

BIOGRAPHICAL SKETCH

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NAME: **INDRANIL CHATTOPADHYAY**

POSITION TITLE: **Assistant Professor**

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Calcutta	B. Sc.	1995	Zoology, Botany, Chemistry
Visva-Bharati	M. Sc.	1997	Zoology
Birla Institute of Technology & Science, Pilani	Ph.D.	2009	Cancer Genetics
Roswell Park Cancer Institute, Buffalo, NY, USA	Post-Doctoral Studies	2013	Cancer Genetics

A. Personal Statement

I obtained masters degree in Zoology from Visva-Bharati University, West Bengal and doctoral degree (PhD) in Cancer Genetics from Birla Institute of Technology & Science, Pilani India. I have been serving in Central University of Tamil Nadu since May 2013, prior to this I was working as Post-Doctoral fellow at Roswell Park Cancer Institute, Buffalo, NY, USA from 1st May 2010 till April 2013 in the areas of cancer genomics. My specializations include environmental and industrial metagenomics, cancer genomics and metagenomics. About 16 years of research experience, so far been involved in over three research and consultancy projects in various capacities as principal investigator, and co-principal investigator. My special interest is to carry out to develop non-invasive biomarkers for cancer. My future plans are to continue on non-invasive biomarkers development, microbial diversity, biofilm formation, anti-microbial resistance gene and strain profile in polluted environment that are likely to bring changes in policy that have an impact in reducing health burden of my Country and my Globe.

Research Area & Experiences: 17 years

1. Metagenomics
2. Antimicrobial resistance
3. Probiotics & Postbiotics
4. Environmental Microbiology

Teaching Area & Experiences at PG level: 13 years

1. Ecology & Evolution
2. Genetics
3. Cell biology
4. Developmental Biology
5. Bioinformatics
6. Cancer Biology
7. Metagenomics

B. Positions and Honors

Positions and Employment

2013-till date Assistant Professor, Dept. of Life Sciences, Central University of Tamil Nadu

Honors & Awards

1. International Cancer Technology Transfer Fellowship by UICC in 2007 at Peter Mac Callum Cancer Institute; Melbourne; Australia
2. INSA Visiting Scientist Fellowship 2017-18
3. DBT Visiting Research Fellowship 2017-18 at North-East.
4. INSA Summer Research Fellowship 2016

Technical Expertise

- Microarray technology (cDNA/ Oligonucleotide array) for gene expression, & copy number analysis and methylation study
- Next Generation Sequencing (RNA & Chip Sequencing Library preparation, Captured Array Sequencing Library Preparation, DNA sequencing, Metagenomics approaches)
- Automated DNA sequencing, Real-Time PCR
- Bioinformatics (Web-based Free & Commercially Available Software) & Biostatistics
- Laboratory Animal Handling (Mouse Handling: Tumor Xenograft Development)
- Cell Culture & Basic Molecular Biology
- RNAi Technology (shRNA transfection by retroviral method)
- Isolation and Characterization of Exosome from Liquid Biopsy and Cell culture Media

Research Guidance:

Research Guidance	Guided	Guiding
Ph.D. Degree	3	2
Postdoctoral Students	1	-
M.Sc.	17	2

Membership of Professional Societies:

1. Life member of Environmental mutagen society of India (EMSI, India)
2. Life member of Society of Biological Chemistry (SBC); India
3. Life member of Indian Association of Cancer Research (IACR)
4. Life Member of UICC (International Union against Cancer)
5. Life member of Human Genome Organization (HUGO)

C. Contributions to Science

Publications : 56

Book Chapters : 27

International Conference Proceedings as an Invited Speaker: 20

Citations : 3031

h-index : 29

i10-index : 44

Research Publications in peer reviewed journals:

