

Curriculum Vitae

Mushfiq H. Shaikh, BDS, MSc, PhD

Assistant Professor
Department of Medical Education
University of Texas Rio Grande Valley
School of Medicine

Education & Training

Postdoctoral Fellowship in Cancer biomarkers & immunotherapy, Western University, Canada.

PhD. in Cancer biology and therapeutics, Griffith University, Brisbane, Australia.

MSc. in Experimental Pathology, Queen Mary University of London, London, UK.

BDS (Bachelor of Dental Surgery), University of Dhaka, Dhaka, Bangladesh.

Work Experience

- 2023 – 2024 Research Fellow, Department of Otolaryngology – Head & Neck Surgery, LRCP, Western University, Ontario, Canada. Worked on cancer biomarker and immune oncology.
- 2023 – 2024 Lecturer (part time), Department of Oral Pathology and Medicine, Schulich School of Medicine and Dentistry, Western University, Ontario, Canada.
- 2024 – 2024 Assistant Teaching coordinator in Cancer biology, Dept. of Microbiology & Immunology, Schulich School of Medicine and Dentistry, Western University, Ontario, Canada.
- 2019 – 2023 Post-Doctoral Research Associate (MITACS scholar), Department of Otolaryngology – Head & Neck Surgery, LRCP, Western University, Ontario, Canada.
Worked on chemo and radio-resistant head and neck cancer models.
- 2017 – 2018 Postdoctoral Research Assistant, School of Medical Science, Menzies Health Institute, (Advanced Cancer Therapeutic Lab), Griffith University, Queensland, Australia.
- 2014 – 2018 Teaching Associate and Lab Instructor in Applied Oral Biology (Head and Neck anatomy, physiology, histology, oral pathology), School of Dentistry & Oral Health, Menzies Health Institute, Griffith University, Queensland, Australia.
- 2015 – 2015 Teaching Assistant and lab demonstrator in, School of Medical Science, Menzies Health Institute, Griffith University, Queensland, Australia.
- 2013 – 2017 Graduate Researcher/Doctoral Scholar in Molecular cancer biology and therapeutics, Menzies Health Institute, Griffith University, Queensland, Australia.
- 2012 – 2013 Assistant Professor (clinical) and head, Department of Oral Pathology & Periodontology, Update Dental College & Hospital, University of Dhaka, Bangladesh.

Professional Memberships

- American Association of Cancer Research (AACR)
- American Head and Neck Society (AHNS)
- Post-Doctoral association at Western (PAW), Canada.
- Australasian Virology Society (AVS)
- International Association of Oral Pathologists (IAOP)

Honors & Awards

- 'MITACS' Accelerate Post-Doctoral Fellowship award (Industrial).
- IPRS award (Merit based Australian Govt. research scholarship) for PhD research study.
- Awarded with a Distinction in M.Sc. for excellent research work and thesis.

Research Focus

Dr. Shaikh's research focuses on advancing detection and treatment strategies for head and neck cancer across diverse populations, emphasizing molecular targets and biomarkers to improve patient outcomes. His current research interests evolve around understanding the genomic and molecular mechanisms behind treatment-resistant cancers, with an emphasis on precision therapies for refractory cases, including immune-checkpoint inhibitor studies in animal models, to establish targeted treatments for high-risk patients. Dr. Shaikh's earlier research examined HPV's role in head and neck cancers in South Asian populations, identifying critical therapeutic targets such as the *HPV E7* - oncogene and Aurora kinases. He also explored treatment resistance mechanisms in HPV-positive cancers, identifying gene mutations, notably, *LRP1B* and *NOTCH1* in recurrent cases. His research findings have been published in peer-reviewed scientific journals, such as, *Molecular Cancer Therapeutics*, *Cell Reports*, *Oral Oncology*, *BMC Cancer*, and *Molecular Microbiology*. Dr. Shaikh has established collaborative research relationships with institute in the U.S., Canada, Australia, UK and South Asia. He has also served as a reviewer on the research grant review panel for the Canadian Cancer Society.

