

Sharmila Mande

Chief Scientist
TCS Research & Innovation

Education:

- PhD in Physics from Indian Institute of Science (IISc), Bangalore (1991)
- Post-doctoral training at University of Groningen, The Netherlands and University of Washington, Seattle, USA.

Areas of Research Interests:

- Microbiome analytics,
- Biomarker discovery for early diagnosis of diseases/disorders,
- Systems biology,
- Algorithm development for analyzing large scale biological data and applying the same to understand human health.

Publications :

International Journals

1. 'OTUX: V-region specific OTU database for improved 16S rRNA OTU picking and efficient cross-study taxonomic comparison of microbiomes.' Deepak Yadav, Anirban Dutta and Sharmila S. Mande, DNA Research (2019) <https://academic.oup.com/dnaresearch/advance-article/doi/10.1093/dnares/dsy045/5280828>
2. 'NetShift': A methodology for understanding 'driver microbes' from healthy and disease microbiome datasets.' Bhusan K. Kuntal, P Chandrakar, Sudipta Sadhu and Sharmila S. Mande, The ISME journal (2018) <https://www.nature.com/articles/s41396-018-0291-x>
3. 'iVikodak—A Platform and Standard Workflow for Inferring, Analyzing, Comparing, and Visualizing the Functional Potential of Microbial Communities.' Sunil Nagpal, Mohammed Monzoorul Haque, Rashmi Singh and Sharmila S. Mande, Frontiers in microbiology (2018) <https://www.frontiersin.org/articles/10.3389/fmicb.2018.03336/full>

4. 'FLIM-MAP: Gene Context Based Identification of Functional Modules in Bacterial Metabolic Pathways.' Vineet Bhatt, Anwesa Mohapatra, Swadha Anand, Bhusan K. Kuntal and Sharmila S. Mande, *Frontiers in microbiology* (2018)
<https://www.frontiersin.org/articles/10.3389/fmicb.2018.02183/full>
5. 'Diet, Microbiota and Gut-Lung Connection.' Swadha Anand and Sharmila S. Mande, *Frontiers in microbiology* (2018) <https://www.frontiersin.org/articles/10.3389/fmicb.2018.02147/full>
6. 'Understanding the role of interactions between host and Mycobacterium tuberculosis under hypoxic condition: an in silico approach.' Tungadri Bose, Chandrani Das, Anirban Dutta, V. Mahamkali, Sudipta Sadhu, Sharmila S. Mande, *BMC genomics* (2018)
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7. 'Alterations in the gut bacterial microbiome in fungal Keratitis patients.' Sama Kalyana Chakravarthy, Rajagopalaboopathi Jayasudha, Konduri Ranjith, Anirban Dutta, Nishal Kumar Pinna, Sharmila S. Mande, Savitri Sharma, Prashant Garg, Somasheila I. Murthy and Sisinthy Shivaji, *PLoS one* (2018)
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0199640>
8. 'A snapshot of gut microbiota of an adult urban population from Western region of India.' Disha Tandon, Mohammed Monzoorul Haque, R. Saravanan, S. Shaikh, P. Sriram, A. K. Dubey and Sharmila S. Mande, *PLoS One* (2018) <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0195643>
9. 'Dynamics and Control of Flagella Assembly in Salmonella typhimurium.' C. Das, C. Mokashi, Sharmila S. Mande, S. Saini *Frontiers in Cell Infect Microbiol* (2018)
<https://www.frontiersin.org/articles/10.3389/fcimb.2018.00036/full>
10. 'TIME': A Web Application for Obtaining, Insights into Microbial Ecology Using Longitudinal Microbiome Data.' K.D. Baksi, B.K. Kuntal, Sharmila S. Mande, *Frontiers in Microbiology* (2018)
<https://www.frontiersin.org/articles/10.3389/fmicb.2018.00036/full>
11. 'First-trimester vaginal microbiome diversity: A potential indicator of preterm delivery risk.' M.M. Haque, M. Merchant, P.N. Kumar, A. Dutta, Sharmila S. Mande, *Scientific Reports* (2017)
<https://www.nature.com/articles/s41598-017-16352-y>
12. 'In Silico Analysis of Putrefaction Pathways in Bacteria and Its Implication in Colorectal Cancer.' H. Kaur, C. Das, Sharmila S. Mande, *Frontiers in Microbiology* (2017)
<https://www.frontiersin.org/articles/10.3389/fmicb.2017.02166/full>
13. 'Gastric microbiome of Indian patients with Helicobacter, pylori infection, and their interaction networks.' A. Das, V. Pereira, S. Saxena, T.S. Ghosh, D Anbumani, S. Bag, B. Das, G.B. Nair, P. Abraham, Sharmila S. Mande, *Scientific Reports* (2017)
<https://www.nature.com/articles/s41598-017-15510-6>
14. 'Computational Analysis of Host-Pathogen Protein Interactions between Humans and Different Strains of Enterohemorrhagic Escherichia coli' T. Bose, K.V. Venkatesh and Sharmila S. Mande, *Front*

