

# Zaidi, Nousheen (PhD)

## Current Positions

- **Professor**  
Cancer Biology Lab – IMMG, University of the Punjab  
Website: <https://pu.edu.pk/faculty/description/1307/Prof-Dr-Nousheen-Zehra-Zaidi.html>
- **Co-founder & Director**  
Action Research Collective  
Website: <https://www.facebook.com/actionresearchcollectivepk>

## Previous Positions

- **Director:** Cancer Research Center, University of the Punjab, Lahore (Dec 2019 – Nov 2024).
- **Associate Professor (Tenured):** University of the Punjab, Lahore (Nov 2017 – April 2024).
- **Assistant Professor (Tenure Track):** University of the Punjab, Lahore (July 2012 – Oct 2017).
- **Postdoctoral Research Associate:** Department of Oncology, Drug Discovery Group, Johnson and Johnson, Beerse, Belgium (2011 – June 2012)
- **Postdoctoral Researcher:** Department of Microbiology & Immunology, Albert Einstein College of Medicine, New York, USA (2009 – 2010).
- **Post PhD Researcher:** Eberhard Karls University, Tübingen, Germany (Aug 2008 – Jan 2009).
- **Research Officer:** The Aga Khan University, Karachi (2002-2004).

## Education

- **PhD in Biochemistry,** Eberhard Karls University, Tübingen, Germany, (2008).

## Professional Development

- **Epidemiology: The Basic Science of Public Health,** The University of North Carolina at Chapel Hill, Coursera, Jul 2024.
- **Disease Screening in Public Health,** University of Geneva & University of Lausanne, Coursera, Sep 2024.

## Contact information & Online Profiles



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<https://orcid.org/0000-0002-3896-0088>

## Visiting Positions

- **Visiting Professorship:** Federal Institute for Materials Research and Testing, Berlin (Jun-Aug 2022)
- **Visiting Scientist:** Federal Institute for Materials Research and Testing, Berlin (Jul-Oct 2021)
- **Visiting Scientist:** Federal Institute for Materials Research and Testing, Berlin (May-Aug 2019)
- **Visiting Scientist:** Charité – Universitätsmedizin Berlin, Berlin (May-Aug 2018)
- **Visiting Scientist:** Charité – Universitätsmedizin Berlin, Berlin (May-Aug 2017)
- **Visiting Scientist:** Eberhard Karls University, Tübingen (July-Sep 2015)

## **Publications**

### — Edited Volume

1. Special Issue, Clinical implications of targeting lipid metabolism and associated pathways for cancer therapy, *Frontiers in Oncology*, August 2024.

### — Book Chapters

1. Munir R, and **Zaidi N.** Regulation of Lipid Metabolism Under Stress and Its Role in Cancer. Invited chapter in: *Metabolism and Epigenetic Regulation: Implications in Cancer. Springer. 2022*
2. Ameer F, Munir R, and **Zaidi N.** Invited chapter in: *Lipid Metabolism in Encyclopedia of Cancer 3rd edition. 2019.*
3. **Zaidi N** and Kalbacher H. Cathepsin E, Invited chapter in: *The Handbook of Proteolytic Enzymes 3rd Edition. 2012.*

