Factor 4.408
- Reviewer, European Journal of Integrative medicine (Elsevier) Impact Factor 0.769.
- Reviewer, Biomedicine and Pharmacotherapy (Elsevier) Impact Factor 2.326.
- Reviewer, Journal of King Saud University-Sciences (Elsevier)
- Reviewer, Journal of herbal Medicine (Elsevier) Impact Factor 1.3.
- Reviewer, Microbial Pathogenesis (Elsevier) Impact Factor 2.009.
- Reviewer, PLOS ONE (PLOS Publishers) Impact Factor 2.806.
- Reviewer, Frontiers in Pharmacology (Frontiers Publishers) Impact Factor 4.418.
- Reviewer, Frontiers in Aging Neuroscience (Frontiers Publishers) Impact Factor 4.52.
- Reviewer, BMC complementary and alternative medicine (BioMed Central) Impact Factor 2.28.
- BMC Psychiatry (BioMed Central) Impact Factor 2.613.
- Reviewer, Biological Research (BioMed Central) Impact Factor 1.692.
- Reviewer, Natural product research (Taylor and Francis) Impact Factor 1.8.
- Reviewer, Clinical and Experimental Hypertension (Taylor and Francis) Impact Factor 1.234.
- Reviewer, Mycology: An International Journal of Fungal Biology (Taylor and Francis)

## Research Scholars Supervised

### Clinical Projects supervised

1. **Mr. Saifullah**, Session 2017-2022, Thesis title "Side effects of Chemotherapy among cancer patients visiting SINOR Swat: Experiences, Perceptions, and informational needs from clinical pharmacists" **Completed.**
2. **Mr. Mohsin Khan**, Session 2017-2022, Thesis title "Rational Drug Therapy for the Management of Myocardial Infarction at Rehman Medical Institute Peshawar Pakistan" **Completed.**
3. **Mr. Rizwan Ullah**, Session 2017-2022, Thesis title "Prevalence of Jaundice among Neo-natal Population age 1-30 days and their management in Rehman Medical institute Peshawar Pakistan." **Completed.**
4. **Mr. Syed Habib Ullah Khan**, Session 2017-2022, Thesis title "Rational Drug Therapy in the management of Chronic Kidney diseases CKD in medical wards at Rehman Medical Institute Peshawar Pakistan." **Completed.**
5. **Ms. Sajeela**, Session 2017-2022, Thesis title "Pharmacotherapy of Myocardial Infection at Rehman Medical Institute Peshawar, Pakistan" **Completed.**
6. **Mr. Asad Ullah**, Session 2017-2022, Thesis title "Pharmacotherapy of peptic Ulcer disease at DHQ hospital batkhela." **Completed.**
7. **Mr. Baasir Umair**; Session 2015-2020, Thesis title "SAR-COV-2 Pandemic prevalence, management and rational drugs use Saidu Group of Teaching Hospitals Swat" **Completed.**
8. **Mr. Shah Khalid**; Session 2015-2020, Thesis title "Evaluation of rational Drugs use for the management of ulcer in Saidu Group of Teaching Hospitals Swat " **Completed.**
9. **Mr. Muhammad Ayaz**; Session 2015-2020, Thesis title "Evaluation of rational Drugs use Among diabetic patients in LRH Peshawar". **Completed.**
10. **Mr. Humza yousuf**; Session 2015-2020, Thesis title " Rational therapy for management of hypertension in Saidu Group of Teaching Hospitals Swat ". **Completed.**
11. **Mr. Mushtaq Zada**; Session 2015-2020, Thesis title " Appraisal of rational Drugs Therapy for type 2 diabetic patient at tertiary care hospital RMI Peshawar ". **Completed.**
12. **Mr. Haroon Elahi**; Session 2015-2020, Thesis title Evaluation of rational Pharmacotherapy for SARS-COV-2 infected patient in Saidu group of teaching hospital Swat. **Completed.**
13. **Mr. Kaleem ullah**; Session 2015-2020, Thesis title Rational drug use for the management of congestive heart failure in Hayatabad medical complex. **Completed.**
14. **Mr. Sana brgum**; Session 2016-2021, Thesis title Pharmacotherapy of epilepsy among pediatrics in lady reading hospital Peshawar. **Completed.**