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15. 'Comparative In silico Analysis of Butyrate Production Pathways in Gut Commensals and Pathogens.' S. Anand, H. Kaur, and Sharmila S. Mande, Front Microbiol. (2016)
<https://www.frontiersin.org/articles/10.3389/fmicb.2016.01945/full>
 16. 'Web-igloo: a web based platform for multivariate data visualization.' B. K. Kuntal and Sharmila S. Mande, Bioinformatics (2016) <https://academic.oup.com/bioinformatics/article/33/4/615/2624550>
 17. 'Xenobiotic Metabolism and Gut Microbiomes' A. Das, M. Srinivasan, T. S. Ghosh, and Sharmila S. Mande, PLoS One (2016) <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0163099>
 18. 'Insights into horizontal acquisition patterns of dormancy and reactivation regulon genes in mycobacterial species using a partitioning-based framework.' V. Mehra, T. S. Ghosh, and Sharmila S. Mande, J Biosci. (2016)
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 19. 'Global investigation of composition and interaction networks in gut microbiomes of individuals belonging to diverse geographies and age-groups.' D. Yadav, T. S. Ghosh, and Sharmila S. Mande, Gut Pathogen (2016)
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 20. 'Inferring Intra-Community Microbial Interaction Patterns from Metagenomic Datasets Using Associative Rule Mining Techniques.' D. Tandon, M. M. Haque, and Sharmila S. Mande, PLoS One (2016)
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 21. 'CompNet: a GUI based tool for comparison of multiple biological interaction networks.', B. K. Kuntal, A. Dutta, and Sharmila S. Mande, BMC Bioinformatics (2016)
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 22. 'In silico dissection of Type VII Secretion System components across bacteria: New directions towards functional characterization', C. Das, T. S. Ghosh, and Sharmila S. Mande, J Biosci, vol. 41, p. 133–143, 2016
<https://www.ias.ac.in/article/fulltext/jbsc/041/01/0133-0143>
 23. 'Vikodak--A Modular Framework for Inferring Functional Potential of Microbial Communities from 16S Metagenomic Datasets.' S. Nagpal, M. M. Haque, and Sharmila S. Mande, PLoS One (2016)
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0148347>
 24. 'Microbial community profiling shows dysbiosis in the lesional skin of Vitiligo subjects.' P. Ganju, S. Nagpal, M.M. Mohammed, P.K. Nishal, R. Pandey, V.T. Natarajan, Sharmila S. Mande, R.S. Gokhale, Scientific Reports (2016)
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 25. 'CS-SCORE: Rapid identification and removal of human genome contaminants from metagenomic

- datasets.' M. M. Haque, T. Bose, A. Dutta, C. V. S. K. Reddy, and Sharmila S. Mande, *Genomics* (2015)
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28. 'Gut bacterial diversity of the tribes of India and comparison with the worldwide data.' M. Dehingia, K.T. Devi, N.C. Talukdar, R. Talukdar, N. Reddy, Sharmila S. Mande, M. Deka, M.R. Khan, *Scientific Reports* (2015)
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