### — Journal Articles

1. Munir, R., Lisec, J., Swinnen, J. V., & **Zaidi, N.** (2022). Too complex to fail? Targeting fatty acid metabolism for cancer therapy. *Prog Lipid Res*, 85, 101143.
2. Munir, R., N. Noureen, M. Bashir, N. Shoaib, A. Ashraf, J. Lisec and **N. Zaidi** (2022). Cancer Awareness Measure (CAM) and Cancer Awareness Measure MYthical Causes Scale (CAM-MY) scores in Pakistani population. *Sci Rep* 12(1): 8887.
3. Lisec J, Jaeger C, Rashid R, Munir R, **Zaidi N:** Cancer cell lipid class homeostasis is altered under nutrient-deprivation but stable under hypoxia. *BMC Cancer* 2019, 19(1):501.
4. Munir R, Lisec J, Swinnen JV, **Zaidi N:** Lipid metabolism in cancer cells under metabolic stress. *Br J Cancer* 2019, 120(12):1090-1098.
5. Tirmizi R, Munir R, **Zaidi N.** (2024). Trends in hepatitis C virus seroprevalence and associated risk factors among MSM in Pakistan: insights from a community-based study. *Sci Rep.* 17;14(1):16551.
6. Munir, R. & **Zaidi, N.** (2023). The one with the rumor: COVID-19-related conversations on Pakistani Twitter. *Public Health*, 225, 277-284
7. Shoaib, N., ... **N. Zaidi**, Population-level median cycle threshold (Ct) values for asymptomatic COVID-19 cases can predict the trajectory of future cases. *PLoS One*, 2023. 18(3): p. e0281899.
8. Noureen, N. and **N. Zaidi**, Association between human leukocyte antigen (HLA) and end-stage renal disease (ESRD): a meta-analysis. *PeerJ*, 2023. 11: p. e14792.
9. Shoaib, N., N. Noureen, A. Faisal, M. Zaheer, M. Imran, A. Ahsan, R. Munir, and **N. Zaidi.** (2022) Factors Associated with Cycle Threshold Values (Ct-Values) of Sars-Cov2-Rrt-Pcr. *Mol Biol Rep* 1-6.
10. Shoaib, N., Noureen, N., Munir, R., Shah, F. A., Ishtiaq, N., Jamil, N., . . . **Zaidi, N.** (2021). COVID-19 severity: Studying the clinical and demographic risk factors for adverse outcomes. *PLoS One*, 16(8), e0255999. doi:10.1371/journal.pone.0255999.
11. Munir R, Lisec J, Jaeger C, **Zaidi N.** Abundance, fatty acid composition and saturation index of neutral lipids in colorectal cancer cell lines. *Acta Biochim Pol.* 2021.
12. Shoaib N, Bashir M, Munir R, Rashid R, **Zaidi N.** Expression of lipid transport-associated genes in lipid-deprived cancer cells. *Genes Cells.* 2021.
13. Riaz N, Munir R, Lisec J, **Zaidi N:** Revisiting the Association between Human Leukocyte Antigen and End-Stage Renal Disease. Accepted for publication in *PLOSone* August 2020.
14. Ameer F, Munir R, Usman H, Rashid R, Shahjahan M, Hasnain S, **Zaidi N:** Lipid-load in peripheral blood mononuclear cells: Impact of food-consumption, dietary-macronutrients, extracellular lipid availability and

