

Danish Khan

Postdoctoral Scholar, Biochemistry

Bio

BIO

Danish is an accomplished researcher who has been working as a postdoctoral research associate at Prof. Onn Brandman's Lab at the Department of Biochemistry for approximately 3.5 years. His primary area of research revolves around unraveling the intricate mechanisms of eukaryotic protein quality control and stress response pathways. Danish's scientific journey at Stanford began as a post-doc under the supervision of Prof. Georgios Skiniotis where he worked briefly before joining Prof. Onn Brandman's group, motivated by his strong interest in investigating ribosome-associated quality control (RQC) pathways and the fascinating phenomenon of "CAT tails," which involves the addition of amino acids to a protein without an mRNA template.

Motivated by a desire to comprehend how defects in RQC pathways contribute to the development of neurodegenerative diseases in humans, Danish aspires to develop therapeutic interventions for these conditions. Within the Brandman lab, Danish has achieved many accomplishments: he has a first author preview published in Journal of Cell Biology, a second author paper in the eLife journal and a middle author publication in Nature Communications. Currently, Danish is working on two manuscripts that disclose novel and groundbreaking findings concerning the determinants and consequences of CAT tailing in eukaryotes. At Stanford, Danish was awarded the Dean's Fellowship (Bernard Cohen Post Doctoral Fellowship Fund) and Mikitani Cancer Research Fellowship.

Prior to his time at Stanford, Danish earned his PhD from Texas A&M University at College Station, TX. During his doctoral studies, he delved into the chemical inhibition of a lipid signaling protein, leading to the discovery of a remarkable heme-binding lipid transfer protein. Danish's exceptional work during his graduate school tenure resulted in the publication of three first-author papers in renowned journals such as eLife, Cell Chemical Biology, and the Journal of Lipid Research. Additionally, he made valuable contributions as a middle author to five additional papers. Danish's incredible productivity at Texas A&M was recognized by the 'John Mack Prescott Award For Outstanding Research'.

Danish's academic journey commenced with a Bachelor's degree in Biochemistry from Presidency College, Kolkata (University of Calcutta), India where he ranked second in college and fourth in university. He then obtained his Master's degree in Biotechnology from Banaras Hindu University in India on Government of India's DBT Fellowship having obtained an All India Rank of 94. Outside of his scientific pursuits, Danish harbors an interest in law and the intersection between law and technology, often immersing himself in related literature.

HONORS AND AWARDS

- Mikitani Cancer Research Fund, Stanford Cancer Institute (Sept 2022 - Aug 2023)
- Dean's Fellowship, Stanford University (June 2019 - May 2020)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Society for Biochemistry and Molecular Biology (2015 - present)

STANFORD ADVISORS

- Onn Brandman, Postdoctoral Faculty Sponsor

- Onn Brandman, Postdoctoral Research Mentor

Research & Scholarship

LAB AFFILIATIONS

- Georgios Skiniotis (11/7/2018 - - 10/10/2019)

Publications

PUBLICATIONS

- **ReporterSeq reveals genome-wide dynamic modulators of the heat shock response across diverse stressors.** *eLife*
Alford, B. D., Tassoni-Tsuchida, E., Khan, D., Work, J. J., Valiant, G., Brandman, O.
2021; 10
- **A Sec14-like phosphatidylinositol transfer protein paralog defines a novel class of heme-binding proteins** *ELIFE*
Khan, D., Lee, D., Gulten, G., Aggarwal, A., Wofford, J., Krieger, I., Tripathi, A., Patrick, J. W., Eckert, D. M., Laganowsky, A., Sacchettini, J., Lindahl, P., Bankaitis, et al
2020; 9
- **Biophysical Parameters of the Sec14 Phospholipid Exchange Cycle** *BIOPHYSICAL JOURNAL*
Sugiura, T., Takahashi, C., Chuma, Y., Fukuda, M., Yamada, M., Yoshida, U., Nakao, H., Ikeda, K., Khan, D., Nile, A. H., Bankaitis, V. A., Nakano, M.
2019; 116 (1): 92–103
- **Target Identification and Mechanism of Action of Picolinamide and Benzamide Chemotypes with Antifungal Properties** *CELL CHEMICAL BIOLOGY*
Pries, V., Noecker, C., Khan, D., Johnen, P., Hong, Z., Tripathi, A., Keller, A., Fitz, M., Perruccio, F., Filipuzzi, I., Thavam, S., Aust, T., Riedl, et al
2018; 25 (3): 279–+
- **Structural elements that govern Sec14-like PTP sensitivities to potent small molecule inhibitors** *JOURNAL OF LIPID RESEARCH*
Khan, D., McGrath, K. R., Dorosheva, O., Bankaitis, V. A., Tripathi, A.
2016; 57 (4): 650–62
- **Phosphatidylinositol transfer proteins and instructive regulation of lipid kinase biology** *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR AND CELL BIOLOGY OF LIPIDS*
Grabon, A., Khan, D., Bankaitis, V. A.
2015; 1851 (6): 724–35
- **Stalled translation by mitochondrial stress upregulates a CNOT4-ZNF598 ribosomal quality control pathway important for tissue homeostasis.** *Nature communications*
Geng, J., Li, S., Li, Y., Wu, Z., Bhurtel, S., Rimal, S., Khan, D., Ohja, R., Brandman, O., Lu, B.
2024; 15 (1): 1637
- **Mechanisms by which small molecules of diverse chemotypes arrest Sec14 lipid transfer activity.** *The Journal of biological chemistry*
Chen, X., Poudel, L., Hong, Z., Johnen, P., Katti, S., Tripathi, A., Nile, A. H., Green, S. M., Khan, D., Schaaf, G., Bono, F., Bankaitis, V. A., Igumenova, et al
2023; 299 (2): 102861
- **Sis1 delivers the State of the Union.** *The Journal of cell biology*
Khan, D. n., Brandman, O. n.
2021; 220 (1)