

CURRICULUM VITAE  
**Pushkar Malakar, Ph.D.**

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Medical Biotechnology, School of Biological Sciences, Ramakrishna Mission Vivekananda Educational and Research Institute (Deemed University), Narendrapur Campus, Ramakrishna Mission Ashrama, Narendrapur, Kolkata, West Bengal 700103

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**Education/ Training**

<b>Institution and Location</b>	<b>Degree</b>	<b>Time Period</b>	<b>Field of Study</b>
Calcutta University, Kolkata, India	B.Sc.	2000-2003	Biological Sciences
Calicut University, Calicut, India	M.Sc.	2004-2006	Biotechnology
IIT Bombay, Mumbai, India	Ph.D.	2008-2014	Biochemistry and Microbiology
Hebrew University, Jerusalem, Israel	Postdoctoral Training	2014-2019	Biochemistry and Molecular Biology
National Cancer Institute, NIH, USA	Postdoctoral Training	2019-2021	Cancer Biology
GITAM University, Bangalore, India	Assistant Professor	01/11/2021-31/05/2022	Biotechnology
RKMVERI, Narendrapur, India	Ramanujan Fellow / Assistant Professor	01/06/2022-Present	Medical Biotechnology

**Research Experience:**

**(June 2019-October 2021): Post-Doctoral Fellow, Genetics Branch, NCI, NIH, USA**

*Supervisor:* Prof. Munira Basrai

*Accomplishments:* 1) Role of lncRNA, PURPL in chromosomal instability, 2) Association of mTORC1 pathway with aneuploidy/polyploidy, 3) Role of Glutamine in cell cycle, 4) Regulators of CENP-A mis-localization in cancers.

**(2014-2019): Post-Doctoral Fellow, Department of Biochemistry and Molecular Biology, Hebrew University, Israel**

*Supervisor:* Prof. Rotem Karni

*Accomplishments:* 1) Role of MALAT1 as an oncogene in Hepatocellular Carcinoma, 2) Role of MALAT1 in regulating glucose metabolism in Hepatocellular carcinoma, 3) Role of Alternative Splicing in Diabetes and Cancer.

**(2008-2014): Ph.D. Student, Department of Biosciences and Bioengineering, IIT Bombay**

*Supervisor:* Prof. K.V. Venkatesh

*Accomplishments:* Characterization of Burden on growth due to unnecessary gene expression in Natural and Synthetic Constructs.

**(2006-2008): Pre-Doctoral Student, Department of Microbiology and Cell Biology, IISc Bangalore.**

*Supervisor:* Prof. S. Vijaya

*Key Project:* Identification of host proteins which interact with the structural and Non-structural proteins of Flavivirus on infection.

**Teaching and Mentoring Experience:**

**2014-2019:** Masters and Ph.D. Students: Department of Biochemistry and Molecular Biology, IMRIC, Hebrew University, Israel

**2008-2014:** Master Students: Department of Biosciences and Bioengineering, IIT Bombay, India

**Program Management Skill**

**2010:** Help Desk co-coordinator for Research Scholars Confluence organized by IITB.

**2010:** Food Committee student Co-coordinator for International Conference on Nanoscience and Technology (ICONSAT).

**2009:** Hall management student Co-coordinator for International conference organized by Department of Biosciences and Bioengineering, IIT Bombay.

**2007:** Hall co-coordinator for international conference on Microbial pathogenesis organized by Sir Darobji Tata center and Department of Microbiology and Cell Biology, IISc.