1. Zarin Taj, Muthu Pandi Indu, Aiswarya Sudheer, Chandrika Takri, **Indranil Chattopadhyay**, Comprehensive in silico and in vitro analysis of Lactobacillus sp. based secretory proteins and quorum-sensing peptides as potential antibiofilm bioactive agents against Streptococcus mutans, **The Microbe**, Volume 12, 2026, 100795, ISSN 2950-1946, <https://doi.org/10.1016/j.microb.2026.100795>.
2. Nidhin IK and **Chattopadhyay I** (2026) Integrated study of rhizosphere microbiome and metabolome profiles across tropical plantations in the Western Ghat regions of Kerala and Tamil Nadu, India. **Front. Microbiol.** 17:1840024. doi: 10.3389/fmicb.2026.1840024
3. Anurupa Chakraborty, Zarin Taj, Kamalavannan Raashika, L.C. Singh, Indranil Chattopadhyay, In silico disruption of TGF- β signalling in AR-deficient triple-negative

- breast cancer via AMP-based therapeutics, **In Silico Research in Biomedicine**, Volume 2, 2026,100163, ISSN 3050-7871, <https://doi.org/10.1016/j.ins.2025.100163>.
4. Vasanth rao R, Nidhin IK, Taj Z and **Chattopadhyay I** (2025) Comprehensive whole metagenomics analysis uncovers microbial community and resistome variability across anthropogenically contaminated soils in urban and suburban areas of Tamil Nadu, India. **Front. Microbiol.** 16:1649872. doi: 10.3389/fmicb.2025.1649872
 5. Sudheer A, Taj Z, Nidhin IK, **Chattopadhyay I**. Unraveling the Transcriptomic Adaptations of Streptococcus mutans Biofilm to the Post-Biotic Impact of Lactiplantibacillus plantarum. **APMIS**. 2025 Jul; 133(7):e70054. doi: 10.1111/apm.70054.
 6. Z Taj, V Marisamy, **I Chattopadhyay**, In Silico Optimization of a Streptomyces sp. Antimicrobial Peptide against Oncobacteria in Oral Squamous Cell Carcinoma. **Peptide Science**, Vol. 117, Issue1, e24389 (2025). <https://doi.org/10.1002/pep2.24389>.
 7. Sudheer A, Dastidar DG, Ghosh G, Taj Z, Nidhin IK, **Chattopadhyay I**. Comprehensive genomics, probiotic, and antibiofilm potential analysis of Streptococcus thermophilus strains isolated from homemade and commercial dahi. **Sci Rep**. 2025 Feb 27; 15(1):7089. doi: 10.1038/s41598-025-90999-w.
 8. Datta, M., **Chattopadhyay, I**. Applications of microbial biosurfactants in human health and environmental sustainability: a narrative review. **Discov Med** 1, 160 (2024). <https://doi.org/10.1007/s44337-024-00181-w>
 9. Zarin Taj, Aiswarya Sudheer, Vibisha Vivekananthan, **Indranil Chattopadhyay**, In silico and In vitro approach to assessing the antimicrobial efficiency of novel AMP variants derived from Lactobacillus sp. against ESKAPE pathogens, **Biocatalysis and Agricultural Biotechnology**, Volume 58, 2024, 103235, ISSN 1878-8181, <https://doi.org/10.1016/j.bcab.2024.103235>.
 10. Taj, Z., **Chattopadhyay, I**. Identification of bio-active secondary metabolites from Actinobacteria as potential drug targets against Porphyromonas gingivalis in oral squamous cell carcinoma using molecular docking and dynamics study. **In Silico Pharmacol.** 12, 34 (2024). <https://doi.org/10.1007/s40203-024-00209-0>
 11. Taj, Z. and **Chattopadhyay, I**. (2024), In Silico Prediction and Molecular Simulation of Antimicrobial Peptide Variants From Lactobacillus sp. Against Porphyromonas gingivalis and Fusobacterium nucleatum in Oral Squamous Cell Carcinoma. **Pept Sci** e24348. <https://doi.org/10.1002/pep2.24348>
 12. Rajeev A, Sudheer A, **Chattopadhyay I**. Probiotics as a Sustainable Approach in Health Enrichment. *J Pure Appl Microbiol.* 2024; 18(1):80-99.
 13. Ishika Bera, Illathu Kandy Nidhin, Manoj Emanuel Hembrom, Kanad Das, **Indranil Chattopadhyay**, Metagenomics offers insights into the rhizospheric bacterial diversity of mushrooms from a tropical forest and temperate forest of India, **Ecological Genetics and Genomics**, Volume 29,2023,100203,ISSN 2405-9854, <https://doi.org/10.1016/j.egg.2023.100203>.
 14. K S, Vasanthrao R, **Chattopadhyay I**. Impact of environment on transmission of antibiotic-resistant superbugs in humans and strategies to lower dissemination of antibiotic resistance. **Folia Microbiol (Praha)**. 2023 Oct; 68(5):657-675. doi: 10.1007/s12223-023-01083-7.
 15. **Chattopadhyay I**, Gundamaraju R, Rajeev A. Diversification and deleterious role of microbiome in gastric cancer. **Cancer Rep (Hoboken)**. 2023 Nov; 6(11):e1878. doi: 10.1002/cnr2.1878.
 16. Datta M, Rajeev A, **Chattopadhyay I**. Application of antimicrobial peptides as next-generation therapeutics in the biomedical world. **Biotechnol Genet Eng Rev**. 2023 Apr 10:1-39. doi: 10.1080/02648725.2023.2199572
 17. Kavitha S, Yukesh Kannah Ravi, Gunasekaran M, **Indranil Chattopadhyay**, Sivashanmugam Palani, Vinod Kumar, Gopalakrishnan Kumar, and Rajesh Banu Jeyakumar. Development of an Integrated Biorefinery System for Bioconversion of Lignocellulosic Biomass to Polyhydroxyalkanoates and Biohydrogen. **ACS Sustainable Chemistry & Engineering** Article ASAP. DOI: 10.1021/acssuschemeng.2c06350
 18. Hazarika P, **Chattopadhyay I**, Umpo M, Choudhury Y, Sharma I. Elucidating the gut microbiome alterations of tribal community of Arunachal Pradesh: perspectives on their

