



## **Shinjinee Dasgupta, Ph.D**

Associate Professor and DBT /Wellcome Trust India Alliance Early Career Fellow (2019-2024)

Specialization. **Amyloid Biology, Cancer Research, Protein Biochemistry, Synthetic/molecular Biology**

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Dr. Shinjinee Dasgupta completed her Ph.D. from Indian Institute of Chemical Biology- CSIR Institute, Kolkata, West Bengal in 2013. After completing Ph.D., Dr. Dasgupta joined Indian Institute of Technology, Bombay as an Institutional Postdoctoral Researcher, where she focused on the amyloid formation of p53 and its implications in cancer initiation. Dr. Dasgupta is a patent holder on “Amyloid mediated cell line transformation” and has published manuscripts in well reputed international journals such as Nature Cell Death and Differentiation. In 2017, Dr. Dasgupta also worked at the DBT Pan IIT Center as a Senior Scientist attached with Chemical Engineering Department, IIT Bombay. She worked on the production of biofuels and platform chemicals by engineering microbes using synthetic biology techniques. She published several manuscripts in well reputed journals such as Biotechnology Advances, Biotechnology for Biofuels and Scientific Reports. Dr. Dasgupta also filed another patent on “Method for photoautotrophic production of succinate using recombinant *Synechococcus* sp”. In 2019, Dr. Dasgupta was awarded the prestigious DBT/Wellcome Trust India Alliance Fellowship by the Department of Biotechnology and Wellcome Trust UK. Her current focus of research is understanding the role of protein mis-regulation and aggregation in cancer disease. Specifically she is studying how p53 amyloid formation is responsible for cancer progression and metastasis. She is also involved in screening anti-aggregating agents for the treatment of human malignancies.

### **Ongoing Research Projects**

DST-CRG funded project titled *“Investigating the role of p53 amyloid in the tumor associated macrophage polarization and tumor microenvironment of colorectal carcinoma”*

### **Completed Research Projects**

DBT Wellcome Trust India Alliance funded by Department of Biotechnology and Wellcome Trust (UK) for research project entitled *“Establishing the relationship of p53 mutations and amyloid formation: A new insight in Cancer biology and therapeutics”*.

### **Fellowships and Awards**

1. DBT Wellcome Trust Early Career Award (2019-2024)
2. Travel Award from Department of Biotechnology, DBT (2019, 2016)
3. Travel Award from Department of Science and Technology, DST (2016)
4. DST Women Scientist award- Not availed (2016)
5. Institute Postdoctoral Award, IIT Bombay (2014)
6. Qualified (CSIR-UGC) National Eligibility Test and Awarded Lectureship (2007)

### **Selected Publications**

1. Aqsa Khan, Subhrajit Biswas, Manoj Garg\*, **Shinjinee Sengupta\***, Cancer-associated transporters: Molecular drivers and drug delivery gateways, Biochemical Pharmacology, Volume 242, Part 3, December 2025, 117376 \*corresponding author (IF-5.8)

2. Shivani Jaiswal, Vivek Mishra, Srija Majumder, Pramod Wangikar, **Shinjinee Sengupta\***, Metabolomic profiling reveals grade-specific niacinamide accumulation and its therapeutic Potential via SIRT1-CD38-EMT axis modulation in cervical cancer progression, *BBA - Molecular Cell Research*, 2025, In Press )\* corresponding author **(IF-4.7)**
3. **Shinjinee Sengupta**, Namrata Singh, Ajoy Paul, Debalina Datta, Debdeep Chatterjee, Semanti Mukherjee, Laxmikant Gadhe, Jyoti Devi, Yeshwant M, Mohit Kumar Jolly, and Samir Maji, p53 amyloid pathology is correlated with higher cancer grades irrespective of the mutant or wildtype forms, **Journal of Cell Science**, 2023, 136 (17): jcs261017. **(IF- 5.2]**
4. Shivi Chauhan#, Shivani Jaiswal#, Vibhuti Jakhmola#, Bhavana Singh, Sujata Bhattacharya, Manoj Garg+, **Shinjinee Sengupta\*** Potential Role of p53 Dereglulation in Modulating Immune Responses in Human Malignancies: A Paradigm to Develop Immunotherapy, **Cancer Letters**, 2024, Volume 588, 28 April 2024, 216766 **(IF-9.7)\* corresponding author**
5. **Shinjinee Sengupta**, Deepti Sahasrabuddhe and Pramod P. Wangikar, Transporter Engineering for the development of Cyanobacteria as cell factories: A Text Analytics guided survey, **Biotechnology Advances**, 2021, Volume 54, 107816. [ **IF- 14.2]**
6. **Shinjinee Sengupta**, Damini Jaiswal, Annesha Sengupta, Shikha Shah, Shruti Gadagkar and Pramod P. Wangikar, Metabolic engineering of a fast-growing cyanobacterium *Synechococcus elongatus* PCC 11801 for photoautotrophic production of succinic acid, **Biotechnology for Biofuels**, 2020, 13: 89. [ **IF- 6.4]**
7. Damini Jaiswal, Annesha Sengupta, Sujata Sohoni, **Shinjinee Sengupta**, Ambarish G. Phadnavis, Himadri B. Pakrasi & Pramod P. Wangikar, Genome Features and Biochemical Characteristics of a Robust, Fast Growing and Naturally Transformable Cyanobacterium *Synechococcus elongatus* PCC 11801 Isolated from India, 2018, **Scientific Reports** volume 8, Article number: 16632. [ **IF- 5.1]**
8. Saikat Ghosh#, Shimul Salot#, **Shinjinee Sengupta#**, Ambuja Navalkar, Dhiman Ghosh, Reeba Jacob, Subhadeep Das, Rakesh Kumar, Narendra Nath Jha, Shruti Sahay, Surabhi Mehra, Santanu K. Ghosh, Mamata Kombrabail, G Krishnamoorthy, Pradip Chaudhari, and Samir K Maji\*. p53 amyloid formation leading to its loss of function: Implication in cancer pathogenesis. **Cell death and Differentiation**. # **Equal contribution**. 24, 2017, pages 1784–1798. **[IF- 15.5]**

## Patents

1. Patent granted on “Amyloid mediated cell line transformation”. Inventors: Samir K Maji, Saikat K Ghosh, **Shinjinee Sengupta**, Shimul Salot, Ambuja Navalkar, Subhadeep Das, Reeba S Jacob. 2021, **Patent no. 361011**.
2. Patent filled on “Method for photoautotrophic production of succinate using recombinant *Synechococcus* sp” Pramod Wangikar, **Shinjinee Sengupta**, Deepti Shrahastrabudhi, Swati Madhu and Damini Jaiswal. 2021, **Patent application no. 202121022027**.