Dr. Raees Khan

Associate Professor

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Profile

Dr. Raees Khan is an Associate Professor of Biological Sciences at the National University of Medical Sciences (NUMS), Pakistan. He holds a Ph.D. in Applied Biology and Metagenomics from Dong-A University, South Korea, where he also completed postdoctoral research focusing on Host-Microbiome Interactions and Metagenomics. Dr. Raees actively supervises PhD, MS, and BS students and teaches advanced courses related to Microbiome and Antimicrobial Resistance. His current work supports translational research, specifically developing synthetic microbiome-based transplants and bacteriophage therapies to address gut dysbiosis and multi-drug-resistant pathogens.

Research Interest

Human Gut Microbiome, Synthetic Microbiome Transplants, Functional Metagenomics

Selected Publications

- ✓ Mahnoor, ., Ullah, R., Sonyia, Khan, R., Bahadar, A., Elbatel, I., ... & Khan, R. (2026). A modified targeted culturing approach provided a snapshot into interdependencies and resistome among core anaerobic bacteria of the healthy human gut. Microbiology Spectrum, 14(2), e03182-25.
- ✓ Khan, R., Roy, N., Ali, H., & Naeem, M. (2022). Fecal microbiota transplants for inflammatory bowel disease treatment: synthetic-and engineered communities-based microbiota transplants are the future. Gastroenterology Research and Practice, 2022(1), 9999925.
- ✓ Lee, S.M., Magar, R.T., ... Khan, R., et al. (2024). Rhizobacterial syntrophy between a helper and a beneficiary promotes tomato plant health. The ISME Journal, 18(1), wrae120.
- ✓ Khan, R., Shah, M. D., Shah, L., Lee, P. C., & Khan, I. (2022). Bacterial polysaccharides—A big source for prebiotics and therapeutics. Frontiers in Nutrition, 9, 1031935.
- ✓ Khan, R., Kong, H. G., Jung, Y. H., Choi, J., Baek, K. Y., Hwang, E. C., & Lee, S. W. (2016). Triclosan resistome from metagenome reveals diverse enoyl acyl carrier protein reductases and selective enrichment of triclosan resistance genes. Scientific reports, 6(1), 32322.

Awards/Achievements/Grants

- ✓ HEC Local Challenge Fund research Project: Development of multipurpose Synthetic Microbiome Based Transplants (SMT) to recover Gut Microbiome Dysbiosis. Amount: 23.3 Million PKR (Principal Investigator).
- ✓ HEC NRPU research Project: Functional metagenomics based-engineering of the human gut microbiome Amount: 10. Million PKR. (Principal Investigator).
- ✓ PSF (NSLP) research Project: Development Of A Bacteriophage Biobank Against Major Pathogenic Bacteria. Amount: 4.2 Million PKR. (Principal Investigator).
- ✓ Received PhD & Postdoc Fellowships: Dong-A University and Research foundation for industry academy co-operation, South Korea.
- ✓ Registered two international Patents on Utilizing a metagenomic novel triclosan resistant genes as economical and efficient selectable markers (Reg. No. 10-1858044 and Reg. No. 10-1858046).