- lifestyle or food habits. **Sci Rep.** 2022 Oct 31; 12(1):18296. doi: 10.1038/s41598-022-23124-w.
19. Hazarika P, **Chattopadhyay I**, Umpo M, Choudhury Y, Sharma I. Studies on antimicrobial stress with reference to biofilm formation of faecal microbial communities from Apatani tribe of Arunachal Pradesh. **Indian J Med Microbiol.** 2022 Oct 13:S0255-0857(22)00184-0. doi: 10.1016/j.ijmmb.2022.09.011
 20. Yong YK, Wong WF, Vignesh R, **Chattopadhyay I**, Velu V, Tan HY, Zhang Y, Larsson M, Shankar EM. Dengue Infection - Recent Advances in Disease Pathogenesis in the Era of COVID-19. **Front Immunol.** 2022 Jul 6; 13:889196. doi: 10.3389/fimmu.2022.889196.
 21. **Chattopadhyay I**, Lu W, Manikam R, Malarvili MB, Ambati RR, Gundamaraju R. Can metagenomics unravel the impact of oral bacteriome in human diseases? **Biotechnol Genet Eng Rev.** 2022 Jul 21:1-33. doi: 10.1080/02648725.2022.2102877.
 22. Gundamaraju R, Lu W, Paul MK, Jha NK, Gupta PK, Ojha S, **Chattopadhyay I**, Rao PV, Ghavami S. Autophagy and EMT in cancer and metastasis: Who controls whom? **Biochim Biophys Acta Mol Basis Dis.** 2022 May 6:166431. doi: 10.1016/j.bbadis.2022.166431.
 23. **Chattopadhyay I**, J RB, Usman TMM, Varjani S. Exploring the role of microbial biofilm for industrial effluents treatment. **Bioengineered.** 2022 Mar; 13(3):6420-6440. doi: 10.1080/21655979.2022.2044250.
 24. Roy P, Sarma A, Kataki AC, Rai AK, **Chattopadhyay I**. Salivary microbial dysbiosis may predict lung adenocarcinoma: A pilot study. **Indian J Pathol Microbiol** 2022; 65:123-8.
 25. **Chattopadhyay I**, Gundamaraju R, Jha NK, Gupta PK, Dey A, Mandal CC, Ford BM. Interplay between Dysbiosis of Gut Microbiome, Lipid Metabolism, and Tumorigenesis: Can Gut Dysbiosis Stand as a Prognostic Marker in Cancer? **Dis Markers.** 2022 Feb 8; 2022:2941248. doi: 10.1155/2022/2941248.
 26. **Indranil Chattopadhyay**, Role of microbiome and biofilm in environmental plastic degradation, **Biocatalysis and Agricultural Biotechnology**, Volume 39,2022,102263,ISSN 1878-8181,https://doi.org/10.1016/j.bcab.2021.102263.
 27. **Chattopadhyay I**, Ambati R, Gundamaraju R. Exploring the Crosstalk between Inflammation and Epithelial-Mesenchymal Transition in Cancer. **Mediators Inflamm.** 2021 Jun 14; 2021:9918379. doi: 10.1155/2021/9918379.
 28. Banu JR, Kumar G, **Chattopadhyay I**. Management of microbial enzymes for biofuels and biogas production by using metagenomic and genome editing approaches. **3 Biotech.** 2021 Oct; 11(10):429. doi: 10.1007/s13205-021-02962-x.
 29. **Chattopadhyay I**, Dhar R, Pethusamy K, Seethy A, Srivastava T, Sah R, Sharma J, Karmakar S. Exploring the Role of Gut Microbiome in Colon Cancer. **Appl Biochem Biotechnol.** 2021 Jun; 193(6):1780-1799. doi: 10.1007/s12010-021-03498-9. Epub ahead of print. PMID: 33492552
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 31. Hazarika P, **Chattopadhyay I**, Umpo M, Choudhury Y, Sharma I. Phylogeny, Biofilm Production, and Antimicrobial Properties of Fecal Microbial Communities of Adi Tribes of Arunachal Pradesh, India. **Appl Biochem Biotechnol.** 2021 Jun; 193(6):1675-1687. doi: 10.1007/s12010-021-03535-7.
 32. Seethy A, Pethusamy K, **Chattopadhyay I**, Sah R, Chopra A, Dhar R, Karmakar S. TETology: Epigenetic Mastermind in Action. **Appl Biochem Biotechnol.** 2021 Mar 10. doi: 10.1007/s12010-021-03537-5.
 33. **Chattopadhyay I**, Shankar EM. SARS-CoV-2-Indigenous Microbiota Nexus: Does Gut Microbiota Contribute to Inflammation and Disease Severity in COVID-19? **Front Cell Infect Microbiol.** 2021 Mar 11; 11:590874. doi: 10.3389/fcimb.2021.590874.
 34. **Chattopadhyay I**, Nandi D, Nag A. The pint- sized powerhouse: Illuminating the mighty role of the gut microbiome in improving the outcome of anti- cancer therapy. **Semin Cancer Biol.** 2021 May; 70:98-111.

