

# RIDDHI THAKKAR

1590 Anderson Avenue, Fort Lee, NJ-07024

+1(973)687-9183 | rt2640@cumc.columbia.edu

## EDUCATION

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### **Master of Public Health- Epidemiology | September 2019- Present**

Columbia University Mailman School of Public Health

Certificate – Applied Biostatistics and Public Health Data Science

Grade Point Average (GPA) 3.98/4.00.

### **Bachelor of Science- Biotechnology | June 2013- May 2016**

Kishinchand Chellaram College | University of Mumbai, India

Major- Biotechnology | Minor - Life Sciences and Environmental Biology.

Grade Point Average (GPA) 3.80/4.00.

## PROFESSIONAL EXPERIENCE

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### **Senior Research Technician**

Center for Infection and Immunity | Columbia University | July 2016- Present

New York, NY

- Responsible for development and optimization of a Peptide Array and a Peptide ELISA focused on finding discriminatory and distinguishing peptides for diagnosis of Zika Virus Infection.
- Assisted with the development of CII-ArboViroPlex rRT-PCR Assay for the diagnosis of Zika Virus Infection which was issued an Emergency User Authorization (EUA) by the FDA.
- Currently working on identification and characterization of pathogens responsible for the cause of Acute Encephalitis Syndrome (AES) in India.
- Worked on complete Genome Sequencing using VirCapSeq-VERT platform and Phylogenetic Analysis of viral isolates including Newcastle Disease Virus from Iraq, Human Rotaviruses from Lebanon, and Chikungunya Viruses Isolate from Brazil.
- Developed and optimized serological diagnostic assays including a Peptide Array and a Peptide ELISA for SARS-CoV-2
- Assisted with identification and characterization of Enteroviruses as the cause of CNS infections including Acute Flaccid Myelitis (AFM)
- Currently working on understanding the role of viral infections in patients with MECFS and Alzheimer's disease.
- Tasked with designing figures and assist in writing manuscripts.
- Responsible for sample inventory, storage, and management employed in laboratory research.

## SKILLS HIGHLIGHT

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### **Laboratory Skills:**

DNA and RNA Extraction, Isolation, and Purification, Bacterial and Viral culture and cloning, Conventional and RTqPCR, Immunological Assays- Peptide Array, ELISA, and In-situ hybridization.

### **Statistical and Data Analysis:**

- Data Management: querying, filtering, extraction, visualization, managing datasets with missing values.
- Proficient with Microsoft Office.
- Intermediate competency in SAS.
- Basic competency in R studio.

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- Competent with Bioinformatics Software, Geneious, used for molecular biology and phylogenetic analysis of high throughput sequencing data.