15. **Mr. Hidayatullah;** Session 2016-2021, Thesis title Rational use of antimalarial drug in lady reading hospital Peshawar. **Completed.**
16. **Mr. Javed Rahman;** Session 2016-2021, Thesis title Pharmacological approaches to tuberculosis. **Completed.**
17. **Mr. Sajjad Ali;** Session 2016-2021, Thesis title Rational therapy for management and treatment of hypertension. **Completed.**
18. **Mr. Saeed Ahmad;** Session 2016-2021, Thesis title Rational drug therapy for diabetes mellitus in MTI-HMC Peshawar. **Completed.**
19. **Mr. Saif Ullah,** Session 2017-2022, Thesis title "Side Effects of Chemotherapy Among Cancer Patients Visiting Sinor Swat: Experiences, Perceptions and Informational Needs from Clinical Pharmacists" **Completed.**
20. **Mr. Tahseen ul haq & Najeeb ul Haq,** Session 2017-2022, Thesis title "Evaluation of Rational Antibiotics Use in General Hospital-ICU, Pulmonology, and Nephrology Wards at Rehman Medical Institute (RMI), Peshawar" **Completed.**
21. **Mr. Syed habib Ullah khan & Nazir Ahmad,** Session 2017-2022, Thesis title "Rational Drug Therapy in Management of Chronic Kidney Disease CKD in Medical Wards at Rehman Medical Institute (RMI), Peshawar Pakistan" **Completed.**

#### **PhD supervision/co-supervision**

1. **Miss. Mehreen Ghufra;** (09-AWKUM-PGWM-14), thesis title " Development of New Anticancer by Computer-Aided Drug Programs " PhD; Co-supervisor (Completed).
2. **Mr. Sajjad Ahmad;** (session 2020-2023); Synthesis and anti-Alzheimer's evaluation of hydantoin derivatives in transgenic animals using in-vitro, in-vivo and in-silico approaches. PhD supervision (In Progress)
3. **Mr. Shah Faisal;**(session 2020-2023); Synthesis of new rhodanine derivatives and their antidiabetic & anti-lipidemic activities. PhD Co-supervision (In Progress).
4. **Mr. Shahid Irshad;** (session 2019-2022); bio guided isolation and appraisal of the potential efficacy of *Quercus dilatata* fruits in epilepsy. PhD Co-supervision (In Progress)

#### **M.Phil supervision/co-supervision**

5. **Mr. Muhammad Ashraf;**(session 2019-20), thesis title "Phytochemical analysis and Alzheimer's disease modulating potentials of *desmodium elegans* using in-vitro and in-vivo approaches." **Supervisor (Completed).**
6. **Mr. Muhammad Asif;**(session 2019-20), thesis title " Neuroprotective Effects of Progesterone Derivatives In Scopolamine-Induced Amnesia In Animal Models." **Supervisor (Completed).**

7. **Mr. Zeeshan Ahmad; (session 2020-22)**, thesis title "Anti-amyloid, anti-inflammatory and neuro-cognitive studies on an endogenous medicinal plant *Bukiniczia cabulica* (Boiss.) Lincz." **Supervisor (Completed)**.
8. **Ms. Nazneen; (session 2020-22)**, thesis title Appraisal of the neuroprotective potentials of selected medicinal plants using behavioral and experimental approaches." **Supervisor (Completed)**.
9. **Mr. Ihsan Ullah (session 2015-17)**, thesis title " Ethnopharmacological based evaluation of *Sorbaria tomentosa* with focus on Alzheimer's disease, depression and anxiety" **Co-supervisor (Completed)**.
10. **Mr. Syed Gowhar Sultan (session 2015-17)**, thesis title " Synthesis, characterization and gastroprotective Activity of a disulfone derivative" **Co-supervisor (Completed)**.
11. **Mr. Shah Zeb Sultan (session 2015-17)**, thesis title " Anti Diabetic and Anti Hyperlipidemic Potential of *Salvia Moorcroftiana* Using In-Vitro and In - Vivo Approaches " **Co-supervisor (Completed)**.
12. **Mr. Zia Ullislam (session 2019-20)**, thesis title " Synthesis, characterization and gastroprotective activity of a disulfone derivative." **Co- Supervisor (Completed)**.
13. **Mr. Asad Usman (session 2019-20)**, thesis title " Anticancer potentials of biogenic nanoparticles." **Co- Supervisor (Completed)**.

