CONTACT

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RESEARCH INTERESTS

- AI in digital pathology and computational histopathology
- Cytology image analysis (Pap smear, thyroid, urine cytology)
- Whole slide image (WSI) analysis using deep learning
- Multiple instance learning (MIL) and weakly supervised learning
- Cancer biomarker discovery and molecular prediction (e.g., MSI, gene mutations)
- Integration of histopathology with genomic and transcriptomic data
- AI-driven precision oncology and diagnostic decision support systems

TECHNOLOGY DEVELOPED

- Developed AI-driven diagnostic platforms for cancer detection and subtype classification using WSIs and cytology images.
- Developed AI-driven diagnostic platform for thyroid cytology using whole slide images and FNAC smears for automated lesion classification and risk stratification.
- Designed image-based molecular prediction models for MSI and gene mutations, enabling non-invasive biomarker assessment.
- Built end-to-end cytology AI pipelines for Pap smear and urine cytology analysis.

DR. MD. RIZWAN ALAM
Assistant Professor (Biosciences)

SUMMARY

Dr. Mohammad Rizwan Alam is an Assistant Professor (Biosciences) with extensive experience in cancer biology, digital pathology, and AI-driven diagnostics. He has worked at leading institutions including The Catholic University of Korea, Keimyung University, South Korea, and Jamia Millia Islamia, New Delhi. His research integrates computational approaches with clinical pathology to develop predictive and diagnostic models for cancer. He has a strong publication record and expertise in translational research.

PREVIOUS EXPERIENCE

Assistant Professor: Department of Hospital Pathology, College of Medicine, The Catholic University of Korea, Seoul, South Korea

Postdoctoral Fellow: Department of Medical Genetics, Keimyung University, Deagu, South Korea

Assistant Professor: DDU Kaushal Kendra, Jamia Millia Islamia, New Delhi

EDUCATION

Ph.D. Biosciences: Jamia Millia Islamia / All India Institute of Medical Sciences, New Delhi

M.Sc. Biosciences: Jamia Millia Islamia, New Delhi

SELECTED PUBLICATIONS

1. **Alam, M. R.,** Seo, K. J., Yim, K., Liang, P., Yeh, J., Chang, C., & Chong, Y. (2025). Comparative analysis of Ki-67 labeling index morphometry using deep learning, conventional image analysis, and manual counting. Translational Oncology, 51, 102159. **(IF: 4.5).**

2. Lee, Y., **Alam, M. R.,** Park, H., Yim, K., Seo, K. J., Hwang, G., & Choi, H. J. (2024). Improved diagnostic accuracy of thyroid fine-needle aspiration cytology with AI technology. Thyroid. **(IF: 5.8).**

3. Alam, M. R., Seo, K. J., Abdul-Ghafar, J., Yim, K., Lee, S. H., Jang, H. J., … & Chong, Y. (2023). Recent application of AI on histopathologic image-based prediction of gene mutation in solid cancers. Briefings in Bioinformatics, 24(3), bbad151. **(IF: 9.5)**.

4. Alam, M. R., Kim, Y. H., Alhazmi, A., Haque, S., Kang, Y. N., Jung, H. R., Sohn, M. Y., & Kim, D. K. (2021). Analysis of microsatellite instability in Korean patients with pancreatic cancer. Minerva Medica. https://doi.org/10.23736/S0026-4806.21.07669-2 **(IF: 5.58).**

5. Alam, M. R., Alsulimani, A., Haque, S., Jung, H. R., Lee, J. H., Jeon, C. H., & Kim, D. K. (2021). Different association of mitochondrial microsatellite instability in keratoacanthoma and cutaneous squamous cell carcinoma. Cancer Genetics, 256–257, 115–121. https://doi.org/10.1016/j.cancergen.2021.05.005 **(IF: 2.16).**