Publications

Dr. Shaikh has made significant contributions to the field of cancer biology and molecular therapeutic research as evidenced by more than 30 peer-reviewed publications and book chapters. Selected representative publications are listed below.

1. Rahman MA, Zaman SMRU, Chakraborti S, Bhajan SK, Gupta RD, Jalouli M, Parvez MAK, **Shaikh MH**, Apu EH, Harrath AH, Moon S, Kim B. Advancements in utilizing natural compounds for modulating autophagy in liver cancer: molecular mechanisms and therapeutic targets. *Cells*, **2024** Jul; 13(14):1186. doi: 10.3390/cells131401186.
2. Zeng PYF, Prokopec SD, Lai SY, Pinto N, Chan-Seng-Yue M, Clifton-Bligh R, Williams M, Howlett C, Cecchini M,.....,Khan MI, **Shaikh MH**, Ruicci K,, Boutrous PC, Nichols AC. The genomic and evolutionary landscapes of Anaplastic Thyroid Cancer. *Cell Reports* **2024** Feb; **43(3)**:113826. doi:

10.1016/j.celrep.2024.113826.

3. Kim HAJ, Zeng PYF, Cecchini M, **Shaikh MH**, Laxague F, Deng X, Jarychi L, Ryan SEB, Dawson A, Liu MH, Palma DA, Patel K, Mundi N, Barrett JW, Mymryk JS, Boutros PC, Nichols AC. HPV-negative head and neck cancers with adverse pathological features carry specific molecular changes that are associated with survival. *Head and Neck* **2023** Dec; **46(2)**:353-1355. <https://doi.org/10.1002/hed.27591>.
4. **Shaikh MH**, Dawson A, Prokopec SD, Barrett JW, Zeng PYF, Khan MI, Ryan SEB, Cecchini M, Palma DA, Mymryk JS, Boutros PC, Nichols AC. Loss of LRP1B expression drives acquired chemo and radio-resistance in HPV-positive head and neck cancer. *Oral Oncology*. **2023** September; **145**:106580. doi:10.1016/j.oraloncology.2023.106580. eng.
5. Rahman R, **Shaikh MH**, Gopinath D, Idris A, Johnson NW. Human papillomavirus and Epstein-Barr virus co-infection in oral and oropharyngeal squamous cell carcinomas: A systematic review and meta-analysis. *Molecular Oral Microbiology*. **2023** April; **38**:12412. doi:10.1111/omi.12412. eng.
6. Zeng PYF, Cecchini MJ, Barrett JW, Shammas-Toma M, Cecco DL, Serafini MS, Cavalieri S, Licitra L, Hoebers F, Brakenhoff RH, Leemans R, Scheckenbach K, Poli T, Wang Xi, Liu Xi, Laxague F, Prisman E, Poh C, Bose P, Dort JC, **Shaikh MH**, Ryan SEB, Dawson A, Khan MI, Howlett CJ, Stecho W, Plantinga P, da Silva SD, Hier M, Khan H, MacNeil D, Mendez A, Yoo J, Fung K, Khan MI, Lang P, Winquist E, Palma DA, Ziai H, Amelio AL, Li SSC, Boutros PC, Mymryk JS, Nichols AC. Immune-based classification of HPV-associated oropharyngeal cancer with implications for biomarker-driven treatment de-intensification. *eBioMedicine*. **2022** Nov; **86**:104373. doi.org/10.1016/j.ebiom.2022.104373. eng.
7. Pinto N, Ruicci KM, Khan MI, **Shaikh MH**, Zeng PYF, Yoo J, Fung K, MacNeil D, Mendez A, Mymryk JS, Barrett JW, Boutros PC, Nichols AC. Introduction and expression of PIK3CA^{E545K} in a papillary thyroid cancer BRAF^{V600E} cell line leads to a dedifferentiated aggressive phenotype. *J Otolaryngol Head and Neck Surg*. **2022** Feb; **51(1)**:7. doi.org/10.1186/s40463-022-00558-w. eng
8. Mundi N, Ghasemi F, Zeng PYF, Prokopec SD, Patel K, Kim HAJ, Di Gravio E, MacNeil D, Khan MI, Han MW, **Shaikh MH**, Mendez A, Yoo J, Fung K, Gameiro SF, Palma DA, Mymryk JS, Barrett JW, Boutros PC, Nichols AC. Sex disparities in head & neck cancer driver genes: An analysis of the TCGA dataset. *Oral Oncology*. **2020** May; **104**: 104614. doi.org/10.1016/j.oraloncology.2020.104614 . eng.
9. **Shaikh MH**, Bortnik V, McMillan NAJ, Idris A. cGAS-STING responses are dampened in the high-risk HPV type 16 positive head and neck squamous cell carcinoma cells. *Microbial Pathogenesis*. **2019** July; **162**: 162-165. doi.org/10.1016/j.micpath.2019.05.004. eng.
10. **Shaikh MH**, Adi Idris, Newell W Johnson, Daniel TW Clarke, Prabha Ajikuttira, Nigel AJ McMillan. Aurora kinase A - A novel therapeutic target for human papillomavirus associated head and neck cancer expressing E7 oncogene. *Oral Oncology*. **2018** Nov; **86**:105-112. doi.org/10.1016/j.oraloncology.2018.09.006. eng.
11. **Shaikh MH**, Khan AI, Sadat A, Chowdhury AH, Jinnah SA, Gopalan V, Lam A, Clarke DTW, McMillan NAJ, Johnson NW, Prevalence and types of high-risk HPVs in head and neck cancers from Bangladesh. *BMC Cancer*. **2017** November; **25**:17(1):792. doi: 10.1186/s12885-017-3789-0. eng.
12. **Shaikh MH**, Clarke D, McMillan NA, Johnson NW. Can gene editing and silencing technologies play