## Publications:

### Books

- Chittaranjan Patra Irshad Ahmad **Muhammad Ayaz** Ali Talha Khalil Sudip Mukherjee Muhammad Ovais; **Biogenic Nanoparticles for Cancer Theranostics**; By Elsevier ISBN : 9780128214671, 1st edition, June 2021
- **Muhammad Ayaz**, Tahir Ali, Abdul Sadiq, Farhat Ullah and Myeong Ok Kim "Natural Products-Based Drugs: Potential Therapeutics against Alzheimer's Disease and other Neurological Disorders". Frontiers Switzerland ISSN 1664-8714, ISBN 978-2-88963-348-7, (2020) doi: 10.3389/978-2-88963-348-7
- **Ayaz, M.**, Ali, T., Sadiq, A., Ullah, F., Naseer, M. I., eds. (2022). **Current Trends in Medicinal Plant Research and Neurodegenerative Disorders**. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88976-633-8

### Book Chapters;

1. Alam Zeb, **Muhamamd Ayaz**; Traditional Uses, Important Phytochemicals, and Therapeutic Profile of *Persicaria hydropiper* in Book Aquatic Medicinal Plants. CRC Press Taylor and Francis Group Published July 2023. DOI: 10.1201/9781003256830-2
2. **Muhamad Ayaz\***, Asad Usman et al., Nanomedicines in the Treatment of Gastrointestinal Disorders, Book: Nanomedicine in Treatment of Diseases. 2023 DOI : 10.1007/978-981-99-7626-

3. **Muhammad Ayaz**, Muhammad Ashraf, Farhat Ullah, Abdul Sadiq, Farhat Ullah, Abdul Sadiq, Asif Nawaz, Asif Nawaz; *Morus alba L.* in *Himalayan Fruits and Berries Bioactive Compounds, Uses and Nutraceutical Potential*. 2022, 1(251-267) Elsevier.
4. Ali Talha Khalil, Javed Iqbal, Asma Shah, Mubasher Zahir Haque, Imran Khan, **Muhammad Ayaz**, Irshad Ahmad and Hamidullah Shah; The bio–nano interface as an emerging trend in assembling multi-functional metal nanoparticles **ACS Nanoscience**, 2021, 7, 1–24 DOI: 10.1039/9781839163791-00001
5. Muhammad Ovais<sup>1</sup>, Nashmia Zia<sup>2</sup>, Ali Talha Khalil<sup>3</sup>, **Muhammad Ayaz**<sup>4</sup>, Amjad Khalil<sup>5</sup> and Irshad Ahmad<sup>5\*</sup> **Nanoantibiotics: Recent Developments and Future Prospects; Chapter 5 in Book titled "Frontiers in Clinical Drug Research - Anti-Infectives**, Bentham Science Publishers, 2018, Vol. 5, 30-54.
6. M. Ovais, MZ Hoque, AT Khalil, **M. Ayaz**, I Ahmad; **Mechanisms underlying the anticancer applications of biosynthesized nanoparticles in; biogenic nanoparticles for cancer theranostics**, Elsevier, Page no 231-249
7. **Muhammad Ayaz**<sup>1\*</sup>, Muhammad Ovais<sup>2</sup>, Irshad Ahmad<sup>3</sup>, Abdul Sadiq<sup>1</sup>, Ali Talha Khalil<sup>4</sup>, Farhat Ullah<sup>1</sup> **Biosynthesized metal nanoparticles as potential Alzheimer's disease therapeutics in Book on Metal Nanoparticles for Drug Delivery and Diagnostic Applications**. 2019. Elsevier Pages 31-44.
8. Ovais M., Khalil A.T., **Ayaz M.**, Ahmad I. (2019) **Biosynthesized Metallic Nanoparticles as Emerging Cancer Theranostics Agents**. In: Rai M., Jamil B. (eds) *Nanotheranostics*. Springer, Cham.pp 229-244 DOI [https://doi.org/10.1007/978-3-030-29768-8\\_11](https://doi.org/10.1007/978-3-030-29768-8_11)
9. Muhammad Ovais, Ali Talha Khalil, **Muhammad Ayaz**, Irshad Ahmad; **Metal oxide nanoparticles and plants; in Phytanotechnology: Challenges and Prospects** page 123-135, Chapter 7, ISBN: 978-0-12-822348-2 Published by Elsevier Radarweg 29, PO Box 211, 1000 AE Amsterdam, Netherlands
10. Ali Talha Khalil, Javed Iqbal, Banzeer Ahsan Abbasi, Ikram Ullah, Tabassum Yaseen, Imran Khan, **Muhammad Ayaz**, Irshad Ahmad; **Current progress on the graphene-based nanocomposites for medical, environmental and energy applications**. *RSC-Nanoscience*, 2022, 8 , 133–151 DOI <https://doi.org/10.1039/9781839167218-00133>
11. **Muhammad Ayaz**, Farhat Ullah, Abdul Sadiq, Asif, Zhanibek Yessimbekov, Muhammad Ashraf; *Morus alba L.* *Himalayan Fruits and Berries*. <https://doi.org/10.1016/B978-0-323-85591-4.00020-9>