35. Rai AK, Panda M, Das AK, Rahman T, Das R, Das K, Sarma A, Kataki AC, **Chattopadhyay I**. Dysbiosis of salivary microbiome and cytokines influence oral squamous cell carcinoma through inflammation. **Arch Microbiol**. 2021 Jan;203(1):137-152
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37. Panda M, Rai AK, Rahman T, Das A, Das R, Sarma A, Kataki AC, **Chattopadhyay I**. Alterations of salivary microbial community associated with oropharyngeal and hypopharyngeal squamous cell carcinoma patients. **Arch Microbiol**. 2020 May; 202(4):785-805.
38. **Chattopadhyay I**, Verma M, Panda M. Role of Oral Microbiome Signatures in Diagnosis and Prognosis of Oral Cancer. **Technol Cancer Res Treat**. 2019;18:1533033819867354
39. **Chattopadhyay I**, Panda M. Recent Trends of Saliva Omics Biomarkers for the Diagnosis and Treatment of Oral Cancer. **J Oral Biosci**. 2019 Mar 22. pii: S1349-0079(18)30160-9. doi:10.1016/j.job.2019.03.002, ISSN: 1349-0079
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41. Baba AB, Nivetha R, **Chattopadhyay I**, Nagini S. (2017) Blueberry and malvidin inhibit cell cycle progression and induce mitochondrial-mediated apoptosis by abrogating the JAK/STAT-3 signaling pathway. **Food and Chemical Toxicology** 109(1):534-543.
42. **Chattopadhyay I**, Wang J, Qin M, Gao L, Holtz R, Vessella RL, Leach RW, Gelman IH. (2017) Src promotes castration-recurrent prostate cancer through androgen receptor-dependent canonical and non-canonical transcriptional signatures. **Oncotarget** 8(6):10324-10347.
43. Singh V, Singh LC, Vasudevan M, **Chattopadhyay I**, Borthakar BB, Rai AK, Phukan RK, Sharma J, Mahanta J, Kataki AC, Kapur S, Saxena S. (2015) Esophageal cancer epigenomics and integrome analysis of genome-wide methylation and expression in high risk Northeast Indian population. **OMICS** 19(11):688-699.
44. Sharma A, Pandey A, Sharma S, **Chatterjee I**, Mehrotra R, Sehgal A, Sharma JK. (2014) Genetic polymorphism of glutathione S-transferase P1 (GSTP1) in Delhi population and comparison with other global populations. **Meta Gene** 20(2):134-142.
45. Yadav DS, **Chattopadhyay I**, Verma A, Devi TR, Singh LC, Sharma JD, Kataki ACh, Saxena S, Kapur S. (2014) A pilot study evaluating genetic alterations that drive tobacco- and betel quid-associated oral cancer in Northeast India. **Tumour Biology** 35(9):9317-9330.
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48. **Chattopadhyay I**, Singh A, Phukan R, Purkayastha J, Kataki A, Mahanta J, Saxena S, Kapur S. Genome-wide analysis of chromosomal alterations in patients with esophageal squamous cell carcinoma exposed to tobacco and betel quid from high-risk area in India. **Mutat Res**. 2010 Feb; 696(2):130-8.
49. Thoudam RD, Yadav DS, Mishra AK, Kaushal M, Ihsan R, **Chattopadhyay I**, Chauhan PS, Sarma J, Zomawia E, Verma Y, Nandkumar A, Mahanta J, Phukan R,