**Leadership Skills**

**2011-2012:** General Secretary of Department of Biosciences and Bioengineering, IIT Bombay.

**2011-2012:** Organizer for Departmental Seminar Series.

**2009:** Ph.D. mentor for iGEM 2009 (International Synthetic Biology Competition) IITB team held at MIT, USA.

**Academic awards and honors:**

- Ramanujan Fellowship from DST-SERB 2022.
- Travel Award from RNA society for attending RNA 2017.
- Travel Award from Hebrew University for attending RNA 2017.
- Second Prize of the competition for Outstanding Papers 2016-2017, Department of Biochemistry and Molecular Biology, IMRIC, Hebrew University.
- Work selected for Oral presentation at Regulatory & Non-Coding RNAs meeting, CSHL Meetings, CSHL, USA, August 23-27, 2016.
- Shortlisted for DST INSPIRE Faculty interview (contractual research positions to young achievers for independent research and emerge as a leader in future science & technology) 2015.
- 2014 ISCR Best Abstract Award and selected for oral presentation: Sixth Annual Meeting of the Israeli Society for Cancer Research -2014.
- Post –Doctoral Fellowship from Israeli Government (PBC) 2013.
- CSIR Travel Grant for Attending ASM (American Society for Microbiology) 2012.

- DST Travel Grant for Attending ASM (American Society for Microbiology) 2012.
- DBT- CTEP Travel Grant for Attending ASM (American Society for Microbiology) 2012.
- Award for Oral Presentation at Biodesign India, University of Kerala, 2010.
- Silver Medal in iGEM -2009 (International Synthetic Biology Competition).
- Marie Curie Fellowship (for training on system and synthetic biology) from September-November 2008.
- Gave CSIR Shyama Prasad Mukherjee Fellowship (open to toppers of CSIR-UGC JRF (NET) and GATE fellowship) exam 2007.
- CSIR-NET JRF (Fellowship for doing Ph.D.) December 2007.
- DBT-JRF Fellowship (Fellowship for doing Ph.D.) May 2006 (Rank 39th).
- GATE Fellowship (Fellowship for doing M.Tech /Ph.D.) February 2006 (Rank 31st).
- CSIR-NET JRF (Fellowship for doing Ph.D.) December 2005.
- M.Sc. (Biotechnology) Fellowship 2004.

### **Peer-Review Activities for Scientific Journals:**

*Scientific Reports*

*Journal of Computer -Aided and Molecular Design*

*Cancer Discovery*

*Cancers*

*Nucleic Acid Research*

*Current Opinion in Biotechnology*

### **Conferences**

- **Malakar P** (2022). *The Sam68 STAR RNA Binding Protein regulates hepatic glucose metabolism by modulating the alternative splicing of Insulin Receptor.* RNA Binding Proteins: From RNA binding to condensation and aggregation. India| EMBO lecture Course, NCCS, Pune, India, 7-11February. Oral Presentation
- **Malakar P**, Shrestha RL, Mishra PK, Zaldana KS, Basrai MA (2019). *Glucose toxicity activates energetic stress pathway and induces polyploidy.* 9th NCI Symposium on Chromosome Biology: Chromatin & Cell Fate Decisions in Development, Aging & Cancer, NCI, NIH, USA, 14-15November. Presented Poster
- **Malakar P**, Stein I, Pikarsky E, Karni R (2018). *Long Noncoding RNA MALAT1 regulates cancer glucose metabolism by enhancing mTOR-mediated TCF7L2 translation.* EACR-AACR-ISCR Conference: The cutting Edge of Contemporary Cancer Research, Jerusalem, Israel, 9-11 October. Presented Poster

