

CURRICULUM VITAE

Dr. DEBJIT DE

Assistant Professor,
Department of Biotechnology,
School of Life Sciences,
Swami Viveka Nanda University.



Phone: (+91) 9674223501

Email ID: de.debjit92@outlook.com

OBJECTIVE

Seek a position to utilize and hone my skills in academia, research and development that offers professional growth and knowledge while being resourceful, innovative, and flexible.

AREAS OF RESEARCH INTEREST

- Biological sequence analysis
 - Prokaryotic genome sequence analysis
 - Microbial metagenomics and host-pathogen interactions
 - Meta-analysis and machine learning study of human disease
 - Human disease multi-omics analysis

RESEARCH PUBLICATIONS

Google Scholar: https://scholar.google.com/citations?hl=en&user=-j-7-_AAAAAJ

Journal Publications –

- Kunda, P., Mondal, S., **De, D.**, Dhal, P. K., & Mukherjee, A. (2024). Alteration of Rice Root Endophytic Bacterial Community Composition by Meloidogyne graminicola and Identification of Potential Biocontrol Agent. **Annals of Microbiology**, 74(1), 42. **Impact Fctor – 3.0**
- Talukdar, D., Sarkar, M., Ahrodia, T., Kumar, S., **De, D.**, Nath, S., ... & Das, B. (2024). Preverse preterm birth in early pregnancy through vaginal microbiome signatures using metagenomics and dipstick assays. **iScience**. **Impact Factor – 4.6**
- Nath, S., Sarkar, M., Maddheshiya, A., **De, D.**, Paul, S., Dey, S., Pal, K., Roy, S.K., Ghosh, A., Sengupta, S. and Paine, S.K., 2023. Upper respiratory tract microbiome profiles in SARS-CoV-2 Delta and Omicron infected patients exhibit variant specific patterns and robust prediction of disease groups. **Microbiology Spectrum**, 11(6), pp.e02368-23. **Impact Factor – 9.0**

- **De, D.**, Nayak, T., Chowdhury, S., & Dhal, P. K. (2022). Insights of host physiological parameters and gut-microbiome of Indian Type 2 Diabetic patients visualized via metagenomics and machine learning approaches. **Frontiers in Microbiology**, 0, 2479. doi.org/10.3389/FMICB.2022.914124. **Impact Factor – 4.0**
- Nayak, T., **De, D.**, Dhal, P. K. (2021). The differences in SARS-CoV and SARS-CoV-2 specific co-expression network mediated biological process in human gut enterocytes. **Infection, Genetics and Evolution**, doi.org/10.1016/j.meegid.2021.104892. **Impact Factor – 2.6**
- Nayak, T., **De, D.**, Karmakar, P., Deb, A., Dhal, P. K. (2021). Microbial communities of the drinking water with gradient radon concentration are primarily contributed by radon and heavy metal content. **Frontiers in Environmental Science**, 9, doi: 10.3389/fenvs.2021.576400. **Impact Factor – 3.3**
- Nayak, T., **De, D.**, Barman, C., Karmakar, P., Deb, A., Dhal, P. K. (2019). Characterization of indigenous bacteria from radon-rich groundwater and their tolerance to physicochemical stress. **International Journal of Environmental Science and Technology**, 17, 1627–1636, <https://doi.org/10.1007/s13762-019-02445-w>. **Impact Factor – 3.0**

Conference Paper –

- Mitra, S., Sarkar, S., **De, D.**, Ghosh, S., Ghosh, B., & Sarkar, S. (2023). Management Of Microbial Biofilm Using Nano Particle: A Review. **Journal of Advanced Zoology**, 44.

