

KANISHKA MANNA

1701 Westpark Drive, APT-233, 72204, Little Rock, AR, USA
Contact No. +1 (501) 650-9389, Email Id: kmanna@ualr.edu | kmanna@uams.edu

ACADEMIC QUALIFICATIONS

- Currently, **Doctor of Philosophy (Bioinformatics)** student, University of Arkansas Little Rock and University of Arkansas Medical Science, Little Rock, 2019
- **Master of Science (Microbiology)**, Vijaygarh Jyotish Ray College, Kolkata, 2017, secured a Percentage of 61%
- **Bachelor of Science (Microbiology)**, Vijaygarh Jyotish Ray College (affiliated to University of Calcutta), Kolkata, 2015, secured a Percentage of 53%

ACADEMIC PROJECT

Doctoral Dissertation Project:

- To address the efficient identification of protein isoforms originating from alternative splicing of a gene, by developing a proteogenomics pipeline/tool for novel peptide detection among multi-omics samples.
- Additionally, peptide identification supports only a small fraction of protein isoforms that are well annotated through reference databases leaving those lowly-abundant isoforms under-annotated; hence, developing an algorithm that can perform accurate annotation for those newly identified peptide sequences.

Master Thesis Project: Glycated Hemoglobin for the Diagnosis of Diabetes Mellitus and to Determine Estimated Average Glucose Concentration

Location: R.G Kar Medical College & Hospital, Kolkata

Duration: June - August 2016 Objective:

- To establish a relationship between Diabetes Mellitus and Glycated Hemoglobin
- To manage data and obtain an equation to measure average glucose concentration

SKILLS

Computational

- Programming languages and mathematical packages: R, Python, Bash, C++, Java, CSS, HTML
- Bioinformatics applications: GATK, BWA-MEM, MOGSA, MixOmics, QIIME 2, Galaxy
- Other: SPSS, Microsoft office, Mac (OS), Linux/ Ubuntu (OS), Windows (OS)

Instruments

- MinIon (Oxford Nanopore)
- Chromium (10X Genomics)
- Spectrophotometer, Colorimeter
- Auto analyzer (EBRA)
- PCR/ RT PCR
- ELISA analyzer

Methods

- Proteogenomics analysis
- Spatial transcriptomics analysis
- Data integration
- Multi-omics analysis
- Metaproteomics analysis
- Comparative genomics analysis
- Sequencing analysis
- Advanced microbiology, molecular biology and biochemistry skills

- Phlebotomy
- Medical biochemistry methods- lipid profiling, estimation of G6PD, ischemia modified albumin, glycated hemoglobin, blood sugar

PUBLICATIONS

- Manna, Kanishka; Dharanipragada, Prashanthi; Alkam, Duah; Avaritt L., Nathan; Washam L., Charity; Robeson S., Michael; Edmondson D., Ricky; Mackintosh G., Samuel; Yang, Zhentao; Wang, Yan; Lomeli H., Shirley; Moriceau, Gatien; Byrum D., Stephanie; Lo S., Roger; Tackett J., Alan; Proteogenomics analysis to identify acquired resistance-specific alterations in melanoma PDXs on MAPKi therapy. *bioRxiv* 2022.02.15.480454; doi: <https://doi.org/10.1101/2022.02.15.480454>
- Robeson MS 2nd, Manna K, Randolph C, Byrum S, Hakkak R. Short-Term Metformin Treatment Enriches *Bacteroides dorei* in an Obese Liver Steatosis Zucker Rat Model. *Front Microbiol.* 2022; 13:834776. Published 2022 Mar 30. doi: 10.3389/fmicb.2022.834776.
- Chappell K, Manna K, Washam CL, et al. Multi-omics data integration reveals correlated regulatory features of triple negative breast cancer. *Mol Omics.* 2021;17(5):677-691. Published 2021 Oct 11. doi:10.1039/d1mo00117e

POSTER PRESENTATIONS

- Manna K, Dharanipragada P, Alkam D, et al. 'Proteogenomics analysis to identify acquired resistance-specific alterations in melanoma PDXs on MAPKi therapy', Poster presentation, Intelligent Systems for Molecular Biology (ISMB) Conference, July 2022
- Manna K, Dharanipragada P, Alkam D, et al. 'Proteogenomics analysis to identify acquired resistance-specific alterations in melanoma PDXs on MAPKi therapy', Poster presentation, DART Annual Conference, May 2022
- Manna K, Chappell K, Washam CL, et al. 'Multi-omics data integration reveals correlated regulatory features of triple negative breast cancer', Poster presentation, ISMB/ECCB 2021 Virtual Conference – International Society for Computational Biology (ISCB)
- Manna K., Adhikary A, Chakraborty S, 'Treating Cancer Cell by Focusing on Protein Degradation', Poster presentation, Science and Engineering Fair 2016, Kolkata, West Bengal, January 2016
- Manna K., Adhikary A., 'Early Detection of Cancer by Screening', Poster presentation, West Bengal State Student-Youth Science Fair 2015, Netaji Indoor Stadium, Kolkata, October 2015

CONFERENCE

- Attended and presented poster at the Intelligent Systems for Molecular Biology (ISMB) Conference, July 2022
- Attended DART Annual Conference, May 2022
- Attended NSF EPSCoR Workshop: Artificial Intelligence (AI) with No-Boundary Thinking (NBT) to Foster Collaborations in Research, Education and Training, April 2022
- Attended the AR-BIC conference, February 2020, 2021, 2022
- Attended and presented at the ISMB/ECCB Virtual Conference – ISCB 2021
- Attended a conference on 'Breast Cancer as a Heritable Disease', Cell Press-TNQ India, Kolkata, February 2015

TRAINING

- Currently, **Graduate Research Assistantship**, Department of Biomedical Informatics/ Department of Biochemistry and Molecular Biology, University of Arkansas for Medical Sciences, 2020 -

- **Graduate Teaching Assistantship**, UALR & UAMS Spring Genomics Virtual Workshop, March 21-23, 2022
- **Laboratory Training**, Department of Biochemistry, R.G. Kar Medical College & Hospital, Kolkata, June - August 2016

ACHIEVEMENT

Awarded the third position in poster presentation, West Bengal State Student-Youth Science Fair, Kolkata, October 2015