- Kapur S, Saxena S. Distribution of glutathione S-transferase T1 and M1 genes polymorphisms in North East Indians: a potential report. **Genet Test Mol Biomarkers**. 2010 Apr; 14(2):163-9.
50. Kaushal M, **Chattopadhyay I**, Phukan R, Purkayastha J, Mahanta J, Kapur S, Saxena S. Contribution of germ line BRCA2 sequence alterations to risk of familial esophageal cancer in a high-risk area of India. **Dis Esophagus**. 2010 Jan; 23(1):71-5.
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 55. **Chattopadhyay I**. (2017) Application of radiogenomics in radiation oncology. **Journal of Radiation Cancer Research** 8:74-76.
 56. Anupam Sarma, Amal Chandra Katakai, Avdhesh Kumar Rai, Munlima Hazarika, Partha Sarathi Roy, Manoj Kalita, Manab Deka, **Indranil Chattopadhyay**. Promoter Hypermethylation of ATG16L2, TFAP2A, EBF2, Calcitonin, ABL1 Kinase Domain T315I Mutation Association with Imatinib Therapy Resistance and Median Survival in CML Patients of North-East India. **Asian Pacific Journal of Cancer Care** 8 (1), 35-42. DOI:10.31557/APJCC.2023.8.1.35

Chapters in Book by International Publishers:

1. Evaluation of Environmental Contaminants and Natural Products: A Human Health Perspective/ Environmental Pollutants and Risk of Cancer - Pp. 24-46 (23): **Indranil Chattopadhyay**; 2019, DOI: 10.2174/97898114109631190101 Bentham Science Publishers, SINGAPORE. ISBN: 978-981-14-1095-6
2. **Chattopadhyay I**. (2020) Role of Nutrigenetics and Nutrigenomics in Cancer Chemoprevention. In: Kumar M., Sharma A., Kumar P. (eds) Pharmacotherapeutic Botanicals for Cancer Chemoprevention. Springer, Singapore. https://doi.org/10.1007/978-981-15-5999-0_7. Online ISBN: 978-981-15-5999-0
3. Thimmulappa RK, **Chattopadhyay I**, Rajasekaran S. Oxidative Stress Mechanisms in the Pathogenesis of Environmental Lung Diseases. Oxidative Stress in Lung Diseases. 2019; 103-137. Published 2019 Jul 25. doi:10.1007/978-981-32-9366-3_5. ISBN: 978-981-329-368-7.
4. **Chattopadhyay I**. (2020) Microbial Pathogenesis and Antimicrobial Drug Resistance. In: Siddhardha B., Dyavaiah M., Syed A. (eds) Model Organisms for Microbial Pathogenesis, Biofilm Formation and Antimicrobial Drug Discovery. Springer, Singapore. https://doi.org/10.1007/978-981-15-1695-5_6. ISBN: 978-981-15-1697-9
5. **Chattopadhyay I**. (2020) Cell Lines as In Vitro Model for Studying Microbial Pathogenesis. In: Siddhardha B., Dyavaiah M., Syed A. (eds) Model Organisms for Microbial Pathogenesis, Biofilm Formation and Antimicrobial Drug Discovery. Springer, Singapore. https://doi.org/10.1007/978-981-15-1695-5_19.
6. Application of Circulating Cell-free DNA for Personalized Cancer Therapy. **I Chattopadhyay**. Precision Medicine in Oncology, 83-97. <https://doi.org/10.1002/9781119432487.ch3>.
7. **Chattopadhyay I**. (2020) Application of Nanoparticles in Drug Delivery. In: Siddhardha B., Dyavaiah M., Kasinathan K. (eds) Model Organisms to Study Biological Activities and Toxicity of Nanoparticles. Springer, Singapore. https://doi.org/10.1007/978-981-15-1702-0_3. Online ISBN: 978-981-15-1702-0

8. **Indranil Chattopadhyay**, Microbial community genetics, transcriptomics, proteomics, and metabolomics, Editor(s): Maulin Shah, Susana Rodriguez-Couto, Microbial Ecology of Wastewater Treatment Plants, Elsevier, 2021, Pages 511-522, ISBN 9780128225035, <https://doi.org/10.1016/B978-0-12-822503-5.00025-4>.
9. **Indranil Chattopadhyay**, Antibiotic-resistant bacteria and antibiotic resistance genes profile in wastewater treatment plants by using genomic approaches, Editor(s): Maulin P. Shah, Susana Rodriguez-Couto, Wastewater Treatment Reactors, Elsevier, 2021, Pages 567-582, ISBN 9780128239919, <https://doi.org/10.1016/B978-0-12-823991-9.00008-3>.
10. Muhilan BM and **Indranil Chattopadhyay**, Microbial Enzymes and their Role in the Bioremediation of Environmental Pollutants: Prospects and Challenges; Microbial Remediation of Azo Dyes with Prokaryotes, Edited By Maulin P Shah, DOI: 10.1201/9781003130932-20; CRC Press; eBook ISBN: 9781003130932.
11. **Chattopadhyay I.** (2022) Therapeutic Application of Microbial Metabolites in Free Radical Induced Tumorigenesis. In: Chakraborti S. (eds) Handbook of Oxidative Stress in Cancer: Therapeutic Aspects. Springer, Singapore. https://doi.org/10.1007/978-981-16-1247-3_7-1. Online ISBN: 978-981-16-1247-3
12. **Chattopadhyay I.** (2022) Role of ROS-Mediated Epigenetic Alterations in the Development of Solid Tumor. In: Chakraborti S. (eds) Handbook of Oxidative Stress in Cancer: Therapeutic Aspects. Springer, Singapore. https://doi.org/10.1007/978-981-16-1247-3_81-1. Online ISBN: 978-981-16-1247-3
13. B.M. Muhilan, **Indranil Chattopadhyay**, Chapter 16 - Exploring the role of soil microbiome in global climatic changes, Editor(s): Ajay Kumar, Joginder Singh, Luiz Fernando Romanholo Ferreira, Microbiome Under Changing Climate, Woodhead Publishing, 2022, Pages 353-370, ISBN 9780323905718, <https://doi.org/10.1016/B978-0-323-90571-8.00016-X>.
14. Kouselya, M., Muhilan, B. M. and **Chattopadhyay, Indranil**. "Omics approaches for characterization of environmental microorganisms". *Environmental Microbiology: Emerging Technologies*, edited by Maulin Shah, Berlin, Boston: De Gruyter, 2022, pp. 1-32. <https://doi.org/10.1515/9783110727227-001>
15. Suganya, K., Babu, S., **Chattopadhyay, I.** (2022). Engineering and studying syngeneic animal tumors and large animal endogenous tumor models. In: Pathak, S., Banerjee, A., Bisgin, A. (eds) Handbook of Animal Models and its Uses in Cancer Research. Springer, Singapore. https://doi.org/10.1007/978-981-19-1282-5_25-1. Online ISBN 978-981-19-1282-5
16. Nidhin, I.K. and **Chattopadhyay, I.**, 2022. 2 Emerging technologies in environmental microbiology. *Environmental Microbiology: Emerging Technologies*, p.33. Walter de Gruyter GmbH & Co KG.
17. Ramachandran Vignesh, Pitchaipillai S. Ganesh, Sathish Sankar, **Indranil Chattopadhyay**, Yean K. Yong, Marie Larsson, and Esaki M. Shankar (2023). Gut Microbiota Peculiarities in Aged HIV-Infected Individuals: Molecular Understanding and Therapeutic Perspectives. In: Marotta, F. (eds) Gut Microbiota in Aging and Chronic Diseases. Healthy Ageing and Longevity, vol 17. Springer, Cham. https://doi.org/10.1007/978-3-031-14023-5_20.
18. Rajeev, A., **Chattopadhyay, I.** (2024). Role of Gut Brain and Gut Oral Axis in Progression of Parkinson's disease with Special Focus on Gut Microbes. In: Pathak, S., Banerjee, A. (eds) Gut Microbiome and Brain Ageing. Springer, Singapore. https://doi.org/10.1007/978-981-99-8803-7_13; ISBN: 978-981-99-8803-7; Springer, Singapore.
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27. V. Aarthi, **Indranil Chattopadhyay**, Chapter 6 - Role of cancer stem cells in developing chemoresistance of solid tumor, Editor(s): Surajit Pathak, Antara Banerjee, Cancer Stem Cells and Signaling Pathways, Academic Press, 2024, Pages 119-133, ISBN 9780443132124, <https://doi.org/10.1016/B978-0-443-13212-4.00020-9>.