### **Research/Review Articles: (2024)**

1. Gowhar Ali, Farrah Deebe, Umer Rashid, Aman Ullah, Hammad Ullah, Inayat Ali Khan, Syed Ishtiaq Khan, Amin Badshah, Muhammad Arif Khan, **Muhammad Ayaz**<sup>\*</sup>, Maria Daglia; **Biomedicine & Pharmacotherapy**. Vol. 174, May 2024, 116544. **Impact factor 7.5.**

2. **Muhammad Ayaz\***, Osama F Mosa, Asif Nawaz, et al; Neuroprotective potentials of Lead phytochemicals against Alzheimer's disease with focus on oxidative stress-mediated signaling pathways: Pharmacokinetic challenges, target specificity, clinical trials and future perspectives. **Phytomedicine**, Vol. 124, Feb. 2024,155272. **Impact factor 7.9.**
3. Abdulaziz Hassan Alhasaniah, Zeeshan Ahmad, Alam Zeb, Mater H Mahnashi, Abdul Sadiq, **Muhammad Ayaz\*** Polarity directed solvent extracts from *Bukiniczia Cabulica* (Boiss.) Lincz. ameliorate scopolamine induced amnesia: HPLC-DAD polyphenolics analysis, cholinesterase, COX2, BACE1 inhibitory, anti-amyloid, antioxidant, molecular docking and behavioral correlates. **Journal of Molecular Liquids**; Vol. 395, 1 Feb. 2024, 123911. **Impact factor 6.0.**
4. Abdul Sadiq, Muhammad Arif Khan, Rehman Zafar, Farhat Ullah, Sajjad Ahmad and **Muhammad Ayaz\***; Synthesis, anti-inflammatory and analgesic potentials of ethyl 2-(2,5-dioxo-1-phenylpyrrolidin-3-yl)-2-methylpropanoate; **Pharmaceuticals**-3205707 2024. impact factor 4.3.
5. Laziz N Niyazov, **Muhammad Ayaz\*** et al; Polyphenols and their nanoformulations as potential antibiofilm agents against multidrug-resistant pathogens. **Future Microbiology**, [vol. 19, NO. 3](https://doi.org/10.2217/fmb-2023-0175), Feb 2024. <https://doi.org/10.2217/fmb-2023-0175>. **Impact factor 3.1.**
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