## RESEARCH PUBLICATIONS

- Mishra N, Huang X, Joshi S, Guo C, Ng J, **Thakkar R**, Wu Y, Dong X, Li Q, Pinapati RS, Sullivan E, Caciula A, Tokarz R, Briese T, Lu J, Lipkin WI. Immunoreactive peptide maps of SARS-CoV-2. *Commun Biol*. 2021 Feb 12;4(1):225. doi: 10.1038/s42003-021-01743-9. PMID: 33580175; PMCID: PMC7881038.
- Mishra N, **Thakkar R**, Ng J, Lipkin WI. Zika Virus Peptide ELISA (ZIKV-NS2B-Concat ELISA) for Detection of IgG Antibodies to Zika Virus Infection. *Methods Mol Biol*. 2020;2142:113-122. doi: 10.1007/978-1-0716-0581-3\_10. PMID: 32367363.
- Goldstein T, Belaganahalli MN, Syaluha EK, Lukusa JK, Greig DJ, Anthony SJ, Tremeau-Bravard A, **Thakkar R**, Caciula A, Mishra N, Lipkin WI, Dhanota JK, Smith BR, Ontiveros VM, Randhawa N, Cranfield M, Johnson CK, Gilardi KV, Mazet JAK. Spillover of ebolaviruses into people in eastern Democratic Republic of Congo prior to the 2018 Ebola virus disease outbreak. *One Health Outlook*. 2020;2(1):21. doi: 10.1186/s42522-020-00028-1. Epub 2020 Nov 4. PMID: 33169111; PMCID: PMC7609368.
- Reslan L, Mishra N, Finianos M, Zakka K, Azakir A, Guo C, **Thakkar R**, Dbaiibo G, Lipkin WI, Zaraket H. The origins of G12P[6] rotavirus strains detected in Lebanon. *J Gen Virol*. 2020 Dec 17. doi: 10.1099/jgv.0.001535. Epub ahead of print. PMID: 33331815.
- Mishra N, Reslan L, El-Husseini M, Raoof H, Finianos M, Guo C, **Thakkar R**, Inati A, Dbaiibo G, Lipkin WI, Zaraket H. Full genome characterization of human G3P[6] and G3P[9] rotavirus strains in Lebanon. *Infect Genet Evol*. 2020 Mar;78:104133. doi: 10.1016/j.meegid.2019.104133. Epub 2019 Dec 5. PMID: 31812761; PMCID: PMC6999726.
- Tokarz R, Tagliafierro T, Caciula A, Mishra N, **Thakkar R**, Chauhan LV, Sameroff S, Delaney S, Wormser GP, Marques A, Lipkin WI. Identification of immunoreactive linear epitopes of *Borrelia miyamotoi*. *Ticks Tick Borne Dis*. 2020 Jan;11(1):101314. doi: 10.1016/j.ttbdis.2019.101314. Epub 2019 Oct 14. PMID: 31636001.
- Mishra N, Ng J, Rakeman JL, Perry MJ, Centurioni DA, Dean AB, Price A, **Thakkar R**, Angus AG, Williamson P, Delwart E, Carrington C, Sahadeo N, Che X, Briese T, Tokarz R, Lipkin WI. One-step pentaplex real-time polymerase chain reaction assay for detection of zika, dengue, chikungunya, West nile viruses and a human housekeeping gene. *J Clin Virol*. 2019 Nov;120:44-50. doi: 10.1016/j.jcv.2019.08.011. Epub 2019 Sep 16. PMID: 31557664; PMCID: PMC7032662.
- Mishra N, Ng TFF, Marine RL, Jain K, Ng J, **Thakkar R**, Caciula A, Price A, Garcia JA, Burns JC, Thakur KT, Hetzler KL, Routh JA, Konopka-Anstadt JL, Nix WA, Tokarz R, Briese T, Oberste MS, Lipkin WI. Antibodies to Enteroviruses in Cerebrospinal Fluid of Patients with Acute Flaccid Myelitis. *mBio*. 2019 Aug 13;10(4):e01903-19. doi: 10.1128/mBio.01903-19. PMID: 31409689; PMCID: PMC6692520.
- Souza TML, Vieira YR, Delatorre E, Barbosa-Lima G, Luiz RLF, Vizzoni A, Jain K, Miranda MM, Bhuva N, Gogarten JF, Ng J, **Thakkar R**, Calheiros AS, Monteiro APT, Bozza PT, Bozza FA, Tschoeke DA, Leomil L, Mendonça MCL, Rodrigues CDDS, Torres MC, Filippis AMB, Nogueira RMR, Thompson FL, Lemos C, Durovni B, Cerbino-Neto J, Morel CM, Lipkin WI, Mishra N. Emergence of the East-Central-South-African genotype of Chikungunya virus in Brazil

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and the city of Rio de Janeiro may have occurred years before surveillance detection. Sci Rep. 2019 Feb 26;9(1):2760. doi:

10.1038/s41598-019-39406-9. PMID: 30809003; PMCID: PMC6391440.

- Mishra N, Caciula A, Price A, **Thakkar R**, Ng J, Chauhan LV, Jain K, Che X, Espinosa DA, Montoya Cruz M, Balmaseda A, Sullivan EH, Patel JJ, Jarman RG, Rakeman JL, Egan CT, Reusken CBEM, Koopmans MPG, Harris E, Tokarz R, Briesse T, Lipkin WI. Diagnosis of Zika Virus Infection by Peptide Array and Enzyme-Linked Immunosorbent Assay. mBio. 2018 Mar 6;9(2):e00095-18. doi: 10.1128/mBio.00095-18. PMID: 29511073; PMCID: PMC5844993

## CERTIFICATE AND TRAINING

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### Science Honors' Program | June 2014- January 2016

Kishinchand Chellaram College, Mumbai, India

Training program and seminars focused on developing skills and ethics essential for a career in the field of research.

### Columbia University, November 2018

New York, NY

Workshop for Training in Fundamentals of Statistical Software: R.

### Columbia University

New York, NY

- HIPAA Certificate
- Recombinant DNA training
- Viral Vector Research – Handling and Biosafety
- Lab Safety, Chemical Hygiene, and Hazardous Waste Management Certificate
- Biological Safety/Bloodborne Pathogens training

### NYC Fire Department

C-14 Certificate (Cert.#88972393) for Supervising Non-Production Chemical Laboratories.