

Prabin Dhangada Majhi, PhD

661 N Pleasant St, Integrated Science Building, 465A
Department of Veterinary and Animal Sciences,
University of Massachusetts Amherst, MA – 01003
Phone: 413-548-0077; email:pdhangadamaj@umass.edu

EDUCATION

2010	PhD , School of Bioscience and Bioengineering, Indian Institute of Technology Bombay, Mumbai, India
2002	MS , Department of Botany, Utkal University, Bhubaneswar, India
2000	BS , Sambalpur University, India

PROFESSIONAL APPOINTMENTS

2020 – present	Research Assistant Professor University of Massachusetts Amherst, Amherst, MA
2017 – 2020	Post-doctoral Research Associate University of Massachusetts Amherst, Amherst, MA
2016 – 2017	Visiting Scholar University of Massachusetts Amherst, Amherst, MA
2014 – 2016	Assistant Professor (Teaching) School of Life Sciences, Ravenshaw University, Cuttack, India
2012 – 2014	Assistant Professor (Teaching) Delhi University, New Delhi India
2010 – 2012	Post-doctoral Research Associate Department of Biochemistry and Molecular Biology, University of Nebraska Medical Center, Omaha, NE

GRANTS/HONORS/AWARDS

2022	Columbia SHARP Program: Cohort 2022 Careers through Mentoring in Omics and Data for Early-Stage Investigators Program	
2024	Research Support Grant	\$1000
2023	FRG/Healy Award	\$20,000
2021	Research Supprt Grant	\$1000
2021	Flex Grant for Teaching	\$500
2021	AILS-Manning Innovation Award	\$100,000
2020	NIEHS extramural Paper of the Month -March, 2020	
2019	The Rays of Hope Center for Breast Cancer Grants (UM Ref. no. 586,)	\$50,000
2019	Travel Grant to Participate in Gordon Research Conference	\$1500
2018	Travel Grant for BCERP 13 th Annual Meeting	\$1500
2017	Travel Grant for Epigenetics Bootcamp, Columbia University, NY	\$1500
2016	Travel Grant for BCERP Annual Meeting and EHS FEST	\$1500
2016	Raman Post-Doctoral Fellowship Award	\$37,200
2016	APCTT-ESCAP Project(UN)	\$1500

2002 Junior Research Fellowship Award [5- year]
 2002 Short-listed for Shyama Prasad Mukherjee Fellowship Test 2002

PUBLICATIONS/PATENT

List of publications

- Majhi, PD, Black, AL, Sharma, A, Phadkar, J, Roberts, AL, Singh, P, Kane, JJ, O'Dare, K, Eijk, PV, Reed, SH, Schneider SS, Jerry DJ (2025). Inducible estrogen receptor alpha in normal breast epithelial cells demonstrate estrogen receptor-dependent DNA damage. bioRxiv, 2025.03.13.643100. <https://doi.org/10.1101/2025.03.13.643100>.
- He XD, Phillips S, Hioki K, **Majhi PD**, Babbitt C, Tremblay KD, Pobezinsky LA, Mager J. TATA-binding associated factors have distinct roles during early mammalian development. *Dev. Biol.* **551(53-62)** (2024)
- **Majhi PD**, Sharma A, Jerry DJ. Genetic modifiers of p53: opportunities for breast cancer therapies. *Oncogene* (14) 236-241. 2023
- Zhang X, Liu Y, Dounghawee J, Castellanos-García LJ, Sikora KN, Jeon T, Goswami R, Fedeli S, Gupta A, Huang R, Hirschbiegel CM, Cao-Milán R, **Majhi PKD**, Cicek YA, Liu L, Jerry DJ, Vachet RW, Rotello VM. Bioorthogonal nanozymes for breast cancer imaging and therapy. *J Control Release* 357:31-39. 2023
- Miller JL, Bartlett AP, Harman RM, **Majhi PD**, Jerry DJ & Van de Walle, GR. Induced mammary cancer in rat models: pathogenesis, genetics, and relevance to female breast cancer. *J Mammary Gland Biol Neoplasia* 27(2), 185-210 (2022)
- Morin SM, **Majhi, PD**, Crisi GM, Gregory KJ, Franca, R, Schalet B, Mason H, Casaubon JT, Cao QJ, Haddad S, Makari-Judson G, Jerry DJ, Schneider SS. Interindividual variation contributes to differential PCB 126 induced gene expression in primary breast epithelial cells and tissues. *Ecotox Environ Safe* 241, 113722 (2022).
- **Majhi PD**, Griner NB, Mayfield JA, Shannon C, Kane JJ, Bapiste TA, Dunphy KA, Roberts, AL, Schneider SS, Savage EM, Patel D, Blackburn AC, Joana KM, Wiesmüller L & Jerry DJ. Genetic modifiers regulating DNA replication and double-strand break repair are associated with differences in mammary tumors in mouse models of Li-Fraumeni syndrome. *Oncogene* **40**, 5026–5037 (2021).
- **Majhi PD***, Sharma A*, Roberts AL, Daniele E, Majewski AR, Chuong LM, Black AL, Vandenberg LN, Schneider SS, Dunphy KA & Jerry DJ. Effects of Benzophenone-3 and Propylparaben on Estrogen Receptor-Dependent R-Loops and DNA Damage in Breast Epithelial Cells and Mice. *Environ Health Persp* 128, 17002 (2020).
- Jerry DJ, Shull JD, Hadsell DL, Rijnkels M, Dunphy KA, Schneider SS, Vandenberg LN, **Majhi PD**, Byrne C, Trentham-Dietz A. Genetic variation in sensitivity to estrogens and breast cancer risk. *Mammalian genome : official journal of the International Mammalian Genome Society* 29, 24–37 (2018).
- Lakshmanan I, Salfity S, Seshacharyulu P, Rachagani S, Thomas A, Das S, **Majhi PD**, Nimmakayala RK, Vengoji R, Lele SM, Ponnusamy MP, Batra SK & Ganti AK. MUC16 Regulates TSPYL5 for Lung Cancer Cell Growth and Chemoresistance by Suppressing p53. *Clinical Cancer Research* **23**, 3906–3917 (2017).
- Dhangadamajhi G, Kar A, Rout R & **Dhangada Majhi, P**. A meta-analysis of TLR4 and TLR9 SNPs implicated in severe malaria. *Rev Soc Bras Med Tro* 50, 153–160 (2017).