Research Projects:

Sr. No.	Title	Sponsor
1.	Role of transcriptional program of wild type and mutated androgen receptor in prostate cancer	UGC, New Delhi
2.	Determine salivary microbiome signatures in tobacco and betel quid associated oral cancer of North- East India	DBT, New Delhi
3	Determination of Salivary methylome Signatures to develop Diagnostic biomarkers for oral cancer in North East India	SERB, New Delhi
4	Antimicrobial resistance surveillance of Tamil Nadu (India) surface waters	Edinburgh Napier University
5	Application of soil microbiome alterations in climatic changes in Cauvery delta area with respect to oil leak from Oil and Natural Gas Corporation (ONGC) pipeline	UGC Stride
6	Assessing the Combined Impact of Probiotic Lactobacillus sp and Antimicrobial Peptides on Carcinogenic Multi-species Oral Biofilm	ICMR
7	Assessment of anti-oral biofilm activity of Exopolysaccharides from probiotic strains of fermented soybean food Tungrymbai of Meghalaya	DBT
8	Evaluation of Antibiofilm Efficacy and Mechanism of Action of Biosurfactants against Oral Biofilm formation by Porphyromonas gingivalis and Fusobacterium nucleatum and their Inflammatory	ICMR

Sr. No.	Title	Sponsor
	Potentials in Oral Epithelial Cells.	

D. Reviewer for Journals:

1. BMC Cancer
2. Plos One
3. Cancer Management and Research
4. Journal of Biochemical and Molecular Toxicology
5. Frontiers in Microbiology
6. Frontiers in Genetics
7. Archives of Oral Biology
8. Public Health
9. Journal of Thermal Biology
10. Microbial Pathogenesis

E. content development:

• e-Content (developed in 4 quadrants) per module	• PGPathshala-Biophysics	• PG
• Paper 11 : Cellular And Molecular Biophysics • Module 28 : Concept of Gene and Chromosomal Organization • MODULE 26: SIGNAL TRANSDUCTION PATHWAYS IN DEVELOPMENT AND DISEASE	• PGPathshala-Biophysics	• PG

