

ANUM GUL

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gul_anum@yahoo.com

Languages:

- English
- Urdu

Professional Skills

- Expertise in synthesizing metal and nonmetal nanoparticles using chemical and green synthesis approach.
- Designing animal model of human diseases
- Histopathology and microscopy of joint and spleen samples of rats
- Immunocytochemistry/Immunohistochemistry
- Standard and quantitative Real time PCR
- Flow cytometry
- Primary and secondary cell culture
- Sanger DNA sequencing
- ELISA

ACADEMIC QUALIFICATION:

- **Ph.D. in Molecular Medicine (2017)**
University of Karachi, ICCBS, PCMD, Karachi, Pakistan
- **M.Sc. (2010), 85% (First Position; Gold Medalist)**
Department of Biotechnology, University of Karachi, Karachi, Pakistan.
- **B.Sc. (2009), 83% (First Position)**
Department of Biotechnology, University of Karachi, Karachi, Pakistan.

PROFESSIONAL EXPERIENCE:

- **Assistant Professor (TTS), Oct 2019-Present**
Dow College of Biotechnology, Dow University of Health Sciences, Karachi, Pakistan.
- **Assistant Professor on Interim Placement for Fresh PhDs Program of Higher Education Commission Pakistan (IPFP), June 2018-June 2019**
Dow College of Biotechnology, Dow University of Health Sciences, Karachi, Pakistan.
- **Senior Research Fellow, 2014-2017**
Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, Pakistan., University of Karachi, Karachi, Pakistan.
- **Junior Research Fellow, 2011-2013**
Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, Pakistan.

AWARDS & ACHIEVEMENTS

- Awarded an EMBL Advanced Training Centre Corporate Partnership Programme Fellowship for attending and presenting poster in European Molecular Biology Organization EMBO Workshop: Chemical Biology 2020 03 - 05 September 2020.
- HEC approved Ph.D. Supervisor.

RESEARCH INTERESTS

- Investigating the role of repurposed drugs as well as drugs nano-formulations in the pathogenesis of different diseases.
- Synthesis and Characterization of chemical and green synthesis of silver, selenium, zinc, titanium nanoparticles as well as nanocomposite and carbon quantum dots synthesis.
- Evaluation of these metal nano formulation for biological and industrial application.
- Investigating the role of natural and synthetic compounds in the pathogenesis of rheumatoid arthritis and other immunological disorders using *in vitro* and *in vivo* models.

PUBLICATIONS:

- **Gul, A.,** Ahmed, D., Fazil, M. M., Aslam, T., Rashid, M. A., Khan, H., Ali, A., & Ali, S. (2023). Biofabrication of silver nanoparticles using *Spirulina platensis*: *In vitro* anti-coagulant, thrombolytic and catalytic dye degradation activity. *Microscopy Research and Technique*. 26, 823–833.
- **Gul, A.,** Khan, S., Arain, H., Khan, H., Ishrat, U., & Siddiqui, M. (2022). Three phase partitioning as an efficient one step method for the extraction and purification of bromelain from pineapple crown waste. *Journal of Food Processing and Preservation*, Aug 12
- **Gul, A.,** Khan, S., Siddiqui, M., Khan, H., Arain, H., & Ishrat, U. (2021). Extraction, Partial Purification and Characterization of Bromelain from Pineapple (*Ananas Comosus*) Crown, Core and Peel Waste. *Brazilian archives of Biology and Technology*, 64, 1-10
- **Gul, A.,** Kunwar, B., Mazhar, M., Faizi, S, Dania, A., Shah, MR., & Simjee, S. U. (2018). Rutin and rutin-conjugated gold nanoparticles ameliorate collagen-induced arthritis in rats through inhibition of NF- κ B and iNOS activation. *International Immunopharmacology*, 59, 310-317
- Mazhar, M., Faizi, S., **Gul, A.,** Kabir, N., & Simjee, S. U. (2017). Effects of naturally occurring flavonoids on ferroportin expression in the spleen in iron deficiency anemia *in vivo*. *RSC Advances*, 7(38), 23238-23245
- **Gul, A.,** Kunwar, B., Mazhar, M., Perveen, K., & Simjee, S. U. (2017). N-(2-Hydroxyphenyl) acetamide: a Novel Suppressor of RANK/RANKL Pathway in Collagen-Induced Arthritis Model in Rats. *Inflammation*, 40(4), 1177-1190
- **Gul, A.,** Kunwar, B., Mazhar, M., Faizi, S, Dania, A., Shah, MR., & Simjee, S. U. Protective Effect of Rutin and its Gold Nanoparticles on Oxidative Stress Markers and Pro-Inflammatory Cytokine Production in Collagen Induced Arthritis (CIA) Model *Journal of Pharmacological and Toxicological Methods*, Volume 88, Part 2, November–December 2017, 205-206