- Das S, Rachagani S, Torres-Gonzalez MP, Lakshmanan I, **Majhi PD**, Smith LM, Wagner, K & Batra SK. Carboxyl-terminal domain of MUC16 imparts tumorigenic and metastatic functions through nuclear translocation of JAK2 to pancreatic cancer cells. *Oncotarget* **6**, 5772–5787 (2015).
- Das S, **Majhi PD**, Rachagani S, Torres-Gonzalez, MP, Al-Mugotir, MH, Lakshmanan I, Smith LM, Wager K, Sorgen P & Batra SK. Membrane proximal ectodomain cleavage of MUC16 occurs in the acidifying Golgi/post-Golgi compartments. *Scientific reports* **5**, 9759 (2015).
- Lakshmanan I, Ponnusamy, MP, Macha MA, Haridas D, **Majhi PD**, Kaur, S, Jain M, Batra SK & Ganti AK. Mucins in Lung Cancer: Diagnostic, Prognostic, and Therapeutic Implications. *J Thorac Oncol* **10**, 19–27 (2015).
- Trivedi, VD, **Majhi, P** & Phale, P. S. Kinetic and Spectroscopic Characterization of 1-Naphthol 2-hydroxylase from *Pseudomonas* sp. Strain C5. *Appl Biochem Biotech* **172**, 3964–3977 (2014).
- **Majhi PD***, Lakshmanan I*, Ponnusamy MP, Jain M, Das S, Kaur S, West WW, Johansson S, Smith LM, Yu F, Rolle C, Sharma P, Carey G, Batra SK & Ganti AK. Pathobiological Implications of MUC4 in Non–Small-Cell Lung Cancer. *J Thorac Oncol* **8**, 398–407 (2013).
- Phale PS, Basu A, **Majhi PD**, Deveryshetty J, Vamsee-Krishna, C & Shrivastava R. Metabolic Diversity in Bacterial Degradation of Aromatic Compounds. *Omics J Integr Biology* **11**, 252–279 (2007).

Upcoming Publications

- Sharma A, **Majhi, PD***, Roberts AL, Mary MJ, Phadkar JR, Dunphy KA, Shull JD, Crisi GM, Makari-Judson G, Schneider SS & Jerry DJ* Estrogen mediated DNA damage in the mammary epithelium differs among strains of rodents and among women [to be communicated in Dec 2024] (***Co-correspondence authors**)
- Black AL, Roberts AL, Singh P, Kane JJ, Dunphy KA, Sallie S. Schneider, **Majhi PD***, Jerry DJ*. Inducible ER α HMEC lines reveal modest E2-induce proliferative phenotype unreflective of ER target gene expression and FOXA1 and GATA3 levels [to be communicated in Dec 2024] (***Co-correspondence authors**)

Non-Provisional Patent

- METHODS FOR PREDICTING ER-MEDIATED DNA DAMAGE: Serial No.: 62/914,110; Filing Date: October 11, 2019^[11 SEP]; Inventors: **Prabin Kumar Dhangada Majhi**, Aman Sharma, D. Joseph Jerry UMA 20-019; TH 921301-8030; Full patent filed on Oct 11th, 2020

CONFERENCE/WORKSHOP PARTICIPATION

Invited Talks

2022	RNAseq Using Unity: Workshop, Department of Veterinary and Animal Science, University of Massachusetts Amherst.
2019	Estrogen, R-loops, DNA damage and breast cancer, Center of Neuroendocrine Studies, University of Massachusetts Amherst.
2018	Xenoestrogens cause estrogen receptor-dependent R-loop formation and DNA damage. BCERP 13 th Annual Meeting, Georgetown University, Washington DC
2017	Genetic Modifier of DNA repair in Li-Fraumeni Syndrome. Chemical Biology Interface Program Chalk Talk, University of Massachusetts Amherst.
2017	DNA Double-strand breaks in breast cancer, Veterinary and Animal Sciences Seminar Series, University of Massachusetts Amherst.