- **Malakar P**, Stein I, Pikarsky E, Karni R (2018). *Long Noncoding RNA MALAT1 regulates cancer glucose metabolism by enhancing mTOR-mediated TCF7L2 translation.* RNA Biology meeting in memory of Prof. Yossi Sperling, Bar-Ilan University, 8<sup>th</sup> October. Oral presentation
- **Malakar P**, Stein I, Pikarsky E, Karni R (2017). *The role of long non-coding RNA MALAT1 in cancer metabolism.* 4th Scientific Conference of the Institute for Medical Research Israel – Canada, The Hebrew University of Jerusalem, Queen of Sheba Eilat Hotel, Israel, 5-7 September. Presented Poster
- **Malakar P**, Shilo A, Mogilevsky A, Stein I, Pikarsky E, Nevo Y, Benyamini H, Elgavish S, Zong X, Prasanth KV, Karni R (2017). *Long noncoding RNA MALAT1 promotes hepatocellular carcinoma development by SRSF1 up-regulation and mTOR activation.* RNA Society 22nd Annual Meeting, Prague, Czech Republic, 30<sup>th</sup> May 30 – 3<sup>rd</sup> June. Presented Poster
- **Malakar P**, Stein I, Pikarsky E, Karni R (2016). *Long noncoding RNA MALAT1 promotes hepatocellular carcinoma development by SRSF1 up-regulation and mTOR activation.* Regulatory & Non-Coding RNAs meeting, CSHL Meetings, CSHL, USA, 23-27 August. Oral presentation
- **Malakar P**, Chartarifsky L, Hija A, Leibowitz G, Glaser B, Dor Y, Karni R (2016). *Insulin receptor alternative splicing is regulated by insulin signaling and modulates beta cell survival.* Israel Society for Biochemistry and Molecular Biology (ISBMB) 2016 RNA in memory of Prof. Yossi Sperling, Weizmann Institute, Israel, 26<sup>th</sup> September. Presented Poster
- **Malakar P**, Shilo A, Stein I, Pikarsky E, Karni R (2014). *The Role of Long Non-Coding RNA (MALAT1) in Tumor Initiation and Metastasis.* Sixth Annual Meeting of the Israeli Society for Cancer Research (ISCR), Haifa, Israel, 22<sup>nd</sup> May. Oral presentation
- **Malakar P**, Shilo A, Stein I, Pikarsky E, Karni R (2013). *The role of MALAT1 in Tumor Initiation and Progression.* The Cancer Research Hub Research Day, Tumors and their Niches, Hebrew University of Jerusalem, 5<sup>th</sup> December. Presented Poster
- **Malakar P**, Hedge S, Venkatesh KV (2012). *Optimality of Growth of Escherichia coli on lactose.* American Society for Microbiology -2012, Sanfrancisco, USA, 16-19 June. Presented Poster
- **Malakar P**, Venkatesh KV (2010). *Analysis of multiple feedbacks in biological systems using Synthetic biology approach.* 6<sup>th</sup> Graduate Students Meet, ACTREC, Mumbai, 17-18 December. Oral presentation
- **Malakar P**, Venkatesh KV (2010). *Growth Benefit versus Enzyme Burden in growth of Escherichia coli on lactose.* 79<sup>th</sup> Annual Meeting of the society of Biological Chemists (India), IISc, Bangalore, 13-15 December. Presented Poster

- **Malakar P**, Venkatesh KV (2010). *Analysis of multiple feedbacks in biological systems using Synthetic biology approach*. Biodesign India, University of Kerala, 13-15 October. Oral presentation
- **Malakar P**, Sharma A (2010). *Homology modeling and Protein Protein interaction study of GAL proteins from E.coli, S.cerevisiae and K.lactis for regulation of Galactose Pathway*. 1st IFIP International Conference on Bioinformatics, NIT Surat, India. 25-28 March. Oral presentation
- **Malakar P**, Venkatesh KV (2010). *Analysis of Multiple Feedbacks in Biological Systems*. The Eight Asia Pacific Bioinformatics Conference, Bangalore, India 18-21 January. Presented Poster

### **Publications:**

Kumari R, Yadav Y, Misra R, Das U, Das Adhikari U, **Malakar P**, Dubey GP (2022). *Emerging frontiers of antibiotics use and their impacts on the human gut microbiome*. Microbiol Res. 2022 Oct;263:127127. (IF: 5.42)

**Malakar P**, Stein I, Saragovi A, Winkler R, Stern-Ginossar N, Berger M, Pikarsky E, Karni R (2019). *Long Noncoding RNA MALAT1 regulates cancer glucose metabolism by enhancing mTOR-mediated TCF7L2 translation*. Cancer Res. 79(10):2480-2493. (71 Citations). (IF: 13.3)