- demographic factors. *Biochimie* 2017, 135:104-110.
15. Usman H, Ameer F, Munir R, Iqbal A, Zaid M, Hasnain S, Scandiuizzi L, **Zaidi N**: Leukemia cells display lower levels of intracellular cholesterol irrespective of the exogenous cholesterol availability. *Clin Chim Acta* 2016, 457:12-17.
  16. Iqbal A, Zaid M, Munir R, Usman H, Kalbacher H, Scandiuizzi L, **Zaidi N**: Atypical plasma lipid profiles in leukemia. *Clin Chim Acta* 2016, 452:129-133.
  17. Usman H, Rashid R, Ameer F, Iqbal A, Zaid M, Hasnain S, Kalbacher H, **Zaidi N**: Revisiting the dyslipidemia associated with acute leukemia. *Clin Chim Acta* 2015, 444:43-49.
  18. Rashid R, Ameer F, Kalbacher H, Scandiuizzi L, **Zaidi N**: Aberrant de novo cholesterologenesis: Clinical significance and implications. *Clin Chim Acta* 2015.
  19. Munir R, Usman H, Hasnain S, Smans K, Kalbacher H, **Zaidi N**: Atypical plasma lipid profile in cancer patients: cause or consequence? *Biochimie* 2014, 102:9-18.
  20. Zaid M, Ameer F, Munir R, Rashid R, Farooq N, Hasnain S, **Zaidi N**: Anthropometric and metabolic indices in assessment of type and severity of dyslipidemia. *J Physiol Anthropol* 2017, 36:19.
  21. Daniels VW, Smans K, Royaux I, Chypre M, Swinnen JV, **Zaidi N**: Cancer cells differentially activate and thrive on de novo lipid synthesis pathways in a low-lipid environment. *PLoS One* 2014, 9:e106913.
  22. Ameer F, Scandiuizzi L, Hasnain S, Kalbacher H, **Zaidi N**: De novo lipogenesis in health and disease. *Metabolism* 2014.
  23. **Zaidi N**, Lupien L, Kuemmerle NB, Kinlaw WB, Swinnen JV, Smans K: Lipogenesis and lipolysis: The pathways exploited by the cancer cells to acquire fatty acids. *Prog Lipid Res* 2013, 52:585-589.
  24. **Zaidi N**, Swinnen JV, Smans K: ATP-citrate lyase: a key player in cancer metabolism. *Cancer Res* 2012, 72:3709-3714.
  25. **Zaidi N**, Royaux I, Swinnen JV, Smans K: ATP citrate lyase knockdown induces growth arrest and apoptosis through different cell- and environment-dependent mechanisms. *Mol Cancer Ther* 2012, 11:1925-1935.
  26. Chypre M, **Zaidi N**, Smans K: ATP-citrate lyase: a mini-review. *Biochem Biophys Res Commun* 2012, 422:1-4.
  27. **Zaidi N**, Maurer A, Nieke S, Kalbacher H: Cathepsin D: a cellular roadmap. *Biochem Biophys Res Commun* 2008, 376:5-9.
  28. **Zaidi N**, Kalbacher H: Cathepsin E: a mini review. *Biochem Biophys Res Commun* 2008, 367:517-522.
  29. **Zaidi N**, Herrmann C, Herrmann T, Kalbacher H: Emerging functional roles of cathepsin E. *Biochem Biophys Res Commun* 2008, 377:327-330.
  30. Waraich RS, **Zaidi N**, Moeschel K, Beck A, Weigert C, Voelter W, Kalbacher H, Lehmann R: Development and precise characterization of phospho-site-specific antibody of Ser(357) of IRS-1: elimination of cross reactivity with adjacent Ser(358). *Biochem Biophys Res Commun* 2008, 376:26-31.
  31. Burster T, Reich M, **Zaidi N**, Voelter W, Boehm BO, Kalbacher H: Cathepsin E regulates the presentation of tetanus toxin C-fragment in PMA activated primary human B cells. *Biochem Biophys Res Commun* 2008, 377:1299-1303.
  32. **Zaidi N**, Herrmann T, Voelter W, Kalbacher H: Recombinant cathepsin E has no proteolytic activity at neutral pH. *Biochem Biophys Res Commun* 2007, 360:51-55.
  33. **Zaidi N**, Herrmann T, Baechle D, Schleicher S, Gogel J, Driessen C, Voelter W, Kalbacher H: A new approach for distinguishing cathepsin E and D activity in antigen-processing organelles. *FEBS J* 2007, 274:3138-3149.
  34. **Zaidi N**, Burster T, Sommandas V, Herrmann T, Boehm BO, Driessen C, Voelter W, Kalbacher H: A novel cell penetrating aspartic protease inhibitor blocks processing and presentation of tetanus toxoid more efficiently than pepstatin A. *Biochem Biophys Res Commun* 2007, 364:243-249.

— **Other Publications**

1. Cancer: Myths and Facts (Awareness Booklet), 2020. **Cancer Research Centre**.
2. **Zaidi, N.** (2015). Science and religion. The News. <http://tns.thenews.com.pk/science-religion/#.WaMFdtFLfIU>

**Fellowships**

- Fellowship awarded by **German Academic Exchange Service (DAAD)** under Research Stays for University Academics and Scientists, *2022*.
- Fellowship for Renewed Research Stay by the **Humboldt Foundation**, *2021*.
- Georg Forster Research Fellowship for Experienced Researchers by the **Humboldt Foundation**, *2017- 19*.
- Scholarship to attend an intensive German language course at Goethe Institute, Berlin, by the **Humboldt Foundation**, *March-June 2017*.
- Visiting Researcher Fellowship awarded by **German Academic Exchange Service (DAAD)** under the Re-Invitation Program for Former Scholarship Holders *2015*.
- PhD Fellowship awarded by **Higher Education Commission, Pakistan and German Academic Exchange Service (DAAD)** 2005-2008.
- PhD Fellowship awarded by **The Aga Khan University**, Karachi *2004*.

**Teaching Experience**

— **Institute of Microbiology & Molecular Genetics, University of the Punjab (2012-Present)**

**Courses:**

1. Oncology (Undergrad Level) (25-30 students per session)
2. Cell Biology (Undergrad Level) (25-30 students per session)
3. Labs in Oncology (Undergrad Level) (25-30 students per session)
4. Cell Culture Techniques (Undergrad Level) (25-30 students per session)
5. Molecular Biology (Undergrad Level) (60-70 students per session)
6. Cancer Genetics (Master's Level) (15-25 students per session)
7. Introduction to Metabolomics (Ph.D. Level) (10-20 students per session)
8. Behavioral Genetics (Ph.D. Level) (10-20 students per session)

**Responsibilities:** Planning course content, delivering lectures, and evaluating performance

**Short/Summer School Courses:**

Courses offered include Assays in Cancer Biology, Working with Tumor Spheroids, GraphPad Prism, Craft of Scientific Writing, Cell Culture Techniques and Applications, Methods in Cancer Biology, Western Blotting, and Biosafety and Risk Assessment. These courses were provided to graduate and undergraduate biology students, with class sizes ranging from 20 to 60 students per session.