Poster Presentations

- Phadkar J, Roberts AL, **Majhi PD**, Nair M, Taig G, Makari-Judson G, Crisi GM, Sallagonda A, Otis CN, Mason H Simões BN, Clarke RB, Roche J, Fava M, Hilton R, Tennant F, Gilmore A, Schneider SS, Jerry JD. "Variation in barriers to immortalization in normal breast epithelial cells and establishment of a panel of cell lines from 16 donors differing in breast cancer risk". Cancer Prevention Research Conference. 2024
- **Majhi, PD**, Sharma A, Roberts AL, Daniele EL, Dunphy KA, Schneider SS, and Jerry D. Benzophenone-3 and propylparaben induce estrogen receptor-dependent R-loop and DNA damage in breast epithelial cells. *Mammary Gland Biology, Gordon Research Conference 2019; June 9-14, 2018*
- **Majhi PD**, Griner NB, Compton S, Kane J, Baptiste T, Mayfield J, Dickinson E, Savage E, Dunphy KA, Obermeier K, Wiesmüller L, Jerry D. Variable penetrance of mammary tumors in mouse models of Li-Fraumeni syndrome is linked to replication-associated repair. *AACR Annual Meeting 2018; April 14-18, 2018;*
- Dunphy KA, **Majhi PD**, Sharma A, Roberts AL, Daniele EL, Schneider SS, Jerry DJ, Xenoestrogens cause estrogen receptor-dependent R-loop formation and DNA damage. *AACR Annual Meeting 2018; April 14-18, 2018*
- Lakshmanan I, **Majhi PD**, Ponnusamy MP, Das S, Seshacharyulu P, Haridas D, Batra SK, Ganti A. *MUC16 upregulates TSPYL5 gene and mediates Lung cancer cell proliferation by suppressing p53 activity. AACR 104th Annual Meeting 2013; Apr 6-10, 2013;*
- *Das S, Torres-Gonzalez MP, Majhi PD, Lakshmanan I, Ponnusamy MP, Rachagani S, Cruz E, Haridas D, Batra SK. Carboxyl terminal region of MUC16 is critical for MUC16 mediated tumorigenesis. AACR 104th Annual Meeting 2013; Apr 6-10, 2013*
- Ganti AK, **Majhi, PD**, Lakshmanan I, Das S, Ponnuswamy MP, Smith L, Fang Y, West W, Sharma P, Batra SK "Role Of MUC4 In Lung Cancer" (ORAL PRESENTATION) category: Hematology and Oncology, Annual Meeting of Central Society for Clinical Research (CSCR) and the Midwestern Section of the American Federation for Medical Research (MWAFMR) 2012
- Ganti AK, Kaur S, West WW, **Majhi, PD**, Lakshmanan, I, Smith L, Rolle CE, Carey G, Sharma P, Salgia R, Batra SK "MUC4 expression in non-small cell lung cancer." *Annual Meeting of American Society for Clinical Oncology*, 2012

Workshop Participation

2022	Multi-omics Bootcamp, Columbia University, NY.
2022	Quantitative Genomics Bootcamp, Columbia University, NY.
2022	Analysis of Single-Cell RNA-seq Data, University of Cambridge, UK
2022	AtKisson Training Group grant writing workshop, Umass Amherst, MA
2018	Demystifying Biomedical Big Data , Georgetown University, Washington D.C.
2018	Research Mention Training (National Research Mentoring Network). University of Massachusetts Amherst, MA
2017	Sequence Analysis Bootcamp, Bioinformatics Core, Umass Medical School. Worcester, MA.
2017	Genome Engineering 5.0, Broad Institute, Cambridge, MA
2017	Epigenetics Bootcamp, Columbia University, NY.
2010	Metastasis and the Tumor Microenvironment. Short course in Cancer Biology: Epopley institute of cancer research and allied diseases.

PROFESSIONAL SERVICE

Member: American Association of Cancer Research (AACR), Society of Biological Chemists, India (SBC)

Reviewer: Oncogene, Cell Death and Disease, Journal of Thoracic Oncology, The FASEB Journal, Journal of Mammary Gland Biology and Neoplasia, Plos One, Cancers, International Journal of Molecular Sciences, Journal of Ovarian Research

Consultant: APCTT-ESCAP project (United Nations): “Promotion of regional network among R&D institutions in the Asia-Pacific to strengthen their research and development (R&D) management capacity in new and emerging area of technology”

Member thesis committee: Shelby Phillips, Anna Gorfinkel, Rosemary Huggins, Shakirah Ssebyala