NATIONAL & INTERNATIONAL CONFERENCE/POSTER PRESENTATION

- **Anum Gul**, Madiha Muhammad Fazil, Tooba Aslam, Hanzala Khan, Warisha Saeed, Anusha Siddiqui, Tabassum Hussain. **‘Biofabrication of Silver Nanoparticles and it’s Potential Applications: A Greener Approach for a Cleaner Future’** In: 7th DUHS-DICE Health Innovation Exhibition, 4th November 2022.
- Anosha Siddiqui, Warisha Saeed, Hanzala Khan, Madiha Muhammad fazil, Fatima Anjum, Tabassum Hussain, **Anum gul**. **‘Green synthesis and characterization of silver Nanoparticles using *Salsola imbricata* and its potential antimicrobial activity against *Streptococcus mutans* And *Lactobacillus acidophilus*’** In: 3rd International Conference on Applied Biosciences organized by the Biosciences department, Mohammad Ali Jinnah University on 28-29th December, 2022.
- Zainab Najam, **Anum Gul**, Mushtaq Hussain. **‘Potential of using danio rerio as animal model for sars-cov-2 pathogenesis’** In: 3rd International Conference on Applied Biosciences organized by the Biosciences department, Mohammad Ali Jinnah University on 28-29th December, 2022.
- **‘Green synthesis and characterization of silver nanoparticles and evaluation of its antioxidant and antimicrobial properties’** at BIOCON-1 2022 1st International conference of biotechnology, organized by department of biotechnology, University of Karachi on 16-17th March 2022.
- **Anum Gul**, Bimal Kunwar, Shabana Usman Simjee, Farzana Shaheen Rutin: A Novel suppressor of RANK/RANKL pathway in Collagen induced arthritis model in rats in European Molecular Biology Organization EMBO Workshop: Chemical Biology 2020, 03–05th September 2020, Heidelberg, Germany.
- ZSABIST Annual Biosciences Conference, 2018, Organized by ZSABIST, Karachi, Pakistan.
- 14th Eurasia Conference on Chemical Sciences, 2016, Organized by H.E.J. Research Institute of Chemistry, ICCBS, University of Karachi, Pakistan
- 14th Asian Symposium on Medicinal Plants, Spices and Other Natural Products, 2013, Organized by H.E.J. Research Institute of Chemistry, ICCBS, University of Karachi, Pakistan,
- 4th International Symposium-cum-Training course on Molecular Medicine and Drug Research, 2013, Organized by PCMD, University of Karachi, Pakistan
- 13th International Symposium on Natural Product Chemistry, 2012 Organized by H.E.J. Research Institute of Chemistry, ICCBS, University of Karachi, Pakistan

RESEARCH GRANTS

- Targeting Overexpression of Renal Transcription Factors for the Differentiation of Human Umbilical Cord Derived Mesenchymal Stem Cells into Renal Epithelial-like Cells. **DUHS/VC/2023/11-04/12 (1 million PKR)**
- Attenuation of NLRP3 Inflammasome Pathway in Human Synovial Cells using Ticagrelor Nano-formulation **DUHS/VC/2023/11-04/31 (0.25 million PKR)**

- Osteoinductive potential of selenium nanoparticles *via* regulation of oxidative stress in human umbilical cord derived-mesenchymal stem cells: A promising therapeutic approach in bone disorders awarded by Dow University of Health Sciences under Vice Chancellor seed Fund initiative **DUHS/VC/2021/11-61 (1 million PKR).**
- Development of Raloxifene-loaded self-nanoemulsifying drug delivery system (SNEDDS) with enhanced bioavailability potential: A therapeutic implication in osteoporosis awarded by HEC under National Research Program for Universities. **Grant No: 20-502/NRPU/R&D/HEC/2021(6.129 million PKR).**
- ‘Evaluation of anti-Rheumatic potential of ticagrelor in rheumatoid arthritis fibroblast-like synoviocytes *via* modulation of NLRP3 inflammasome’ awarded by Sindh HEC under Sindh HEC research support program, **Grant No: SHEC/SRSP/Med-5/17/2020-21 (2.6 million PKR).**
- ‘Extraction, purification and characterization of bromelain from pineapple waste’ awarded by HEC under HEC Start-up research grant program, **Grant No: 21-2278/SRGP/R&D/HEC/2018 (0.5 million PKR).**

PROFESSIONAL MEMBERSHIPS

- American Society for microbiology
- Healthcare & Biological Sciences Research Association (HBSRA)

REFERENCES

Dr. Shaukat Ali

Assistant Professor and Principal

Dow College of Biotechnology, Dow University of Health Sciences, Karachi, Pakistan

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Prof. Dr. Mushtaq Hussain

Professor and Principal

Dow College of Biotechnology, Dow University of Health Sciences, Karachi, Pakistan

Email: mushtaq.hussain@duhs.edu.com

Dr. Shabana Usman Simjee (Ph.D. Supervisor)

Professor

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