— **Eberhard Karls University, Tübingen, Germany, (2006-2008)**

Assisted Dr. Hubert Kalbacher in delivering this pre-designed practical course on immunological techniques.

## **Academic Supervision and Mentorship**

### — **Supervision Summary**

- Postdoctoral Fellows Supervised: 2
- Ph.D. Students Supervised: 11
  - Completed: 8
  - Ongoing: 3
- Masters 'Students Supervised: 19
- Undergraduate Students Supervised: 27

### — **Postdoctoral Supervision**

1. Dr. Rida Rashid (2023-24) Waterborne Illnesses and Urban Water Quality: An Epidemiological Exploration in Lahore and Karachi High-Risk Areas.
2. Dr. Rimsha Munir (2020-22) - Targeting Fatty Acid Metabolism in Cancer Therapy: Overcoming Complex Metabolic Pathways.

### — **Ph.D. Supervision**

#### **Completed Ph.D. Theses**

1. Muhammad Zaid (2014-18) - Genetic, Metabolic, and Anthropometric Variations Associated with Aberrant Plasma Lipid Profiles.
2. Hina Usman (2013-18) - Regulation of Plasma and Cellular Cholesterol Levels in Acute Myeloid and Lymphatic Leukemia.
3. Rimsha Munir (2014-19) - 2D versus 3D Cell Culture: Studying the Metabolic Pathways in Cancer Cells.
4. Fatima Ameer (2014-19) - Lipid Metabolism in Malignant and Non-Malignant Hematopoietic Cells.
5. Rida Rashid (2014-20) - Extracellular Lipid Availability and Lipid Metabolism in Cancer Cells.
6. Naila Noreen (2018-22) - Human Leukocyte Antigens (HLA) Variations and Immune-Mediated Diseases.
7. Zunaira Shoukat (2015-22) - The Current State of Breast Cancer Diagnosis, Prognosis, and Awareness in Pakistan.
8. Naila Shoaib (2021-24) - Pathophysiology of Coronavirus Disease 2019 (COVID-19) in Pakistan.

#### **Ongoing Ph.D. Theses:**

1. Irfan Khan (2022-) - Association Between Body Indices and Cancer Biomarkers in Human Population.
2. Farhad Ali Shah (2023-) - Water Quality and Public Health in Lahore: A Geo-Epidemiological Approach to Waterborne Diseases.
3. Maryam Ikram (2024-) - Childhood stunting and cognitive effects of water and sanitation in Pakistan.

### — **Master's Theses Supervision**

1. Seher Khalil (2023-24) - Microbiological Water Contamination in Shareefpura, Lahore: Assessing Short- and Long-Term Health Risks.
2. Hajira Malik (2022-23) - Health Impacts of E.coli Contamination in the Water Supply: A Comprehensive Case Study of Chungi Amar Sidhu, Lahore.
3. Sabahat Nosheen (2022-23) - Spatial Analysis and Mapping of Microbial Water Quality in Lahore.
4. Maham Qasim (2021-22) - Hepatic Function Panel in the Population with High Hepatitis C Burden.
5. Bushra Bibi (2021-22) - Effects of Environmental Lead Exposure on Patients' Blood Profiles.
6. Noshaba Ishtiaq (2020-21) - Revisiting the Impact of Hypoxia on Lipid Accumulation in Cancer Cells.
7. Hina Tabassum (2020-21) - Factors Determining the Severity of COVID-19 in the Pakistani Population.