Book Chapter –

- **De, D.**, Nayak, T., Das, G., & Dhal, P. K. (2023). Metagenomics and bioinformatics in microbial ecology: Current status and beyond. **Applications of Metagenomics**, 359-385. <https://doi.org/10.1016/B978-0-323-98394-5.00009-2>, **ELSEVIER**, **ISBM no. – 9780323983945**.
- Paul, S., **De, D.**, Pal, P., & Ghosh, B. (2024). Chapter 2 - Unveiling Epigenetics And Human Diseases: Focus On Cancer Epigenetics. **Frontiers in Biotechnology Emerging Approaches** (pp. 23–41). **ISBN No. - 978-93-5980-245-9**
- Pal, P., **De, D.**, Banik, R.D., & Paul, S. (2024). Chapter 4 - An Overview Of The Mechanistic Approach To RNA Interference. **Frontiers in Biotechnology Emerging Approaches** (pp. 58–73). **ISBN No. - 978-93-5980-245-9**
- **De, D.**, Pal, P., Banik, R.D., & Paul, S. (2024). Chapter 8 - Unraveling The Wonders Of Genome Sequencing And It's Advance Method Next Generation Sequencing. **Frontiers in Biotechnology Emerging Approaches** (pp. 132–149). **ISBN No. - 978-93-5980-245-9**
- Banik, R.D., **De, D.** & Pal, P. (2024). Chapter 4 - Horizontal Gene Transfer In The Evolution Of Microbial Genomes. **Microbiome Principles and Explorations** (pp. 106–125). **ISBN No. - 978-93-5980-246-6**

- Chakraborty, S., **De, D.** (2024) Chapter 3 – Microbiome Study of COVID-19 Variants Using Metagenomics Approaches – A Systemic Review of Current Evidence and Future Directions. **Interdisciplinary Review Articles – Assisting As A Bridge Between Research & Development** (pp. 25-38). ISBN No. – 978-93-6135-236-2, DOI No. - <https://doi.org/10.22271/ed.book.2879>
- Garai, S., **De, D.** (2024) Chapter 3 – Gestational Diabetes Mellitus: A Global Challenges For Maternal & Fetal Health. **Microbes And Biotechnology: Real World Applications** (pp. 27-35). ISBN No. – 978-93-5834-281-9, DOI No. - <https://doi.org/10.62778/int.book.451>
- Bera, K., Gshosh, S., **De, D.** (2024) Chapter 3 - Exploring the Microbial World of Lung Cancer: A Systematic Review of Metagenomic Studies. **Microbial Biotechnology in Industry and Medicine** (pp. 29-44). ISBN No. - 978-93-6233-478-7, DOI No. - <https://doi.org/10.62906/bs.book.213>
- Kanjilal, S., **De, D.** (2024) Chapter 1 - Microbial Interactions and Their Implications in Oral Cancer Pathogenesis. **Biotech Miracles: Harnessing the Power of Microbes** (pp. 1-23). ISBN No. - 978-93-5834-436-3, DOI No. - <https://doi.org/10.62778/int.book.479>
- Acharya, R., Sardar, S., Saha, A., **De, D.** (2024) Inflammatory Bowel Disease and the Gut Microbiome: A Systematic Review of Current Evidence and Future Directions. **Articles from Different Disciplines that Serve as a Link between Research and Development** (pp. 23-36). ISBN No. - 978-93-6135-406-9, DOI No. - <https://doi.org/10.22271/ed.book.2993>
- Sutradhar, B.D., Ghosh, S., **De, D.** (2024) Chapter 1 – GBA Gene Expression Study Of Parkinson’s Disease. **Research Renaissance: Integration of Interdisciplinary Terrains** (pp. 1-09). ISBN No. – 979-889588010-4

EXPERIENCE

- **Assistant Professor**, Department of Biotechnology, School of Life Sciences, Swami Vivekananda University, Barrackpore, India from September, 2023 – till now.
 - **Responsibilities** –
 - Conducting original research in Meta-analysis of metagenomics (NGS - 16s Amplicons and Whole Genome) sequence data in various human disease condition with my students and research scholars.
 - Mentoring and supervising students of graduate, post-graduate and research scholars in research projects.
 - Coordinate with faculty and administration to ensure exam dates and times are set and communicated. Ensure that all logistical arrangements are in place, including exam venues, seating arrangements, and necessary equipment. Oversee the preparation of exam papers, including ensuring that they are printed and distributed securely.
 - Teaching undergraduate & post-graduate-level courses related to their field

and helping in developing course materials, syllabi, and assessments.