a role in the treatment of head and neck cancer? *Oral Oncology*. 2017 May; **68**: 9-19. doi.org/10.1016/j.oraloncology.2017.02.016. eng.

13. **Shaikh MH**, McMillan NA, Johnson NW. HPV-associated head and neck cancers in the Asia Pacific: A critical literature review & meta-analysis. *Cancer epidemiology*. 2015 Dec; **39**(6):923- 38. PubMed PMID: 26523982. Epub 2015/11/03. eng.
14. Gabrielli B, Bokhari F, Ranall MV, Oo ZY, Stevenson AJ, Wang W, Murrell M, **Shaikh MH**, Fallaha S, Clarke D, Kelly M, Sedelies K, Christensen M, McKee S, Leggatt G, Leo P, Skalamera D, Soyer HP, Gonda TJ, McMillan NA. M. Aurora A is Critical for Survival in HPV-Transformed Cervical Cancer. *Molecular cancer therapeutics*. 2015 Dec; **14**(12):2753-61. PubMed PMID: 26516156. Epub 2015/10/31. eng.
15. Nikolakopoulou Z, **Shaikh MH**, Dehlawi H, Michael-Titus AT, Parkinson EK. The induction of apoptosis in pre-malignant keratinocytes by omega-3 polyunsaturated fatty acids docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) is inhibited by albumin. *Toxicology letters*. 2013 Apr 12; **218**(2):150-8. PubMed PMID: 23391486. Epub 2013/02/09. eng.
16. Newell W Johnson, **Mushfiq H Shaikh**, Nigel McMillan, Pankaj Chaturvedi, Saman Warnakulasuriya. Chapter 23 "Prevention of oral and oropharyngeal cancer" of "***Oral and Oropharyngeal Cancer***" (JP Shah and NW Johnson) CRC Press, Taylor and Francis group, 2nd edition, October, 2018.
17. Newell W Johnson, Bhawna Gupta, Cecily Ray, Nezar al-Hebshi, **Mushfiq H Shaikh**, David J Speicher, Prakash C Gupta. Chapter 2 "Aetiology and risk factors of oral and oropharyngeal cancer" of "***Oral and Oropharyngeal Cancer***" (JP Shah and NW Johnson) CRC Press, Taylor and Francis group, 2nd edition, October, 2018.