**Malakar P**, Shilo A, Mogilevsky A, Stein I, Pikarsky E, Nevo Y, Benyamini H, Elgavish S, Zong X, Prasanth KV, Karni R (2017). *Long Noncoding RNA MALAT1 Promotes Hepatocellular Carcinoma Development by SRSF1 Upregulation and mTOR Activation*. Cancer Res. 77(5):1155-1167. (186 Citations). (IF: 13.3). **Most cited paper from the lab in 14 years.**

Jadaliha M, Zong X, **Malakar P**, Ray T, Singh DK, Freier SM, Jensen T, Prasanth SG, Karni R, Ray PS, Prasanth KV (2016). *Functional and prognostic significance of long non-coding RNA MALAT1 as a metastasis driver in ER negative lymph node negative breast cancer*. Oncotarget. Jun 28;7(26):40418-40436. (119 Citations). (IF: 3.71).

**Malakar P**, Chartarifsky L, Hija A, Leibowitz G, Glaser B, Dor Y, Karni R (2016). *Insulin receptor alternative splicing is regulated by insulin signaling and modulates beta cell survival*. Sci Rep. Aug 16; 6: 31222. (44 Citations). (IF: 4.996).

**Malakar P#** (2015). *Pre-induced Lac Operon Effect on Non-Specific Sugars: Pre-culture Effect is Dependent on Strength of Induction, Exponential Phase and Substrate Concentration*. Open Microbiol J. Jun 23; 9:8-13. (1 Citations). (IF: NA). (**# Corresponding Author**).

- Malakar P#**, Singh VK, Karmakar R, Venkatesh KV# (2014). *Effect on  $\beta$ -galactosidase synthesis and burden on growth of osmotic stress in Escherichia coli*. Springerplus. 2014 Dec 17; 3:748. (10 Citations). (IF: 1). (# **Corresponding Author**).
- Malakar P#** (2014). *Characterization of cost with respect to nutritional upshift in the media composition along with sublethal doses of transcriptional and translational inhibitor*. Arch Microbiol. Apr; 196(4):289-94. (3 Citations). (IF: 2.5). (# **Corresponding Author**).
- Malakar P**, Venkatesh KV (2014). *GAL regulon of Saccharomyces cerevisiae performs optimally to maximize growth on galactose*. FEMS Yeast Res. Mar; 14(2):346-56. (12 Citations). (IF: 2.8).
- Malakar P**, Venkatesh KV (2013). *Characterization of burden on growth due to the nutritional state of media and pre-induced gene expression*. Arch Microbiol. Apr; 195(4):291-5. (6 Citations). (IF: 2.5).
- Malakar P**, Venkatesh KV (2012). *Effect of substrate and IPTG concentrations on the burden to growth of Escherichia coli on glycerol due to the expression of Lac proteins*. Appl Microbiol Biotechnol. Mar; 93(6):2543-9. (85 Citations). (IF: 5.6). **2nd most cited paper from the lab in 23 years**.
- Sharma A, **Malakar P#** (2011). *Comparative modeling and genomics for galactokinase (Gal1p) enzyme*. Bioinformatics. Feb 15; 5(10):422 -429. (2 Citations). (IF: NA). (# **Corresponding Author**).
- Kulkarni VV, Kareenhalli V, **Malakar P**, Pao LY, Safonov MG, Viswanathan GA (2010). *Stability analysis of the GAL regulatory network in Saccharomyces cerevisiae and Kluyveromyces lactis*. BMC Bioinformatics. Jan 18; 11 Suppl 1: S43. (17 Citations). (IF: 3.24).
- Sharma A, **Malakar P#** (2010). *Structure modeling and comparative genomics for epimerase enzyme (Gal10p)*. Bioinformatics. Nov 27; 5(6):266-70. (2 Citations). (IF: NA). (# **Corresponding Author**).