- **Research Data Analyst** under the Dr. Souvik Mukherjee, Assistant Professor, in the National Institute of Biomedical Genomics (NIBMG), Kalyani, INDIA from April, 2022 – August, 2023.
 - **Responsibilities –**
 - Performing bioinformatics analysis, statistical analysis and data mining techniques to derive meaningful insights from the NGS sequencing data (16s rRNA Amplicon and Whole Metagenome Sequence).
 - Ensuring data quality by cleaning, validating, and preprocessing datasets to remove errors, inconsistencies, and missing values.
 - Creating visual representations of data using graphs, charts, and other visualization tools to facilitate understanding and interpretation.
 - Communicating findings through written reports, presentations, and manuscripts for publication in scientific journals.
 - Managing and organizing large volumes of research data, ensuring data security, integrity, and compliance with regulatory standards.

RESEARCH EXPERIENCE

- Research project on “Characterization of gut microbiota of the Indian Type 2 Diabetic Patients: Sustainability of Human Health” under the supervision of Dr. Paltu Kumar Dhal, Department of Life Science and Biotechnology, Jadavpur University, Kolkata – 700032, INDIA, 2022.
- Research project on “An In-Silico Approach to Identify Secondary tRNA Structure” under the supervision of Prof. Subhasis Mukhopadhyay, Department of Bio-Physics, Molecular Biology and Bioinformatics, University of Calcutta, Kolkata – 700 009, INDIA, 2014.
- Research project on “Exploring the Correlation Between Habitat Growth Temperature & Genomic Conformation in Bacterial Population: An in-silico Approach” under the supervision of Prof. Subhasis Mukhopadhyay, Department of Bio-Physics, Molecular Biology and Bioinformatics, University of Calcutta, Kolkata – 700 009, INDIA, 2014.
- Research project on “In-silico Analysis of Huntington’s Disease Gene” under the supervision of Prof. Mahalingam K., Associate Professor, School of Bio Science & Technology, Vellore Institute of Technology (V.I.T.) University, Vellore – 632014, Tamil Nadu, INDIA, 2013.
- Research project on “Genotoxic Evaluation of Commonly Used Drugs in Model Systems (*Drosophila melanogaster*)” under the supervision of Prof. Sonali Sengupta, Assistant Professor, School of Bio Science & Technology, Vellore Institute of Technology (V.I.T.) University, Vellore – 632014, Tamil Nadu, INDIA, 2013.
- Research project on “Biosynthesis of Nanoparticles (Silver) From *Juglans regia* & *Tribullus terrestris* And Genotoxicity Test” under the supervision of Prof. Gopiesh Khanna

V, Assistant Professor, School of Bio Science & Technology, Vellore Institute of Technology (V.I.T.) University, Vellore – 632014, Tamil Nadu, INDIA, 2012.

RESEARCH SKILLS

- Molecular Techniques – Plasmid and Genomic DNA isolation, PCR, RE treatment, Cloning and Competent cell preparation, microbial culture.
- Bioinformatics tools used for Metagenomic and microbial diversity study (Trimmomatic, PEAR, SINA, SWARM, QIIME, MOTHUR, QIIME-2, DADA2, Humann-2, MetaPhlan, SortMeRNA).
- Hands on research experience on human microbiome that includes with shotgun metagenome, amplicon metagenomic and metatranscriptomic sequence data.
- RNA Seq data and differentially expressed data analysis (DESeq, Cytoscape).
- Machine learning model build and prediction.
- Computer- Good working experience on LINUX OS, Microsoft Office (Word, Power Point, Outlook & Excel).
- Programming Language (C, Perl), R programming, HTML.
- Planning, Presentations, Leadership.

RESEARCH COLLABORATION

- “Gut microbial dysbiosis in pregnant women with Type 2 Diabetes Mellitus” – ongoing research project work collaborated with Dr. (Prof.) Subhankar Chowdhury, SSKM-IPGEMR, Kolkata, West Bengal, India and Dr. Chittabrata Mal, Associate Professor, Department of Bioinformatics, Maulana Abul Kalam Azad University of Technology, West Bengal.
- “Microbial diversity in long COVID-19 infected patients (including new variants) & identification of biomarkers compared to healthy individuals” ongoing research project work collaborated with Dr. Ayan Roy, Assistant Professor, Department of Bioinformatics & Biotechnology, Asian University For Women, Chitagong, Bangladesh.