8. Arwa Faisal (2020-21) - SARS-CoV-2: Differences Between Men and Women in Pakistan.
9. Muniba Basir (2019-20) - Microarray Profiles of Lipid-Deprived Cancer Cells.
10. Naila Shoaib (2019-20) - Effect of Palmitate-Supplementation on Microarray Profiles of Lipid-Deprived Cancer Cells.
11. Arifa Ashraf (2019-20) - A Study on the Potential Anti-Proliferative Effects of Different Traditional South Asian Medicinal Plant Extracts on Cancer Cells.
12. Farhad Ali Shah (2019) - Allele Polymorphism and Haplotype Diversity of HLA-A, -B, -C, -DRB1, -DQB1, and -DQA1 Loci in the Pakistani Population.
13. Maham (2018-19) - The Effect of Short-Term Moderate Physical Activity Intervention on Plasma Lipid Profiles and Lipid-Load in Peripheral Blood Mononuclear Cells.
14. Mehar-un-Nisa Saleem (2017-18) - Studying the Association of Various Demographics, Metabolic, and Clinical Factors with a Body Shape Index (ABSI).
15. Maria Ramzan (2016-17) - Effect of Hypoxia on Cell Proliferation and Lipid-Load: A Comparison Between 2-Dimensional (2D) and 3-Dimensional (3D) Cell Culture Systems.
16. Areeb Iqbal (2014-15) - Cholesterol Homeostasis in Acute Leukemia Patients: Studying the Intra- and Extracellular Cholesterol Content.
17. Rida Rashid (2013-14) - Lipoproteins and Lipoprotein Ratios: Studying Anomalies and Correlations in Cancer Patients.
18. Fatima Ameer (2013-14) - Metabolic Profiles of Hematological Cancer Patients Revisited: Studying the Irregularities and Interdependencies of Plasma Glucose and Lipid Levels.
19. Rimsha Munir (2012-13) - Blood Lipid Profiles in Cancer Patients: Site-Specific Analysis.

### **Organization Of Scientific Meetings**

- Online Workshop on R programming (for beginners), 27th – 28th July 2020.
- Online Workshop on GraphPad Prism on 13th July 2020.
- CancerBio Conference 2020, Punjab University, Lahore, Feb, 2020.
- Workshop titled *Assays in Cancer Biology*, Punjab University, Lahore, Dec 2019.
- Workshop titled *Working with Tumor Spheroids*, Punjab University, Lahore, Dec 2019.
- Workshop on *GraphPad Prism 8*, Punjab University, Lahore, 4<sup>th</sup> November 2019.
- Three-Day Breast Cancer Awareness Camp at Punjab University, Oct 2019.
- Workshop on Craft of Scientific Writing, Punjab University, Lahore, Sep, 2019.
- A Short Course on Cancer Biology-2019 Edition, Punjab University, Lahore, Feb, 2019.
- Workshop on Craft of Scientific Writing, Punjab University, Lahore, Feb, 2018.
- Workshop on Cell Culture Techniques and Applications, Punjab University, Lahore, Nov, 2018.
- Cell Culture Quiz, Punjab University, Lahore, 2018.
- Cancer Genetics Quiz, Punjab University, Lahore, 2018.
- Workshop on Methods in Cancer Biology, Punjab University, Lahore, Feb, 2017.
- Cell Culture Quiz, Punjab University, Lahore, 2016.
- Oncology Quiz, Punjab University, Lahore, 2016.
- Workshop on Craft of Scientific Writing, Punjab University, Lahore, Dec, 2016.
- Workshop on Western Blotting, Punjab University, Lahore, April, 2016.
- Workshop on 2D and 3D Eukaryotic Cell Culture System, Punjab University, Lahore, 9<sup>th</sup> -10<sup>th</sup> Feb, 2016.

- Workshop on *GraphPad Prism 6*, Punjab University, Lahore, 24<sup>th</sup> November 2015.
- Workshop on Western Blotting, Punjab University, Lahore, 5th May 2015.
- Workshop on Eukaryotic Cell Culture Techniques, Punjab University, Lahore, 28th April 2015.
- Workshop on Biosafety and Risk Assessment, Punjab University, Lahore, 19th April 2014.

## **Commissions of Trust**

### — **Professional Memberships**

- Academic Editor for PLOS ONE Editorial Board (2022).
- Reviewer for Dutch Cancer Society (KWF Kankerbestrijding), (2018 - Present).
- Reviewer for Biosafety Bio-resource Committee, Punjab University, Lahore, (2013 - Present).
- Reviewer for National Science Centre Poland (2020).
- Reviewer for Higher Education Commission, Pakistan (2020-Present).

