


Stanford




Tuhin Guha

Postdoctoral Research Fellow, Genetics

 NIH Biosketch available Online

 Curriculum Vitae available Online

 Resume available Online

CONTACT INFORMATION

- **Alternate Contact**

Email tuhinguha@gmail.com

Bio

BIO

A research individual with more than ten years of extensive research experience in molecular biology techniques ranging from DNA/RNA manipulations, recombinant protein expression, purification, and biochemical characterization of DNA-cutting enzymes, needed for genetic engineering. I am a postdoctoral research fellow in the Department of Genetics, Stanford University. I work with Dr. Mike Snyder. My research involves multiplexed-molecular imaging for the precancerous and cancerous colon polyps (Familial adenomatous polyposis) using a cutting-edge technology, Codex. My previous work involved novel gene therapy approaches to cure muscle disorders, particularly Limb-girdle muscular dystrophy 2A using mouse models, and gene repair studies using modified CRISPR system through plasmid/protein-oligo based transfections, electroporation in human cells, microinjection in frog embryos and analyzing editing efficiencies using flow cytometry. I have a multi-disciplinary background, therefore I have a solid understanding and working knowledge in a broader domain within the biological sciences, be it from animal behavior, ecology, gene regulation, genetic diseases to understanding and designing “molecular switches” within DNA-cutting proteins, such as meganucleases, and CRISPR/Cas9 for genome engineering. I have strong communication skills, presented my research in various conferences and published heavily in the field of DNA-cutting enzymes and their use as genome editing tools. I have a proven ability to manage challenging research objectives, collaborated with other research teams, and delivered results effectively. I always welcome new ideas and interact with people to learn any new skills and experiences. I have also supervised several undergraduate project students, summer students and junior graduate students. My mentorship to the lab colleagues have been very productive. While I am not working, I enjoy photography.

HONORS AND AWARDS

- International Graduate Student Scholarship (IGSS), CAD 8000, University of Manitoba (2012 - 2013)
- Faculty of Science Graduate Scholarship (FSGS), CAD 10000 / year, University of Manitoba (2011 - 2013)
- International Graduate Student Entrance Scholarship (IGSES), CAD 8000, University of Manitoba (2009 -2010)

PROFESSIONAL EDUCATION

- Master of Science, University of Manitoba (2011)
- Master of Science, University Of Calcutta (2006)
- Bachelor of Science, University Of Calcutta (2004)
- Doctor of Philosophy, University of Manitoba (2016)

STANFORD ADVISORS

- Michael Snyder, Postdoctoral Faculty Sponsor

LINKS

- www.linkedin.com/in/tuhin-k-guha-ph-d-416996b0: www.linkedin.com/in/tuhin-k-guha-ph-d-416996b0

Research & Scholarship

LAB AFFILIATIONS

- Michael Snyder (8/7/2019)
- Michael Snyder (8/1/2019)

Publications

PUBLICATIONS

- **The Human Tumor Atlas Network: Charting Tumor Transitions across Space and Time at Single-Cell Resolution.** *Cell*
Rozenblatt-Rosen, O., Regev, A., Oberdoerffer, P., Nawy, T., Hupalowska, A., Rood, J. E., Ashenberg, O., Cerami, E., Coffey, R. J., Demir, E., Ding, L., Esplin, E. D., Ford, et al
2020; 181 (2): 236–49
- **Nucleofection of phiC31 Integrase Protein Mediates Sequence-Specific Genomic Integration in Human Cells.** *Journal of molecular biology*
Guha, T. K., Calos, M. P.
2020
- **Plasmid-Mediated Gene Therapy in Mouse Models of Limb Girdle Muscular Dystrophy** *MOLECULAR THERAPY-METHODS & CLINICAL DEVELOPMENT*
Guha, J. K., Pichavant, C., Calos, M. P.
2019; 15: 294–304
- **Production of Endoglucanase and Xylanase Using Food Waste by Solid-State Fermentation** *Waste and Biomass Valorization*
Tian, M., Wai, A., Guha, T. K., Hausner, G., Yuan, Q.
2018: 1-8
- **Three new active members of the I-OnuI family of homing endonucleases.** *Canadian journal of microbiology*
Bilto, I. M., Guha, T. K., Wai, A., Hausner, G.
2017
- **The intron landscape of the mtDNA cytb gene among the Ascomycota: introns and intron-encoded open reading frames.** *Mitochondrial DNA. Part A, DNA mapping, sequencing, and analysis*
Guha, T. K., Wai, A., Mullineux, S. T., Hausner, G.
2017: 1–10
- **Applications of Alternative Nucleases in the Age of CRISPR/Cas9.** *International journal of molecular sciences*
Guha, T. K., Edgell, D. R.
2017; 18 (12)
- **Programmable Genome Editing Tools and their Regulation for Efficient Genome Engineering.** *Computational and structural biotechnology journal*
Guha, T. K., Wai, A., Hausner, G.
2017; 15: 146-160
- **Insertion of Group II Intron-Based Ribozyme Switches into Homing Endonuclease Genes.** *Methods in molecular biology (Clifton, N.J.)*
Guha, T. K., Hausner, G.
2017; 1498: 135-152
- **Using Group II Introns for Attenuating the In Vitro and In Vivo Expression of a Homing Endonuclease** *PLOS ONE*
Guha, T. K., Hausner, G.
2016; 11 (2)
- **I-OmiI and I-OmiII: Two intron-encoded homing endonucleases within the Ophiostoma minus rns gene** *FUNGAL BIOLOGY*
Hafez, M., Guha, T. K., Hausner, G.

2014; 118 (8): 721-731

- **A homing endonuclease with a switch: Characterization of a twintron encoded homing endonuclease** *FUNGAL GENETICS AND BIOLOGY*

Guha, T. K., Hausner, G.

2014; 65: 57-68

- **PCR-based bioprospecting for homing endonucleases in fungal mitochondrial rRNA genes.** *Methods in molecular biology (Clifton, N.J.)*

Hafez, M., Guha, T. K., Shen, C., Sethuraman, J., Hausner, G.

2014; 1123: 37-53

PRESENTATIONS

- Guha, T.K.*, and Hausner, G. Controlling a DNA chopper: Group II introns as attenuators for homing endonuclease expression. 1st - 3rd June, 2016; University of Manitoba, Winnipeg, Canada. - Biophysical Society of Canada. (June 1, 2016 - June 3, 2016)
- Guha, T.K.*, and Hausner, G. On-switch regulators in action: Regulation of a Homing endonuclease by group II introns. - Canadian Society of Microbiologists (June 15, 2015 - June 18, 2015)
- Guha, T.K.*, and Hausner, G. A twintron encoded homing endonuclease with an on-switch. - Keystone Symposia, Keystone Symposia- Precision genome engineering and synthetic biology. (January 11, 2015 - January 16, 2015)
- Guha, T.K.*, and Hausner, G. A homing endonuclease with a switch: Characterization of a twintron encoded homing endonuclease. - Canadian Society of Microbiologists (June 17, 2013 - June 20, 2013)