ORGANIZER / ACTIVITIES

- Trained 2 Students for **internship** (2 Months) - one student came from M.Sc. Biochemistry, University of Calcutta, West Bengal and another student came from B.Sc. Bioinformatics, Asian University For Women, Bangladesh.
- I also have one **PhD Research Scholar** name Prasun Paria and his research project entitled with “*Exploring Polysaccharides from Mushroom: Isolation, Structural Elucidation, Silver Nanoparticle Synthesis, and Biological Applications*” collaborated with Dr. Gajendranath Maity, Assistant Professor, Department of Microbiology, Asutosh College, University of Calcutta.
- **Organizer of One Day Hands-on Training** on Next Generation Sequence (NGS) Data

Handling, Swami Vivekananda University, Barrackpore, India, 13th June, 2024.

- **Responsibilities** –
 - Providing training and support to undergraduate student for deep understanding of upcoming future of computational biology and best practices.
- **Organizer of hands-on training** on Next Generation Sequence (NGS) Data Handling, Metagenomics Study: Approaches (16S Amplicon & Whole Genome) and Analysis Using R – Programming Language, Swami Vivekananda University, Barrackpore, India, January, 2024 – March, 2024.
 - **Responsibilities** –
 - Providing training and support to other researchers and analysts on data analysis techniques, tools, and best practices.
- **Organizer of workshop** on Human Microbiome Data Analysis, National Institute of Biomedical Genomics (NIBMG), Kalyani, India, December 2022.
 - **Responsibilities** –
 - Providing training and support to other researchers and analysts on data analysis techniques, tools, and best practices.
- **External examiner** of the Department of Biotechnology and Department of Microbiology at Sister Nivedita University (S.N.U.), West Bengal, India.
- Attend **Faculty Development Programme (FDP)** organized by Swami Vivekananda University (S.V.U.) and Adamas University – 6th, 9th, 10th, 13th and 15th of May, 2024.
- Attend **Faculty Development Programme (FDP)** organized by Swami Vivekananda University (S.V.U.) – 10th and 11th of February 2024.
- Attend **Faculty Development Programme (FDP)** organized by Swami Vivekananda University (S.V.U.) – 23rd and 24th of September 2023.

EDUCATION

2015-2023	Ph.D. in Computational Biology and Applied Microbiology	Department of Life Science and Biotechnology, Jadavpur University, India
2012-2014	M.Sc. in Biomedical Genetics	School of Bioscience and Technology, Vellore Institute of Technology (V.I.T.) University, India
2009-2012	B.Sc. in Genetics	Department of Genetics, Institute of Genetic Engineering, M.A.K.A.U.T., India

TEACHING INTERESTS

- Introduction to Bioinformatics (Theory and Laboratory)
- Molecular Evolution
- Genomics and Proteomics
- Molecular Modelling and Drug Design (Theory)
- Perl and BioPerl
- R Programming for Bioinformatics

REFERENCES

1. Dr. Paltu Kumar Dhal (Ph.D.)

Assistant Professor
Department of Life Science and Biotechnology
Jadavpur University, India
E-mail: paltuk.dhal@jadavpuruniversity.in
Contact Number: +91-9051080809

2. Prof. Biswadip Das (Ph.D.)

Professor
Department of Life Science and Biotechnology
Jadavpur University, India
E-mail: biswadip_das@yahoo.com
Contact Number: +91-9748908607

3. Prof. Subhasis Mukhopadhyay (Ph.D.)

Professor (Retired)
Department of Biophysics, Molecular Biology and Bioinformatics
University of Calcutta, India
E-mail: sm.bmbg@gmail.com
Contact Number: +91-8334893569

4. Dr. Ayan Roy (Ph.D.)

Assistant Professor
Department of Bioinformatics & Biotechnology
Asian University For Women, Bangladesh
E-mail: ayan.roy@auw.edu.bd
Contact Number: +91-9163139658

PERSONAL INFORMATION

- Name : Dr. Debjit De
- Father's Name : Mr. Dilip Kumar De
- Mother's Name : Mrs. Bithika De
- Brother's / Sister's Name : Mr. Debaditya De (younger brother)
- Date of Birth : 5th February, 1992
- Gender : Male
- Marital Status : Single
- Nationality : Indian
- Category : General
- Language Known : English, Hindi, Bengali
- Permanent Address : B-86, New Garia Co. – Op. Housing Development Society, Kolkata – 700094, West Bengal, India.

DECLARATION

I hereby declare that all statements and information provided in this Curriculum Vitae are true, complete, and correct to the best of my knowledge and belief.

Date: 22.02.2025



[Dr. Debjit De]