F. Invited Lecture/Papers presented in Conferences/Seminars/Refresher/Orientation/FD

Title of the Invited Lecture/Paper presented	Title of Conference/ Seminar etc.	Organized by	Date of Presentation	Level
Genomic Approaches to Identify Biomarkers for Esophageal Squamous Cell Carcinoma in High-Risk Region of India	National Conference on Genetics of Human Diseases	Department of Animal Science; Central University of Kerala, Kasaragod.	3rd November 2016	National
Application of Radiogenomics in Radiation Oncology	First International School on Radiation Research (ISRR-2017): Radiation Carcinogenesis: Mechanism and Experimental Models	Department of Biochemistry and Biotechnology; Annamalai University & Society For Radiation Research;	2nd February, 2017	International (within India)

Genetic Alterations that Drive Tobacco and Betel Quid Associated Oral Cancer in North-East India	Global Cancer Summit-2015 International Collaborative Conference	Biogenesis Health Cluster, Indian Council of Medical Research and Global Cancer Foundation	18th November 2015	International (within India)
Molecular Alterations of Tobacco and Betel Quid Associated Esophageal Cancer in High-Risk Region of India	International Conference on Environmental Mutagenesis, Carcinogenesis and Health and 40th Annual Meeting of Environmental Mutagen Society of India (EMSI) ICEMCH-2016.	Environmental Mutagen Society of India (EMSI)	February 19th , 2016	International (within India)
Role of Src in Castration Recurrent Prostate Cancer	7th International Conference on Translational Cancer Research	IIT Madras& MD Anderson Cancer Research Centre	9 th February, 2018	International (within India)
Databases and Web Servers for Biological Annotation of Cancer Biomarkers	Refresher Course on Bioinformatics in Life Sciences	UGC, HRDC, Mizoram University	26 th March, 2018	National
Workflow of microarray data analysis with special focus on cancer biomarker discovery	Refresher Course on Bioinformatics in Life Sciences	UGC, HRDC, Mizoram University	26 th March, 2018	National
Making sense of Human Genomes by using Nucleic Acid Research Data Bases and Web servers	Refresher Course on Bioinformatics in Life Sciences	UGC, HRDC, Mizoram University	26 th March, 2018	National
Src induced AR in Castration Recurrent Prostate Cancer	Trends in Cancer Omics (Sponsored by ICMR)	Centre for Bioinformatics, Pondicherry University	14 th March, 2018	National
Gene Signatures that drive Castration Recurrent Prostate Cancer	International conference on Biochemical Understanding of Cancer Cell Survival and Progression	Karpagam Academy of Higher Education	5 th March, 2018	International (within India)

Role of Src and Ack1 Regulated Androgen Receptor Driven Transcriptomic Signatures and its Therapeutic Application in Castration Recurrent Prostate Cancer	ICMBDT-2019	School of Life Sciences, Central University of Rajasthan, Ajmer, India	9 th March, 2018	International (within India)
Molecular Profiling Evaluates Unique Gene sets related to Fermented Betel Quid Associated Esophageal Cancer in NE India	ICSCC-2014	ICSCCB	10 th November, 2014	International (within India)
In silico Identification of Bioactive Treasure Trove of Streptomyces Against Bacterial Aggravated Oral Cancer	JNU, New Delhi & AIIMS Rishikesh	JNU, New Delhi & AIIMS Rishikesh	2025-02-21	International (within country)
Role of salivary microbiome alterations in early diagnosis and prognosis of head and neck cancer	8th International Translational Cancer Research Conference on Role of Inflammation and Immune System for Cancer Prevention and Treatment,	Department of Biochemistry, Institute of Science, BHU, Varanasi-5, India, Society for Translational Cancer Research	2020-02-15	International (within country)
Application of metagenomic approaches for diagnosis of infectious disease	Advanced Molecular Techniques in infectious disease diagnosis, virtual National conference" on 24th and 25th November 2021,	Department of Microbiology, Sree Balaji Dental College and Hospital, Chennai-600 100	2021-11-24	National
Application of metagenomic approaches in Human Disease	Based Internship Program by RUSA	The University of Madras	2022-01-27	National
Exploring the role of gut microbiome in colon cancer	Biospectrum 2020, International Conference on Biotechnology and Biological Sciences	UEM, Kolkata	2020-11-20	International (within country)

Can saliva based metagenomics unravel the impact of oral bacteriome in oral diseases?	62 AMI meeting	Mysore University	2022-09-22	International (within country)
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