

Dr. Dipak Manna



Present affiliation:

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Research Interest:

My research experience in the field of infectious disease and parasitology over 17 years has been primarily focused on protozoan parasite *Entamoeba* which cause diarrheal disease. Presently my lab is studying the transcription regulatory networks that control stage conversion in this protozoan parasite that can be used as better drug target to prevent disease transmission. My lab presently working on the following areas-

- Developmental studies of protozoan parasite *Entamoeba*
- Transcription regulation in stress response
- Development of rapid, low-cost, point-of-care diagnostic kit for *Entamoeba*
- Development of an alternative method for introducing plasmid DNA into *Entamoeba*

Education:

- **Ph.D. (2010): Molecular and Cell Biology, Jadavpur University, Kolkata, India**
- **M.Sc (2003): Biotechnology. University of Calcutta, Kolkata, India**
- **B.Sc (2001): Microbiology (Hons), Chemistry, Zoology, Vidyasagar University, Midnapore, India**

Ramalingaswami Fellow: (2020-present)

- **2022 - present:** School of Biological Sciences, RKMVERI, West Bengal, India
- **2020 -2022:** School of Biotechnology, Presidency University, Kolkata

Research Experience (Postdoctoral): (2010-2020)

- **2016 - 2020:** **Research Scientist**, Department of Infectious disease, Singh lab, Stanford University School of Medicine, Stanford, CA, USA
- **2015 - 2016:** **Research Associate**, Department of Infectious disease under the supervision of Singh Lab at Stanford University School of Medicine, Stanford, CA, USA
- **2012 - 2015:** **Postdoc**, Department of Infectious disease under the supervision of Prof. Singh Lab, Stanford University School of Medicine, Stanford, CA, USA.
- **2011 - 2012:** **Postdoc**, Department of Biology under the supervision of Prof. Michael Welte, University of Rochester, NY, USA
- **2010 - 2011:** **Research Associate**, Department of Biochemistry under the supervision of Prof. Lohia. Bose Institute, Kolkata, India,

Teaching Experience:

- **2020-current: teach different topics to M.Sc Biotechnology students and Ph.D students in their course work**
 - 1.Genetics (Yeast)
 - 2.Proteomics
 - 3.Transcription (Prokaryotes and Eukaryotes)
 - 4.Infectious Disease (Fungal and Protozoan infection)
 - 5.Food Biotechnology
 - 6.Downstream Processing and product development
 - 7.Applied Bioinformatics and Biophysical techniques
 - 8.Biosafety

Post-graduate/Under-graduate Supervision:

I am looking for postgraduate students for supervising in the field of Parasitology and Infectious Disease. Highly motivated students with CSIR/UGC NET or any other own fellowship having a background in Microbiology/ Biotechnology/ Physiology/Zoology, or any other allied disciplines are welcome to contact at dmanna80@gmail.com

Present Members-

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| 1. Shreyasee Hazra (Project Assistant) | 2021- present |
| 2. Swapnodeep Bhadra (UG Trainee) | 2022- present |

Lab Alumni (M.Sc Dissertation student)

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|-------------------------|------|---|
| 1. Shreyasi Kundu | 2022 | Currently Pursuing PhD at VIT, Chennai |
| 2. Tanuja Chatterjee | 2022 | M.Sc in Bioinformatics and Biotechnology at D. Y. Patil Deemed to be University |
| 3. Afsana Yasmin Mondal | 2022 | M.Sc in Biotechnology at Presidency University |

Honors & Awards:

- Invited speaker at Department of Biotechnology, Haldia Institute of Technology in a Special virtual lecture series on **Nov 20th, 2021**.
- Selected for the prestigious **“Ramalingaswami Re-entry Fellowship- 2019”**, Department of Biotechnology, Government of India, to set up my own lab.
- Invited speaker at **AMOEBAC-meeting**. INSA, India, **2016**.
- **DST travel award** to participate in **American Society for Cell Biology (ASCB) meeting**, Philadelphia, USA, December 11-15, 2010.
- **Indian Council of Medical Research (ICMR)** fellowship scheme for PhD, Government of India from 2004-2009.
- Qualified **Graduate Aptitude Test in Engineering (GATE)** in Life Sciences, organized by **Indian Institute of Technology (IIT)**, Department of Education, Ministry of Human Resources Development Government of India, 2003.
- Selected for the National Scholarship Scheme 2001-2002, **Ministry of Human Resource Development**, Government of India.

Publications:

- Shreyasee Hazra, Afsana Yasmin Mondal and **Dipak Manna (2022)**. Giant amoeba: unites to survive (in preparation).
- Shreyasee Hazra, Shreyasi Kundu, Tanuja Chatterjee and **Dipak Manna (2022)**. **Molecular motors and their functions in *Entamoeba*** (in preparation).
- M, MK Marcoliono*, P Morgado*, **D Manna***, H Yee and U Singh (2021). **International journal of parasitology**. (* Equal contribution)
- **D Manna***, G Ehrenkaufers*, Amado DL* and U Singh (2020). **Current Opinion in Microbiology**. 58.(* Equal contribution).
- M Sharma, P Morgado, H Zhang, G Ehrenkaufers, **D Manna**, G Ehrenkaufers and U Singh (2020). **Infection and Immunity**. 88(10).
- **D Manna**, Amado DL, G Ehrenkaufers and U Singh (2020). **Front Cell Infect Microbiol**. 10, 363. H Zhang, V Tran, **D Manna**, G Ehrenkaufers, U Singh (2019). **mSphere**. 4 (5), e00580-19
- **D Manna** and U Singh (2019). **mBio**. 10 (3), e00737-19
- **D Manna**, CS Lentz, GM Ehrenkaufers, S Suresh, A Bhat and U Singh (2018). **eLife**. 7, e37912
- P Morgado*, **D Manna*** and U Singh (2016). **F1000Research**. 2578. (* Equal contribution)
- H Zhang, GM Ehrenkaufers, **D Manna**, N Hall, and U Singh (2015). **PlosOne**. 10(8)e0134481.
- MM Myat, R. Nanjundappa, **D Manna**, N Xu, U Patel, M Galiano, K Zielinski, A Lam, M Welte (2015). **Developmental Biology**. 407 (1), 103-114.
- **D Manna**, GM Ehrenkaufers, U Singh. (2014). **International journal of parasitology**. 44 (11):837-845.
- DH Kim, SL Cotton, **D Manna** and M Welte (2013). **PLoS One**. 8(2): e55070.
- **D Manna**, JS Grewal, B Sarkar, S Maiti and A Lohia (2013). **Cytoskeleton**. 70(5): 260-268.
- **D Manna**, PK Dutta, B Achari and A Lohia (2010). **Antimicrobial Agents and Chemother**. 54(11): 4825-4832.
- P Boominathan, R Shukla, A Kumar, **D Manna**, D Negi, PK Verma and D Chattopadhyay (2004). **Plant Physiology**. 135(3): 1608-1620.

Book Chapter:

- **Shreyasee Hazra** and **Dipak Manna (2022)**. Transcriptional control in *Entamoeba*: Something old, Something new. **Springer** (submitted)

Conference and Workshop:

Oral Presentation:

- **Oral presentation in** in a Special virtual lecture series organized by Haldia Institute of Technology on Nov 20th, 2021.
- **Oral presentation in the webinar on Host-Microbe Interaction: Present and Future Perspectives** Organized by Presidency University, Kolkata. Aug 6th- 7th 2020.
- **Oral presentation at Parasitology Group Meeting**, Stanford, USA, 2019. “An NAD⁺ dependent novel transcription factor regulates stage conversion in *Entamoeba*”.
- **Oral presentation at 29th Annual Molecular Parasitology Meeting**, Woods hole, USA, 2018. “An NAD⁺ dependent novel transcription factor regulates stage conversion in *Entamoeba*”.
- **Oral presentation at Stanford Microbiology & Immunology Retreat**, Santa Cruz, USA, 2017. “NAD⁺ binding and catalysis regulate stage conversion in *Entamoeba*”
- **Oral presentation at AMOEBAC-meeting**. INSA, India, 2016. “Identification of novel transcriptional factor that regulates stage conversion in *Entamoeba*”.

- **Oral presentation at Stanford Microbiology & Immunology Retreat**, Santa Cruz, USA, 2015. “Identification of novel transcriptional factor that regulates stage conversion in *Entamoeba*”.
- **Oral presentation at 26th Annual Molecular Parasitology Meeting**, Woods hole, USA, 2015. “Identification of novel transcriptional factor that regulates stage conversion in *Entamoeba*”.
- **Oral presentation at Dr. B. C. Guha Centre for Genetic Engineering and Biotechnology symposium**, University of Calcutta, Kolkata, India, 2009. “A novel galacto-glycerolipid from *Oxalis corniculata* kills *Entamoeba histolytica* and *Giardia lamblia*”,

Poster Presentation:

- **Poster presentation at ‘The Bay Area RNA Club (BARC)**, University of California San Francisco, USA, 2018. An NAD⁺ dependent novel transcription factor controls stage conversion in *Entamoeba*”.
- **Poster presentation at Stanford Microbiology & Immunology Scientific conference**, Santa Cruz, USA, 2018. An NAD⁺ dependent novel transcription factor controls stage conversion in *Entamoeba*”.
- **Poster presentation at Stanford Microbiology & Immunology retreat. 2016.** Identification of a novel transcription factor that regulates stage conversion in *Entamoeba* parasites.
- **Poster presentation at Stanford Microbiology & Immunology Retreat. 2013.** Santacruz, USA, “Identification of transcriptional regulatory networks that regulate stage conversion in *Entamoeba*”.
- **Poster presentation at American Society for Cell Biology (ASCB) meeting**, Philadelphia, USA, 2010. “Poly-unsaturated Fatty Acids Inhibit Depolymerization of Cortical Actin Fibers and Cell Motility in *E. histolytica*”.

Workshop:

Participated in **Science & Communication Workshop** organized by Wellcome Trust/DBT Alliance at Hyderabad, India, September 20-22, 2010.

Other Scientific Contributions: Served as reviewer in more than 25 manuscripts in the following peer-reviewed journals-

- i) PlosOne (2 manuscripts)
- ii) Parasites & Vectors (2 manuscripts)
- iii) Scientific Reports (1 manuscript)
- iv) Frontiers Cellular and infection microbiology (2 manuscripts)
- v) Drug Design, Development and Therapy (3 manuscripts)
- vi) Infection and Drug resistant (6 manuscripts)
- vii) OncoTargets and Therapy (4 manuscripts)
- viii) Therapeutics and Clinical Risk (2 manuscripts)
- ix) International Journal of Nanomedicine (1 manuscript)
- x) F1000 (1 manuscript)
- xi) Journal of Parasitic Diseases (2 manuscript)

Course Work and Volunteer:

- Essentials of Clinical Research certified training course (Module 1) at Stanford University (2018).
- CPR and A.E.D certified training course, Stanford (2017).
- Volunteered at Sustainability Festival 2018, Stanford on April 19th, 2018.
- Volunteered one year (2010-2011) as President at Bose Institute Research Scholar Forum, India. Organized Seminars, meetings, cultural programs.