### — **Reviewing Services for Academic Journals**

Ad Hoc Reviewer for:

- Cancers (2023)
- FEBS Open Bio (2018)
- Cellular Physiology and Biochemistry (2017).
- Journal of Clinical Lipidology (2017).
- British Journal of Cancer (2017).
- BBA- Clinical (2017).
- Journal of Lipid Research (2016, 2017).
- Medical Principles and Practice (2016)
- Future Oncology (2016).
- EB Bioscience (2016).
- Oncotarget (2016).
- International Journal of Cancer (2015).
- Journal of Surgical Oncology (2015).
- Lipids (2015).
- Food and Chemical Toxicology (2014).
- Biochemical Pharmacology (2014).
- BBA - Molecular Cell Research (2013)

## **Major Collaborations**

- **Dr. Wajeaha Javed** (Associate Director, Public Health and Research, Getz Pharma, Pakistan)
  1. Urban Water Quality Assessment in Karachi and Lahore.
  2. Mapping Waterborne Illnesses in High-Risk Zones.
  3. Roshan Clinic: Tackling Childhood Stunting.
- **Dr. Ameer Lutfi** (Assistant Professor of Anthropology, LUMS University, Pakistan)
  1. Action Research Collective: Building Community Partnerships.
  2. Chiragh Ghar: Empowering Communities in Lahore.
  3. Urban Water Quality Assessment in Karachi and Lahore.
- **Dr. Jan Lisec** (Senior Scientist, Federal Institute for Materials Research and Testing, Berlin, Germany)

1. Lead Contamination Detection in Urban Water.
  2. Lipid metabolism in cancer cells under metabolic stress
- **Dr. Dietrich A. Ruess** (Researcher, Universitätsklinikum Freiburg)
    1. Exploiting Metabolic Synthetic Lethality in Cancer Therapy

### **Leadership and Supervision in Research Projects**

- **Water Quality Mapping Supervision**  
Leading a team of researchers conducting water quality mapping in Lahore & Karachi.
- **COVID-19 Data Collection and Digitization**  
Supervised a team in the collection and digitization of COVID-19 pandemic data in Pakistan.
- **COVID-19 Infodemic Data Supervision**  
Oversaw researchers collecting and digitizing data on the COVID-19 infodemic in Pakistan, including initial analyses.
- **Roshan Clinic: Stunting-Focused Pediatric Facility**  
Supervised the setup and operation of Roshan Clinic, providing nutritional support, health monitoring, and community outreach in stunting-affected areas.

### **Selected Invited Talks**

- **Water (In)quality: Impact of Microbial Contamination on Human Health in Lahore**  
Getz, August 2024
- **Mapping Water Quality in Lahore**  
LUMS, April 2024
- **Water Contamination as a Risk Factor for Childhood Stunting**  
Path2Dev Conference Program, LUMS, December 2023
- **Mapping Water Quality, Climate Governance & Sustainable Development**  
Guest Talk Series, ITU, December 2023
- **Metabolic Crosstalk between Leukemia Cells and Tumor Microenvironment**  
Updates in Hematological Malignancies, LUMS, January 2020
- **Cancer Myths and Facts**  
CancerBio Conference, Punjab University, February 2020
- **History of Cancer**  
University of Management and Technology, March 2019

### **Grants & Fundings**

- **2024: Getz Pharma.** Establishing a Pediatrics and Nutrition Clinic under the Childhood Stunting Invention Program.
- **2024: Getz Pharma.** Mapping Water Quality in Lahore and Epidemiology of Waterborne Illness in Affected Areas.
- **2023: WWF-Pakistan.** Collecting data on water quality and WASH infrastructure in schools in low-income communities of Lahore.



- **2021: Punjab University.** Mapping COVID-19 Cases Across Lahore.
- **2020-21: Punjab University** - under Projects for Cancer Research Centre. Effect of environmental stress on metabolic gene expression profiles of cancer cells.
- **2020-21: SSRC.** COVID-19 Social Media Infodemic.
- **2020: Pakistan Science Foundation.** Grant to organize a conference on cancer biology.
- **2016-17: COMSTECH-TWAS Research Grants.** Mevalonate pathway: a potential target for leukemia therapeutics.
- **2014 - 19: Higher Education Commission.** National Research Program for Universities - Anticancer Therapy: Targeting De Novo Lipid Synthesis.
- **2013: Higher Education Commission.** Start-up Research Grant - Identification and Validation of Promising Drug Targets and Anti-targets for Cancer Therapy within the Mevalonate Pathway.
- **2013: Punjab University.** Seed Grant for developing eukaryotic cell culture facility at MMG, Punjab University.

### **Languages**

- Urdu (native proficiency)
- English (native proficiency)
- German (intermediate proficiency, B1)
- Sindhi (advanced proficiency)
- Punjabi (advanced proficiency)
- Hindi (basic proficiency in Devnagri script)