



## Nikhil Ram Mohan

Basic Life Research Scientist, Emergency Medicine

### Bio

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#### EDUCATION AND CERTIFICATIONS

- Doctor of Philosophy, University of Connecticut , Genetics (2016)
- Bachelor of Technology, Dr. M.G.R Educational and Research Institute , Industrial Biotechnology (2007)

### Publications

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#### PUBLICATIONS

- **Unravelling the noncanonical extracellular DNA structures in biofilm and NETosis.** *Nucleic acids research*  
Demir, T. D., Azechi-Ogawa, S., Ram-Mohan, N., Yang, S.  
2026; 54 (1)
- **Disease diagnostics using machine learning of B cell and T cell receptor sequences.** *Science (New York, N.Y.)*  
Zaslavsky, M. E., Craig, E., Michuda, J. K., Sehgal, N., Ram-Mohan, N., Lee, J. Y., Nguyen, K. D., Hoh, R. A., Pham, T. D., Röltgen, K., Lam, B., Parsons, E. S., Macwana, et al  
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- **Precision single cell analysis to characterize host dependent antimicrobial response heterogeneity in physiological medium.** *Lab on a chip*  
Abe, R., Lee, J. H., Chin, S. M., Ram-Mohan, N., Tjandra, K. C., Bobenchik, A. M., Mach, K. E., Liao, J. C., Wong, P. K., Yang, S.  
2025
- **Neutrophil extracellular traps have active DNazymes that promote bactericidal activity.** *Nucleic acids research*  
Ku, T. H., Ram-Mohan, N., Zudock, E. J., Abe, R., Yang, S.  
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- **Host heterogeneity in humoral bactericidal activity can be complement independent.** *Frontiers in immunology*  
Abe, R., Ram-Mohan, N., Zudock, E. J., Lewis, S., Carroll, K. C., Yang, S.  
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- **Growth independent morphometric machine learning workflow for single-cell antimicrobial susceptibility testing of Klebsiella pneumoniae to meropenem** *Frontiers in Imaging*  
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- **Re-visiting humoral constitutive antibacterial heterogeneity in bloodstream infections.** *The Lancet. Infectious diseases*  
Abe, R., Ram-Mohan, N., Yang, S.  
2023
- **Neutrophil Extracellular Traps have DNzyme activity that drives bactericidal potential.** *bioRxiv : the preprint server for biology*  
Ku, T., Ram-Mohan, N., Zudock, E. J., Abe, R., Yang, S.  
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- **Phage diversity in cell-free DNA identifies bacterial pathogens in human sepsis cases.** *Nature microbiology*  
Haddock, N. L., Barkal, L. J., Ram-Mohan, N., Kaber, G., Chiu, C. Y., Bhatt, A. S., Yang, S., Bollyky, P. L.  
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- **Rapid Molecular Phenotypic Antimicrobial Susceptibility Test for Neisseria gonorrhoeae Based on Propidium Monoazide Viability PCR.** *ACS infectious diseases*  
Tjandra, K. C., Ram-Mohan, N., Abe, R., Wang, T. H., Yang, S.  
2023
- **Rapid molecular phenotypic antimicrobial susceptibility test for Neisseria gonorrhoeae based on propidium monoazide viability PCR.** *bioRxiv : the preprint server for biology*  
Tjandra, K. C., Ram-Mohan, N., Abe, R., Wang, T., Yang, S.  
2023
- **Using a 29-mRNA Host Response Classifier To Detect Bacterial Coinfections and Predict Outcomes in COVID-19 Patients Presenting to the Emergency Department.** *Microbiology spectrum*  
Ram-Mohan, N., Rogers, A. J., Blish, C. A., Nadeau, K. C., Zudock, E. J., Kim, D., Quinn, J. V., Sun, L., Liesenfeld, O., Yang, S.  
2022: e0230522
- **Disease diagnostics using machine learning of immune receptors.** *bioRxiv : the preprint server for biology*  
Zaslavsky, M. E., Ram-Mohan, N., Guthridge, J. M., Merrill, J. T., Goldman, J. D., Lee, J., Roskin, K. M., Cunningham-Rundles, C., Moody, M. A., Haynes, B. F., Pinsky, B. A., Heath, J. R., James, et al  
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- **Diagnosis of Bloodstream Infections: An Evolution of Technologies towards Accurate and Rapid Identification and Antibiotic Susceptibility Testing.** *Antibiotics (Basel, Switzerland)*  
Tjandra, K. C., Ram-Mohan, N., Abe, R., Hashemi, M. M., Lee, J., Chin, S. M., Roshardt, M. A., Liao, J. C., Wong, P. K., Yang, S.  
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- **Detection of bacterial co-infections and prediction of fatal outcomes in COVID-19 patients presenting to the emergency department using a 29 mRNA host response classifier.** *medRxiv : the preprint server for health sciences*  
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- **Association Between SARS-CoV-2 RNAemia and Postacute Sequelae of COVID-19.** *Open forum infectious diseases*  
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- **A Novel Platform Using RNA Signatures To Accelerate Antimicrobial Susceptibility Testing in Neisseria gonorrhoeae (vol 58, e01152-20, 2020)** *JOURNAL OF CLINICAL MICROBIOLOGY*  
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- **Erratum for Hashemi et al., "A Novel Platform Using RNA Signatures To Accelerate Antimicrobial Susceptibility Testing in Neisseria gonorrhoeae".** *Journal of clinical microbiology*  
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- **SARS-CoV-2 RNAemia predicts clinical deterioration and extrapulmonary complications from COVID-19.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*  
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- **Profiling chromatin accessibility responses in human neutrophils with sensitive pathogen detection.** *Life science alliance*  
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- **Insights into gene expression changes under conditions that facilitate horizontal gene transfer (mating) of a model archaeon.** *Scientific reports*

- Makkay, A. M., Louyakis, A. S., Ram-Mohan, N. n., Gophna, U. n., Gogarten, J. P., Papke, R. T.  
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- **Comparative Metatranscriptomics of Periodontitis Supports a Common Polymicrobial Shift in Metabolic Function and Identifies Novel Putative Disease-Associated ncRNAs.** *Frontiers in microbiology*  
Ram-Mohan, N. n., Meyer, M. M.  
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  - **The Transcriptional landscape of *Streptococcus pneumoniae* TIGR4 reveals a complex operon architecture and abundant riboregulation critical for growth and virulence** *PLOS PATHOGENS*  
Warrier, I., Ram-Mohan, N., Zhu, Z., Hazery, A., Echlin, H., Rosch, J., Meyer, M. M., van Opijnen, T.  
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Ram-Mohan, N., Oren, A., Papke, R.  
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  - **Evidence from phylogenetic and genome fingerprinting analyses suggests rapidly changing variation in *Halorubrum* and *Haloarcula* populations** *FRONTIERS IN MICROBIOLOGY*  
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  - **Cell sorting analysis of geographically separated hypersaline environments** *EXTREMOPHILES*  
Zhaxybayeva, O., Stepanauskas, R., Mohan, N., Papke, R.  
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